



सत्यमेव जयते

File No: J-13012/02/2019-IA.I(T)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Date 06/08/2024



To,
SH. PANKAJ KUMAR SHARMA
M/s NTPC LIMITED
NTPC Limited, NTPC Bhawan, SCOPE Complex, Institutional Area, Lodhi Road, New Delhi – 110003
, NEW DELHI, DELHI, , 110003
E-mail: environment.ntpc@gmail.com

Subject: **Expansion in capacity of Sipat Super Thermal Power Project from 2980 MW (Stage-I & Stage-II) to 3780 MW by adding Stage-III (1x800 MW), located in Village Sipat, Tehsil Masturi, District Bilaspur, Chhattisgarh by M/s NTPC Ltd- Grant of Environmental Clearance – regarding**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/CG/THE/463369/2024 dated 20/02/2024 for grant of prior Environmental Clearance (EC) to the proposed project mentioned above under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24A0601CG5674893N
(ii) File No.	J-13012/02/2019-IA.I(T)
(iii) Clearance Type	EC Expansion
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(d) Thermal Power Plants
(vi) Sector	Thermal Projects
(vii) Name of Project	Sipat Super Thermal Power Project Stage-III (1x800 MW)
(viii) Name of Company/Organization	M/s NTPC LIMITED
(ix) Location of Project (District, State)	BILASPUR, CHHATTISGARH
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. M/s. NTPC Limited has made an online application vide proposal no. IA/CG/THE/463369/2024 dated 20/02/2024 along with copy of EIA report and Forms (Part A, B and C) and certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above.

4. The proposed project activity is listed at S. No. **1(d) Thermal Power Plants' under Category "A"** of the schedule of the EIA Notification, 2006 (as amended) and appraised at Central Level as the power generation capacity of the proposed project is beyond the threshold capacity of 500MW i.e. 3780 MW.

5. The instant Proposal was earlier considered by the EAC (Thermal) in its 6th meeting held on 27.02.2024, and 8th meeting held on 08.04.2024, wherein the proposal was deferred for the want of some additional information. The PP submitted the additional information vide letter dated 05.06.2024. The proposal was further considered in the 11th EAC Meeting held during 27-28th June 2024. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed at <https://parivesh.nic.in>.

6. The proposal is for Environmental Clearance (EC) for Sipat Super Thermal Power Project, Stage-III (1X800 MW) located at Village Sipat, Tehsil Sipat in Bilaspur district of Chhattisgarh by M/s. NTPC Limited. The ToR has been issued by Ministry vide letter No J.13012/02/2019.IA-I(T) dated 03.05.2019 and Amendment in TOR granted vide letter No J.13012/02/2019.IA-I(T) dated 08.08.2022.

7. The Ministry had issued EC earlier vide letter no. J.13011/10/96-IA.II (T) dated 22.02.1999 to the existing Stage-I Project "2000 MW Sipat Super Thermal Power Project Stage-I" and amendments in Stage-I EC vide letter dated 08.09.2014, 08.02.2017, 17.05.2018, and 09.10.2019. MoEF&CC had earlier also issued EC vide letter no. J.13011/5/2002.IA-II(T) dated 08.06.2004 to the existing Stage-II Project "2 x 500 MW Sipat Thermal Power Plant (STPP)" and amendment in EC dated 24.12.2021 for deletion of condition "70 acres of additional land will be acquired by M/s. NTPC for ash-based units".

8. The salient features of the project are as under: -

Sl.	Particulars	Details
1.	Land Details	Total land – 1768.211 Ha [Govt. land: 564.708, Private land: 938.512, Forest land: 264.991]
	Description of Activity / Facility	Total Land in Possession, Ha
		Area under use for Stage-I & II (Ha) Area proposed to be used for Stage-III (Ha) Total Area (Ha)
	Main Plant	378 40.50 418.5
	Ash Pond	600 0 600
	Township	93 0 93
	Misc & other area	535.90 7.724 543.62
	Green belt Area	89.50 23.59 113.09
	Total	1696.40 71.81 1768.21
		No additional land shall be acquired for the proposed project of Stage-III.
2.	Land acquisition details	A total of 1768.21 Ha of land has been acquired. Approx. 1696.40 Ha land has been utilized for Stage-I & II to accommodate Main Plant, Ancillary Facilities, Township, Green Belt and Ash Units, remaining 71.81 Ha of land shall be used for Stage-III Units & Ancillary Facilities & Green Belt..
3.	Elevation of the project site above mean sea level	(a) TPP Site: 286 m
4.	Latitude and Longitude of all corners of the project site.	(a) Main Plant & Township: 22°07'00"N to 22°08'53"N; 82°16'43"E to 82°18'49"E (b) Proposed Stage-III Project (1x800 MW) (c) Existing Ash dyke:
5.	Seismic zone	Zone-II
6.	Whether the project is in the	No

Sl.	Particulars	Details
	Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	
7.	CRZ Clearance	NA
8.	Involvement of Forest land if any.	Yea Bitkuli (Sonathi Pahar) Reserved Forest : (3.7 km, NE) Dalha Protected Forest: (7.0 km, ESE)
9.	Existence of ESZ/ESA / Archaeological sites monuments/ national park/ wildlife sanctuary/ biosphere reserve/tiger reserve/ elephant reserve etc. if any within the study area	Nil
10.	Availability of Schedule-I species in study area	Yes Schedule-I species observed in the study area: Jackal, Wild Cat, Common Brown Owl, Varanus, Russel's Viper, Red sand Boa.
11.	R&R Details	No R&R Issue since Total of 1768.21 Ha of land has already been acquired earlier. In which Approx. 1696.40 ha of land was used to accommodate Main Plant, Township, Green Belt and Ash Dyke of Stage-I&II remaining 71.81 Ha of land shall be used for Stage-III Units & Ancillary Facilities & Green Belt Area.
12.	Status of other Statutory Clearances	CTE & CTO shall be obtained for Stage-III
13.	Cost of the Project (As per EC and revised):	· Sipat STPP Stage-I: Rs. 11125.70 Crores (As per latest cost estimate) · Sipat STPP Stage-II: Rs. 3987.00 Crores (As per EC); Rs. 3973.08 Crores (As per latest cost estimate) · Proposed Sipat Stage-III: Rs. 7,730.77 Crores (Estimated Cost)
14.	Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	· Current employment at existing power plant (Sipat STPP Stage-I&II): Permanent-764 & Temporary- approx. 2939 · The estimated employment generation from the proposed project (Stage-III) (a) During Construction- Permanent- 51 & Temporary-2000-3000; depending on the construction phase of the project (b) During Operation- Permanent-203 & Temporary-150 However, the manpower shall be optimised and the exact number of manpower shall be decided during the construction/ operation phases of the project.
15.	Electricity generation capacity	Under Operation Stage-I: 1980 MW (3x660 MW) Stage-II: 1000 MW (2X500 MW) Proposed Expansion Stage-III:800 MW (1x800 MW) Stage-I: 14.74 Billion Units @85% PLF Stage-II: 7.44 Billion Units @85% PLF Stage-III: 5.95 Billion Units @85% PLF
16.	Date of Baseline Environmental data collected	From March 2023 to May 2023
17.	Date of latest monitoring done by the Regional Office	Date of latest monitoring done by RO MOEF&CC on 05/10/2023 and 06/10/2023. Latest Certified EC Compliance Report Dated 13th February, 2024

9. Details of fuel and Ash disposal:

Fuel to be used:	Coal																												
Quantity of Fuel required per Annum	3.25 MTPA corresponding to 85% PLF																												
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Quantity and details of Linkage available: SLC (LT) in its meeting held on 21.02.2023 has recommended grant of coal linkage to Sipat-III (1x800 MW).																												
Details of mode of transportation of coal from coal source to the plant premises along with distances	Mode of coal transportation from the coal mines to the power plant shall be MGR and Indian Railways. Total distance from the source by Rail: 40 km																												
Fly Ash Disposal System Proposed	The bottom ash shall be extracted and disposed off in dry/wet form. The fly ash shall be conveyed in dry form from the electrostatic precipitator hoppers. This dry fly ash is taken to buffer hoppers for its onward transportation in dry form to storage silos near plant boundary for utilization. In case of non-utilization, fly ash shall be taken to HCSD system, where in it shall be mixed with water in agitator tanks for its ultimate disposal in high concentration slurry form to ash disposal area. The ash management scheme for fly ash and bottom ash involves dry collection of fly ash, supply of ash to entrepreneurs for utilisation, promoting ash utilisation and safe disposal of unused ash. NTPC shall make maximum efforts to utilise the fly ash for various purposes. Unused fly ash and bottom ash shall be disposed off in the ash pond. Ratio of Water and ash: 40(water): 60 (Ash)																												
a. Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL(m) b. Space left in the ash dyke Area	No additional land is proposed to be acquired for expansion project. NA The Area & Geographical co-ordinates of the site are as follows: Existing Ash dyke: Area: 600 Ha Latitude and Longitude 270 m																												
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	1.04 MTPA 0.26 MTPA																												
Fly Ash utilization percentage with details in last 5 years	<table border="1"> <thead> <tr> <th>Fin Year</th> <th>Ash Production (LMT)</th> <th>Total AU (LMT)</th> <th>Total AU (%)</th> </tr> </thead> <tbody> <tr> <td>FY 2019-20</td> <td>49.05</td> <td>24.08</td> <td>49.09</td> </tr> <tr> <td>FY 2020-21</td> <td>52.47</td> <td>30.26</td> <td>57.67</td> </tr> <tr> <td>FY 2021-22</td> <td>51.98</td> <td>30.80</td> <td>59.25</td> </tr> <tr> <td>FY 2022-23</td> <td>48.40</td> <td>31.15</td> <td>64.36</td> </tr> <tr> <td>FY 2023-24</td> <td>53.53</td> <td>54.20</td> <td>101.26</td> </tr> <tr> <td>FY 2024-25 (till 15.06.24)</td> <td>11.90</td> <td>11.07</td> <td>93.05</td> </tr> </tbody> </table>	Fin Year	Ash Production (LMT)	Total AU (LMT)	Total AU (%)	FY 2019-20	49.05	24.08	49.09	FY 2020-21	52.47	30.26	57.67	FY 2021-22	51.98	30.80	59.25	FY 2022-23	48.40	31.15	64.36	FY 2023-24	53.53	54.20	101.26	FY 2024-25 (till 15.06.24)	11.90	11.07	93.05
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Stack Height (m) & Type of Flue	Stage-I Two stacks of height 275m each One bi-flue for (Unit-I&II) and One single flue for Unit-III. Stage-II One bi-flue stack of height 275m for (Unit-IV & V) Stage-III One single flue stacks of 150 m for Unit-VI																												

10. The estimated project cost is Rs. 22,829.55 Crores including existing investment of Rs. 7,730.77 Crores. Total tentative capital cost earmarked towards environmental pollution control measures is Rs. 1,060.74 Crores and the Recurring cost (operation and maintenance) will be about Rs. 21.00 Crores per annum in Stage-III.

11. Effluent of 2256 KLD & 600 KLD quantity will be treated through ETP & STP respectively in Stage-III. The plant will be based on Zero Liquid discharge system.

12. Water Requirement & its Source: The water requirement is estimated to be about 23 cusecs which is proposed to be drawn from the Right Bank Canal (RBC) originating from Hasdeo Barrage pondage. No additional water commitment is required for the expansion project. The water requirement for Sipat STPP Stage-III unit will be met from the available committed quantity of 120 MCM (134 Cusecs) from WRD, Govt. of Chhattisgarh accorded vide letter dated 26.11.2001 for Sipat STPS. Central Water Commission (CWC) vide letter dated 02.01.2002 had given its concurrence for 120 MCM water for Sipat STPP. The water commitment was later modified to 93 MCM (104 Cusecs).

13. Power requirement after expansion will be 240 MW including existing 194 MW and will be met from Sipat STPP Stage-I & II. Existing units has eight DG sets of DG: 1250 KVA (03Nos)/ 1500KVA (04 Nos)/62.5 KVA (01 No) capacity, additionally 02 DG sets shall be installed for Stage-III one for use and one for standby during power failure. Stack (height 30 m) will be provided as per CPCB norms to the proposed DG sets.

14. Existing unit has 2225 TPH for Stage-I & 1625 TPH for Stage-II fired boiler. Additionally, 2580 TPH pulverized coal fired boiler will be installed. ESP with a stack of height of 150 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boilers.

15. Details of Solid waste/ Hazardous waste generation and its management: Municipal waste from Township & Plant Canteen shall be disposed through composting. And Hazardous waste from Plant shall be disposed through Authorized Recyclers/agencies.

16. The Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 11.12.2023. The main issues raised during the public hearing are related to Employment, CSR Activities, Fugitive dust emission, water pollution etc.

17. Court case details/violation: Current status of court cases pending in Hon'ble Supreme Court and PIL case is as below-

Nature of cases	Court	Status
Pollution / Environmental cases	Hon'ble Supreme Court of India	Matter related to Ash Utilization. SLP arose out of impugned Judgement dtd. 07.07.2023 passed by High Court of Chhattisgarh in CRMP 1681 of 2017. Last heard by SC held on 02.02.24. Next hearing date not scheduled.
PIL (Cases to all TPPs)	Hon'ble High Court of CG	Taking Cognizance of Hon'ble SC Order, HC of CG issued notice to all TPPs of CG, regarding health hazards of the workers working in coal fired thermal power plants since year 2016. The case impleaded all the thermal power plants of Chhattisgarh including NTPC Sipat, Korba and Lara. Next hearing scheduled on 15.07.2024

18. Details of Coal Linkage: The SLC (LT) in its meeting held on 21.02.2023 has recommended grant of coal linkage to Sipat-III (1x800 MW).

19. Details of Certified compliance report submitted by RO, MoEF&CC.: IRO MOEF&CC has visited the site on 05/10/2023 and 06/10/2023 and certified compliance report submitted vide letter F.No.4-2/2004(Env)/1565 Dated 13th February, 2024. NTPC has submitted action plan vide letter no. NTPC-Sipat/Envmt.Mgmt./2024/ dated 16.02.2024. Further updates on compliance of IRO observations has been submitted vide letter no. NTPC-Sipat/Envmt.Mgmt./2024/2000 dated 02.04.2024 and letter no. NTPC-Sipat/Envmt.Mgmt./2024/2029 dated 08.06.2024.

20. Cost Provision for Environmental Measures: A tentative cost provision of Rs.1060.74 crores has been kept towards providing environmental measures. It includes installation and construction of various pollution control equipment & systems like FGD, ESP, DeNO_x system, chimney, dust extraction & suppression system, sewerage collection and treatment, afforestation & plantation and Corporate Environmental Responsibility provision etc.

Sl. No	Item Description	Total Cost in Cr
1	Electrostatic precipitator and FGD	173.25

2	Chimney	54.57
3	Cooling towers incl. civil works	134.56
4	Ash handling	397.78
5	Dust extraction & suppression system	1.00
6	DM plant waste treatment systems	2.60
7	Sewerage collection, treatment & disposal	2.10
8	Environmental laboratory equipment	1.00
9	Green Belt, afforestation & landscaping	10.00
10	FGD	283.88
Total		1060.74

21. The EAC in its meeting held on 27-28th June 2024, inter alia deliberated the following the following:

i. The EAC noted that the proposal is for the grant of Environmental Clearance for expansion in capacity of Sipat Super Thermal Power Project from 2980 MW (Stage-I & Stage-II) to 3780 MW by adding Stage-III (1x800 MW), located in Village Sipat, Tehsil Masturi, District Bilaspur, Chhattisgarh by NTPC Ltd.

ii. The ToR has been issued by Ministry vide letter No J.13012/02/2019.IA-I(T) dated 03.05.2019 and Amendment in TOR vide letter No J.13012/02/2019.IA-I(T) dated 08.08.2022.

iii. The committee observed that the total land area required for the project is 1768.211 Ha out of which 264.991 Ha is forest land for which PP has already obtained forest Clearance vide letter dated 16.02.1999 (for 204.991 Ha of forest land) and vide letter dated 30.06.2004 (60 Ha of forest land).

iv. The committee observed that as per DSS analysis and as reported by PP the project is not within 10 km of any ESZ Gazette Notification and any Protected Area.

v. The committee noted that as reported by the PP that project does not attracts CRZ clearance. Further, the project does not fall under Critically Polluted Area (CPA)/Severely Polluted Area (SPA) or within 10 km of CPA as notified by the CPCB.

vi. There are total 77 court cases are pending against the projects. PP reported that 75 cases are other matters and only 2 matter viz. a PIL which is pending in the Hon'ble High Court related to health hazards of the workers working in coal fired TPP and a case in Hon'ble Supreme Court is pending related to Ash utilization. The PP also provided the status of the same.

vii. The committee noted that the advertisement for Public Hearing was published in Haribhoomi, Bilaspur & in the main edition of the national newspaper Hindustan Times, New Delhi on 25.08.2023 and was scheduled on 27.09.2023 however due unavoidable reasons public hearing was not conducted & second advertisement published on 25.11.2023 in Haribhoomi and Hindustan Times. The committee observed that in the instant case the time duration for convening the rescheduled public hearing (i.e on 11.12.2023) is not less than forty-five days from the date of first advertisement already published (i.e. on 25.08.2023) for initial date of public hearing. Further, vide revised advertisement a minimum notice period of fifteen days was provided to the public before the re-scheduled date of the public hearing which is as per the MoEF&CC Notification S.O. 2163(E) dated 9.05.2022. The committee observed that PH dated 11.12.2023 was chaired by Shri R. S. Kuruvanshi, Additional Collector, Office Collector, District-Bilaspur. The main issues raised during the public hearing are related to Medical Infrastructure, Development of School Education Infrastructure, Installation of Solar Street, Construction of Road, Employment, CSR Activities, Fugitive dust emission, water pollution etc. Total budget earmarked to address public hearing issues is 850 Lakhs. In compliance to ministry dated 30.09.2020 & 20.10.2020 issues raised during public hearing and physical activities proposed with budgetary provision are as under:

S. No.	Proposed works to address the issues raised during PH	Estimated cost (In lakhs)	Estimated time from the Award of the Project
1	Construction of Road from Bazaar Chowk to Lilagarh River in Darrabhata village	60	02 years

2	Construction of Culvert in Darrabhata village	25	01 years
3	Development of Stadium/Sports Ground in Sipat	45	02 years
4	Development of Stadium/Sports Ground in Baniyadih	05	01 year
5	Installation of Solar Street/High Mast Light in Sipat, Karra and other affected villages	90	03 years
6	Installation of Handpump in Darripara village	03	01 year
7	Medical Infrastructure in Sipat Community Health Centre (Upgradation of 100 Bed Hospital already built by State Govt.)	100	02 years
8	Renovation of School in Eramsahi village	10	01 year
9	Rejuvenation of Pond in Eramsahi village	10	01 year
10	Cement Concrete Roads in affected villages	140	03 years
11	Development of School Education Infrastructure in affected villages	40	02-04 years
12	Development of Drinking Water infrastructure, Rain Water Harvesting and Rejuvenation of Ponds in affected villages including Bandhwa Talao in Raank village.	40	02 years
13	Providing Taekwondo promotion support/infrastructure to Janji village	02	01 year
14	Development of Community Infrastructure in affected villages	280	02-04 years
	Total (Lakhs)	850	

The Committee observed that based on discussions during EAC Meeting held on 27.06.2024 & 08.04.2024 & 27.02.2024, In addition to above, following measures have been envisaged as below for Sipat STPP, Stage – III (1x800 MW) to address the issue raised during PH:

S. No.	Proposed works	Estimated cost (In lakhs)	Estimated time from the Award of the Project
1	Infrastructure Development – construction/renovation of community center buildings, boundary wall, Sanskritik Manch, Market Sheds, Parking Sheds, Cremation Grounds etc. in project affected villages	330	02-04 years
2	Roads – Cement Concretization of existing village roads	200	02-04 years
3	Sanitation – Construction/Repair of drains, Toilets and related infrastructure	50	01-03 years
4	Water – Augmentation of Drinking Water facilities, Pond rejuvenation	100	01-05 years
5	Health – Developing health infrastructure, conduct of medical camps etc.	100	02-04 years
6	Education – Construction/Renovation of school buildings, classrooms, labs, parking sheds, playground, smart class, furniture etc.	150	02-04 years
7	Welfare/Skill Development – Skill development trainings for increasing employability	25	01-03 years
8	Rainwater Harvesting in Public Building	107.5	01-05 years
9	Additional Pond rejuvenation	591.43	01-05 years
10	Additional Skill Development	200	02-05 Years
	Total (Lakhs)	1853.93	

Regular Expenditure on Activities Planned under CSR for Sipat STPP, Stage-I, II and III. NTPC is already incurring annual expenditure of Rs. 6 Cr./ Annum in CSR activities every year. This will continue during construction phase of Stage-III. After commissioning of Stage-III (after 2029-30), the above expenditure shall be enhanced to Rs. 8 Crore per annum. The activities proposed are tentative and shall be decided in consultation with District Administration and local stakeholders based on need and requirements under the ambit of Schedule-VII of Companies Act (2013).

S. No.	Proposed works under CSR /CER	Estimated Annual
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		Expenditure (In lakhs)
1	Education Infrastructure	100
2	Education - Improving Learning Level	50
3	Medical – Mobile Medical Unit and Maternal and Child Health Care	60
4	Sanitation	50
5	Water/	50
6	Infrastructure (other than road & drains)	150
7	Roads (Strategic)	100
8	Renewables (Strategic)	50
9	Sports, Cultural & Arts	50
10	Skill Development/Livelihood Promotion	50
11	Differently Abled Support & Assistance	30
12	Need Assessment Survey / Social Impact Evaluation Survey	10
13	Miscellaneous	50
	Total (Lakhs)	800

viii. The EAC observed that under CER activities and issue raised in public hearing regarding health infrastructure therefore committee asked PP to provide data for specific health checkups carried out by NTPC in the Sipat Area in the last three years. PP in its ADS reply submitted that 9000+ health check-ups of contractor's workers done in last 3 yrs as per factory Act, Occupational Health Centre fully functional complying to factory rule 131 of CG Government, 2 nos. BLS (Basic Life support) and 01 ACLS ambulance are available, Mobile health clinic services are operational in 36 surrounding villages with total beneficiaries is 26,770. After the deliberation the committee asked PP to submit the details regarding % population covered under mobile health care services to which PP vide email dated 7.07.2024 submitted that Mobile Health Care services is available for entire population (100%) of the affected 36 villages. Additionally, efforts are being made to spread the information about availability of Mobile Health clinic at Village doorstep. Further it is submitted that health care facilities available in NTPC Sipat Hospital is accessible to Project Affected population at a very nominal charge. The Committee is of the view that analysis of population covered needs to be done and awareness needs to be created so that more people come forward for health check-up.

ix. PP submitted that EIA is re-validated as per NABET Scheme by new consultant.

x. Regarding combining of EC conditions the Committee is of the view that PP shall apply separately for the same with fresh CCR.

xi. The EAC noted that the total area of Existing Ash Dykes under Stage-I & Stage-II is 600 Ha for 2980 MW in the total project area 1768.21 Ha. For the proposed expansion there is no additional ash pond is required. All existing dykes are operational, therefore there is no plan to abandon any of these ash dykes at present for tree plantation. The committee observed that in its ADS reply PP has provided the ash utilization percentage as per which there was 100% ash utilization in financial year 2023-24 and 93.67% has been achieved upto 15.06.2024. The Committee also discussed about the legacy Ash and noted that the ash quantity stored in the ash dykes below the current raising is 390 LMT, which is not usable due to safety considerations. The ash quantity in top raising, which can be evacuated and used is 20.47 LMT, which can be utilized. The Committee asked about the Ground water quality submission of report of last 5 years of ground water monitoring around ash dyke area and nearby villages. The PP vide email dated 7.07.2024 submitted that the ground water quality is being monitored through MoEF&CC approved third party consultant on monthly basis in the villages around Plant and Ash Dyke. Ground water quality (physico-chemical parameters) data for last five years (05 Yrs) from 2019-20 to 2024-25 (May'24) has been compiled and attached as Annexure- 2A. Values are within limit as per Drinking water standard IS:10500:2012. Further, IIT Hyderabad has been consulted to carry out the study to assess the impact of NTPC Ash Dykes on ground water in the surrounding villages and also suggest remedial measures in case of observation, if any. The email communication from IIT Hyderabad dated 03.07. 2024 is attached as Annexure - 2 B. We are initiating the proposal for the study, and it is expected that study will be completed within four months' time which includes finalization of scope of work, getting budgetary offer, award and submission of report. NTPC Sipat is agree to implement the recommendation of the study in phased and time bound manner. The Committee is of the view that PP shall get the study done from IIT Hyderabad within the next 6 months and recommendations of the same shall be implemented. In addition to this as the village is near to the ash pond, in addition to water spraying, PP shall utilise the maximum ash, provide the 15 mt height wind barrier around the ash pond area and also carry plantation around the same.

xii. The committee observed that the baseline data collected by PP is well within the range. The EAC asked the PP to provide the details and proof regarding fugitive dust emission control measures from Ash Dykes i.e.- Wind barriers, Sprinkling by tankers, Sprinklers on ash dyke. PP vide email dated 07.07.2024 submitted that for dust suppression at Ash Dykes the actions have been taken which includes 1. Water Cover is being maintained in operational dyke, 2. Water Sprinklers (Low range) and rain guns (high range) are installed as per requirement, 3. Water sprinkling on connecting roads, 4. Beshram (Ipomoea Carnea) plantation done in the inside periphery of ash dyke, 5. Tarpaulin cover is provided on dry patches in the dyke, 6. Wind barriers to stop the fugitive dust. PP committed to enhance the control measures so that there is no fugitive emission from ash dyke area in future. Operational ash dyke will be kept water submerged /wet during operation. Concrete steps to prevent fugitive emission from ash dyke along with budget provision of Rs. 270 lakhs with activities such as Additional 3000 No.s sprinklers will be installed, Additional 290 rain guns –(40 m & 12 m radius), Tarpaulin covering – (2,30,000 Sq m), Beshram plantation on ash dyke, Hessian cloth covering, Plantation around the periphery of ash dyke, wherever NTPC land is available. The Committee is of the view that in addition to regular monitoring PP shall collect the ground water samples from the area falling within 500 meters of the ash dyke analyse the same and take corrective measures.

xiii. Further it was noted that the water consumption for thermal power plants as per MoEF&CC vide Notification S.O. 3305 (E) dated 07.12.2015 for all existing CT based plants reduce specific water consumption upto maximum of 3.5 m³/MWh and as per MoEF&CC stipulated norms vide Notification GSR 593 (E) dated 28.06.2018 water allocated to the thermal power plant is 3 m³/MWh for new plants installed after the 1st January, 2017. The total water requirement for the project is 2.925 m³/MWh, which will be well within the stipulated norms of Notification dated 07.12.2015/28.06.2018. The water drawl permission of 93 MCM has been obtained from Water Resources Dept. Govt. of Chhattisgarh vide letter dated 11/12/2017.

xiv. Committee also deliberated on the rainwater harvesting possibility and in the ADS reply PP submitted that as per CGWB Ground Water Yearbook of Chhattisgarh 2021-22 more than 78 % of the observations wells water table is below 10 meters in Bilaspur District. PP also submitted a report on study conducted by National Institute of Hydrology (NIH), Roorkee. As per report submitted in February 2023, ground Water table in the project area is in the range of 1.33 meter to 3.15 meter. Therefore, NIH has advised not to install artificial recharge structures like recharge shaft or injection wells in the plant area, as further build-up in the ground level will create adverse condition in the plant area including uplift pressure on the installations like plant and machinery and water logging conditions which area not advisable in electricity generating installations, as cables are mostly laid underground. NTPC Sipat has installed rainwater harvesting from surface run off through storm water drain. Surface run-off water is pumped through gravity / pressure sand filters and used as CW makeup water. 0.52 MCM of Rainwater has been harvested during 2023-24 through four RWH structure installed in Plant area. Further, NTPC Sipat has planned to double the surface run-off pumping capacity during 2024-25. Another facility is being developed in township area to capture 0.16 MCM surface run off. Total estimated quantity of harvested Rainwater during 2024-25 will be 1.2 MCM (approx.). The Committee asked the PP about the the trend of Groundwater Level in Sipat area. PP vide email dated 7.07.2024 submitted that as per CGWB Ground Water Yearbook of Chhattisgarh 2021-22 “The long-term water level trend (2010-2022) of the phreatic aquifer was plotted for both the pre and post monsoon periods. For the pre monsoon period, the major part of Chhattisgarh shows water level trend between -10 to +10 Cm/year which can be categorized as safe but many parts of Jashpur, Surguja, Korba, Janjgir- Champa, Kawardha, Rajnandgaon show significant falling trend of more than 20 Cm/year which is a cause of concern. The post monsoon decadal water level trend map of the phreatic aquifer presents a more alarming picture. (Fig 7.16 & 7.17) It shows large tracts of Bilaspur, Surguja, Koriya, Jashpur, Kawardha, Rajnandgaon etc with significant decline in water level of more than 20 Cm/year during the last 10 years. This long term trend is also depicted from the individual hydrographs of network stations. Some representative hydrographs are given above.” PP also provided the copy of relevant pages of CGWB report 2021-22 is attached as Annexure - 1. Since, ground water level falling trend in Bilaspur District is less than 20 Cm/year in pre monsoon season so in future, the rainwater harvesting in the project vicinity shall be done through surface water collection. In future, Roof top rainwater harvesting, shall be done through collection of water in water tanks and same will be used for the various purposes in respective buildings in consultation with respective Gram Panchayat and District Administration. Surface rainwater collection shall be done in ponds of respective villages in consultation with respective Gram Panchayat and District The Committee asked about the cost estimation of RWH needs to be reviewed and increased and year-wise plan to be submitted. PP vide email dated 7.07.2024 submitted that the Cost will be revised as per applicable DSR as per area of the roof in respective Building. NTPC is committed for at least five buildings per year roof top surface harvesting for next 05 years in nearby villages (within 10 km radius of plant boundary). Further, surface rainwater harvesting structure in drains shall be discussed with Chhattisgarh Water Resource Department Bilaspur

wherever feasible. As per the area of the roof and location of the structure (collection tank), cost estimation will be done, and budget will be ensured for the same. Envisaged cost is given below. PP also submitted that NTPC Sipat will install RWH systems in public buildings based on feasibility and availability of building by Gram Panchayat/District Administration. Required maintenance of RWH system will be done as and when required.

Sr No.	Financial Year	Description	Envisaged per unit cost (in Rupees lakh)	No. of Public Building	Amount Rs. Lakh
1	2024-25		4	5	20
2	2025-26	Rainwater	4	5	20
3	2026-27	Harvesting System	4.5	5	22.5
4	2027-28	in Public Building	4.5	5	22.5
5	2028-29		4.5	5	22.5
Total amount in rupees lakhs					107.5

xv. The Committee also asked about the use of Rainwater as Drinking water for the villages to be explored and plan to be provided. PP vide email dated 7.07.2024 submitted that “the Ground water level near the Sipat project is high (<10 m) . Har Ghar Jal Jeevan Mission Nal Yojana in project surrounding villages is being provided by State Government and scheme is under implementation. NTPC Sipat is committed for rainwater harvesting system in Public building in phased manner. Use of rainwater as Drinking water will be explored in consultation with Public Health Engineering Department Chhattisgarh, respective Gram Panchayat and District administration wherever feasible.”

xvi. PP shall store ground water 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 rain water and its supply system. The Committee is of the view that PP shall get the water audit done every year to optimize the water requirement.

xvii. The Committee also deliberated on the requirement of local people and asked the PP about the concern of villagers regarding Pond Rejuvenation and requested for submission of a 5-year Plan for Village Pond Rejuvenation including the details of activities to be carried out under pond rejuvenation – (Deepening, change in water quality etc) and Plan for maintenance of RWH system & Ponds. PP vide email dated 7.07.2024 submitted that “Bandhua Talab in Rank village has already been taken up for rejuvenation and beautification, work is in progress. Proposed list of ponds for rejuvenation in the vicinity is attached as Annexure – 3. Work will be taken up in consultation with Gram Panchayat. Envisaged cost is given below-

Sr No	Financial Year	Description	No. of Ponds	Amount (rupees lakh)
1	2024-25		6	184.99
2	2025-26		5	106.44
3	2026-27	Pond Rejuvenation in nearby villages	4	136
4	2027-28		4	126
5	2028-29		5	138
Total amount in rupees lakhs				691.43

Bandhua Talao in Rank village has already been taken up for rejuvenation and beautification, work is in progress (Awarded contract value- Rs. 40 lakhs). The Committee observed that activities to be carried out under pond rejuvenation includes i) Construction of Embankment, ii) Brick pitching and iii) Construction of bathing ghats. Further, PP has submitted that maintenance of ponds will be taken up as and when required on the request of respective Gram Panchayat. Further, PP submitted that Plantation and seating arrangement will be made in this FY and NTPC Sipat will provide funds for infrastructure required in consultation with Gram Panchayat/District authority/ State Govt. authority for development of Bandhua talab as a picnic spot. The Committee observed that budget is revised from 110 Lakhs to 691.43 Lakhs. The EAC is of the view that PP shall submit a report of implementation to Regional Office in its six monthly compliance report.

xviii. The Committee also deliberated on the SDGs and is of the view that SDG Goals Budget allocation to be increased as Rs.25 lakhs very low for skill development. PP vide email dated 7.07.2024 submitted that in the year 2023-24, Skill Development in the area of Retails Sales associate was conducted for a batch of 60 youths, out of which 57 were placed in different companies. In addition to this, Stitching and Embroidery Skill development training program for a batch of 30 women is ongoing which will be completed in this FY 2024-25. In the FY-2024-25, contract has been awarded for Skill

Development of 60 youths (in 02 batches of 30 each) in the area of High-pressure Welding and 60 youths (in 02 batches of 30 each) in the area of Mobile repairing. Both these Skill Development programs will start in July,24. Besides this, contract has been awarded for Skill Development of 30 women in the area of Masala making and 90 women (in 03 batches of 30 each) in the area of Dona Pattal making. In current financial year budget allocation for Skill development programme is Rs.25 Lakhs and from next year onwards during construction phase of Stage-III Rs.50 Lakhs will be allocated on skill development subjected to availability of interested/suitable candidates. The NTPC Sipat Stage-III activities aligned with SDG Goal and the expenditure is already taken in Public Hearing issues, CER and CSR/CD activities.

xix. The EAC during the meeting as informed by the PP noted that mode of coal transportation from the coal mines to the power plant shall be through MGR and Indian Railways with total distance from the source by Rail is 40 km. The committee desired from PP to submit the details regarding inconvenience caused to local people due to traffic congestion during train movement and accordingly it shall be addressed by suitable provisions like underbridge, shelter shed etc. PP vide email dated 07.07.2024 that two shed (one on each side) on Railway MGR Gatora connecting line crossing will be provided by July 25 with approximate cost Rs. 10-15 lakhs. PP also committed to provide the Shed (10MX12M) for villagers. The crossing is manned level crossing. Gate is closed only during movement of Coal Rake. There is only 1-2 rake movement in a day. PP also submitted that they will take up with SECR Railway Authorities for the feasibility of construction of underpass based on utility. The Committee is of the view that additional measures submitted by the PP for inconvenience caused to local people due to train movement, compliance of the same be submitted in the six-monthly compliance report.

xx. The committee while observing the transportation plan advised PP to opt for the e-vehicle and asked PP to conduct survey of E-vehicles and battery-operated vehicles within plant premises. Accordingly, PP submitted in ADS reply that all 7 nos. materials shifting vehicles are Battery operated, 3 nos. Forklift are battery operated and 2 nos. E-rickshaws are operational. PP submitted that Diesel operated vehicles will be switched over to E-Vehicle as per availability in market and there is plan to replace the passenger vehicles to E-vehicle as per market availability and infrastructure in phased manner. PP vide email dated 07.07.2024 submitted that for local movement of officials Contract of Vehicles deployment is awarded to our Project affected people and all efforts for adopting heavy E-vehicles like Bulkers for ash transportation for short distance subject to availability of E-vehicle and charging infrastructure in the surrounding area.

xxi. The Committee observed that PP has reported that there is no Protected Area within 10 KM of the plant. However, there are 6 schedule-1 species in the study area for which PP has prepared a wildlife conservation plan. As desired by EAC, the PP also submitted the revised WLCP prepared by NABET accredited agency and submitted to DFO Bilaspur for validation on 14.05.2024 and DFO has forwarded to CCF, Bilaspur for further approval. The committee is of the view that PP should have been engaged a reputed institute for the same. The PP vide email dated 7.07.2024 submitted that a communication dated 7/2/2024 has already been sent to Wildlife Institute of India, Dehradun regarding reparation/wetting of Wildlife conservation plan w.r.t. Sipat Stage-III. A budget of Rs 135.00 lakhs has been earmarked for wildlife conservation. The Committee is of the view that PP shall deposit the amount as approved by the concerned authority in government account.

xxii. The committee observed that PP in its ADS reply has submitted that 34.13% of the total land where plantation has been done. The committee deliberated on the plantation and is of the view that PP shall submit time bound action plan for expediting the plantation in the coming monsoon. Accordingly, PP vide email dated 07.07.2024 informed that PP has already done plantation more than 12 lakh inside/outside plant and 32,000 Nos of plantation work is being taken up in Uchchbhatti village on the request of Gram Panchayat. Additionally, plantation shall be done on degraded Forest land in consultation with DFO Bilaspur subjected to availability of land. PP submitted that plantation over 33% of the project area has already been carried out. However, they shall continue to undertake plantation in Gap areas within plant and outside the plant area. PP has committed to plant 45000 No.s of plant including additional 10,000 nos. of sapling shall be planted in all available area of NTPC Sipat (Plant, Township and Ash Dyke etc.) in current year and for subsequent years (from 2025-26) the plantation target will be 1,00,000 saplings every year for planation in all available area of NTPC Sipat (Plant, Township and Ash Dyke etc.). The budget proposed is Rs 772 Laks for F.Y 2024-25 and for subsequent years it is 1600 Lakh/ annum till 2028-29. The Committee observed that 33% of the total area is 583.5093 and PP has reported that area under plantation is 229 Ha. The remaining area is 354.509 Ha and require ~7.0 lakhs trees to be planted. The Committee therefore of the view that from the current financial year onwards PP shall plant at least 1.0 Lakh saplings and further plantation programme for plantation of 1.0 lakhs saplings every year for next seven years shall be continued in consultation with Forest department/ Gram Panchayat/District Administration. Necessary budget provision shall be made accordingly. The committee was appraised about the Miyawaki plantation carried out at Lara TPP. The committee

therefore advised PP to implement the same technique at Sipat TPP with power plantation in the upcoming monsoon season and details of the same shall be submitted RO, MoEF&CC.

xxiii. The committee is also of the view that a sub-committee of EAC shall visit the site after grant of EC (preferably after 4 months) for a review.

xxiv. The committee deliberated on waste generation and previously asked the PP to submit Segregation and processing of solid waste generated within the plant. PP in ADS reply submitted that segregation of wastes generated at NTPC-Sipat is being done and flow chart of waste management at NTPC-Sipat power and township has been submitted. The committee deliberated on the information and asked PP to submit records of waste generation and its disposal for last five years. PP vide email dated 07.07.2024 submitted information desired by the EAC on Hazardous waste, Non-Hazardous waste and Others waste, as under:

i) Hazardous waste:

S.No	Name of hazardous waste	Mode of Disposal
1	Used Oil	Sale through approved (MOEF&CC/SPCB/CPCB) recycler
2	Empty chemical /oil barrels/containers	Sale through approved (MOEF&CC/SPCB/CPCB) recycler
3	Silica gel	Disposal through TSDF at Pithampur, MP
4	Glass Mineral Wool(Insulation waste)	Disposal through TSDF at Pithampur, MP
5	Ion Exchange Resin	Disposal through TSDF at Pithampur, MP

ii) Non-Hazardous waste:

S.No	Name of hazardous waste	Mode of Disposal
1	Ferrous waste	Auction to Recyclers
2	Non-Ferrous waste	Auction to Recyclers
3	HDPE Tarpaulin	Auction to Recyclers

iii) Others waste:

S.No	Name of hazardous waste	Mode of Disposal
1	Bio-Medical waste	Disposed through common BMW treatment facility operator M/s Evercare International (Chhattisgarh)
2	E Waste	Disposed through Authorized Recyclers
3	Battery waste	Disposed through Authorized Recyclers
4	Wood	Auction to Recyclers
5	Municipal Solid waste (Bio-degradable)	Used in Bio-Methanation Plant within premises
6	Municipal Solid waste (Non-Bio-degradable)	Disposed through recyclers
7	Plastic Waste	Sent for co-processed in Cement Kiln of Ambuja Cements Limited Bhatapara.

The Committee also observed that PP has submitted the corrected certificate for waste disposal by cement plant.

xxv. The committee also desired to PP shall submit any waste to energy plan w.r.t to Sipat plant to which PP vide email dated 07.07.2024 submitted that municipal Solid (Biodegradable) waste from township and plant is used in bio-methanation plant established near plant canteen. The biogas generated is used in plant canteen burners leading to saving in LPG consumption. Biomass cofiring trial operation has already started by NTPC Sipat in the year 2022-23. Modifications has been done in two pulverisers of Unit # 4 and Unit # 5 each. For biomass cofiring on a regular basis, Bids have been invited for procurement of 7,26,350 MT Agro Residue Based Bio-mass Pallet. The Bid opening date is 01.07.2024. With regular cofiring of biomass, part of coal consumption will be replaced with Agro waste (Renewable source) which helps in reducing carbon foot print. Finally, it will improve the financial health of farmers and help in controlling the well-known menace of crop residue burning in agriculture fields.

xxvi. The committee noted that PP vide its ADS reply submitted anticipated quantity of effluent generation including their treatment and utilization into the plant premises. PP submitted that Effluent Treatment Facilities and Sewage Treatment Facility shall be provided. The treated effluent shall be recycled and reuse within plant for various purposes, i.e.-In Ash Handling, Service Water, Dust suppression etc. Treated sewage shall be reused for horticulture purposes. The plant will be based on Zero Liquid Discharge (ZLD) System.

xxvii. PP vide email dated 07.07.2024 has submitted updated EMP budget along with additional measures suggested by the committee. The revised cost of EMP is presented below:

Sr. No	Item Description*	Capital Cost (Rs. In Crores)	Recurring Cost (Rs. In Crores)
1	Electrostatic Precipitator	173.25	3.47
2	Chimney	54.57	1.09
3	Cooling towers incl. civil works	134.56	2.69
4	Ash handling	397.78	7.96
7	Dust extraction & suppression system	1.00	0.02
8	DM plant waste treatment systems	2.60	0.05
9	Sewerage collection, treatment & disposal	2.10	0.04
10	Environmental laboratory equipment	1.00	0.02
11	Green Belt, afforestation & landscaping	10.00	0.20
12	FGD	283.88	5.68
13	Wildlife Conservation Plan	1.35	0.00
14	Fugitive emission Control measures at ash dyke	2.70	0.10
	Additional Mass Plantation # (5-year maintenance cost included)	71.72	2.20
Total (In Crores)		1136.51	23.52

22. The EAC after detailed deliberation on the information submitted and as presented during the meeting **recommended** for grant of Environmental Clearance to **M/s. NTPC Limited** for Expansion in capacity of Sipat Super Thermal Power Project from 2980 MW (Stage-I & Stage-II) to 3780 MW by adding Stage-III (1x800 MW), located in Village Sipat, Tehsil Masturi, District Bilaspur, Chhattisgarh subject to compliance of the Specific environmental conditions (EC) in addition to the standard EC conditions (**Annexure 1**) and conditions already stipulated in earlier ECs and amendments.

23. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and based on the recommendations of the EAC hereby accords Environmental Clearance to **M/s. NTPC Limited** for “Expansion in capacity of Sipat Super Thermal Power Project from 2980 MW (Stage-I & Stage-II) to 3780 MW by adding Stage-III (1x800 MW), located in Village Sipat, Tehsil Masturi, District Bilaspur, Chhattisgarh” subject to compliance of the Specific/standard environmental conditions (EC) (**Annexure 1**) in addition to the conditions already stipulated in earlier ECs and amendments.

24. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

25. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

26. The PP is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

27. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a

period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

28. General Instructions:

(i) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC website where it is displayed.

(ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn must display the same for 30 days from the date of receipt.

(iii) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

(iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

(v) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(vi) The Regional Office of this MoEF&CC shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(vii) Validity of EC is as per the provision of EIA Notification, 2006 and its subsequent amendment.

29. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

30. This issue with an approval of the Competent Authority

Yours faithfully,

(Sundar Ramanathan)
Scientist 'E'/Additonal Director
Tel: 011- 20819378
Email- r.sundar@nic.in;

Copy To

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Director General of Forest, Ministry of Environment, Forest and Climate Change, New Delhi
4. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional

Office, Aranya Bhawan, North Block, Sector-19 Naya Raipur, Atal Nagar, Chhattisgarh – 492002.

5. The Member Secretary, Chhattisgarh State Environment Conservation Board (Pollution Control office), Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur Chhattisgarh.

6. The District Collector, Bilaspur District, Chhattisgarh.

7. Guard file/Monitoring file/PARIVESH Portal.

Annexure 1

Specific EC Conditions for (Thermal Power Plants)

1. [A] Environmental Management

S. No	EC Conditions
1.1	The PP adopt 100% utilization of fly ash generated as a result of the expansion being recommended and earmark a minimum area within the existing ash pond for emergency use by lining the earmarked area.
1.2	PP shall get the study done from IIT Hyderabad within 6 months for management and mitigation of environmental impacts of the existing ash pond and recommendations of the same shall be implemented within the next 2 years. In addition to this as the village is near to the ash pond, in addition to water spraying, PP shall utilise the legacy and current maximum ash, provide a 15 mt high wind barrier around the ash pond area and also carry plantation around the same. In addition to steps being taken for arresting the fugitive emission from the Ash dyke the PP shall take other concrete steps which include i) installation of additional 3000 No.s sprinklers, ii) installation of additional 290 rain guns –(40 m & 12 m radius), iii) Tarpaulin covering – (2,30,000 Sq m), iv) Beshram plantation on ash dyke, v) Hessian cloth covering, and vi) Plantation around the periphery of ash dyke, on NTPC land. In addition to regular monitoring PP shall collect the ground water samples from the area falling within 500 meters of the ash dyke analyse the same and take corrective measures. The budget earmarked for the above activities is Rs 2.7 Cr which shall be kept in a separate account and audited annually. PP shall submit the action taken with expenditure details, photographs (before & after) and other documents in six monthly compliance report.
1.3	The budget proposed for pond rejuvenation is Rs 691.43 lakhs [2024-25 (6 ponds: Rs 184.99 Lakhs), 2025-26 (5 ponds: Rs 106.44 Lakhs), 2026-27 (4 ponds: Rs 136 Lakhs), 2027-28 (4 ponds: Rs 126 Lakhs) and 2028-29 (5 ponds: RS 138 Lakhs)] for Construction of Embankment, Brick pitching, Construction of bathing Ghats. Regular maintenance of pond shall be taken up with consent of the respective Gram Panchayat. The amount shall be kept in a separate account and audited annually. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of pond rejuvenated etc. in six monthly compliance report.
1.4	PP shall install roof top surface harvesting on at least five buildings per year for next 05 years in nearby villages (within 10 km radius of plant boundary). Further, surface rainwater harvesting structure in drains shall be discussed with Chhattisgarh Water Resource Department Bilaspur wherever feasible. As per the area of the roof and location of the structure (collection tank), cost estimation will be done, and budget will be ensured for the same. PP shall install RWH systems in public buildings based on feasibility and availability of building by Gram Panchayat/District Administration. Required maintenance of RWH system will be done as and when required. The budget earmarked 107.5 Lakh [@Rs 20 Lakh for 2024-25 & 2025-26, @ Rs 22.5 Lakh for 2026-27, 2027-28 and 2028-29] shall be kept in separate account audited annually. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of

S. No	EC Conditions
	building covered etc. in six monthly compliance report
1.5	PP shall explore the possibility of use of rainwater as drinking water in consultation with Public Health Engineering Department Chhattisgarh, respective Gram Panchayat and District administration wherever feasible. PP shall store ground water 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 rain water and its supply system. PP shall get the water audit done every year to optimize the water requirement
1.6	PP shall implement the protective measure proposed in EMP in a time-bound manner. The budget earmarked for the same is Rs 1136.51 Lakhs (Capital) and Rs 23.52 Lakhs (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. In addition to this PP shall install 1 continuous ambient air quality monitoring station near ash pond area at suitable locations preferably the village side in consultation of SPCB within 1 year
1.7	PP shall install and commission the FGD in FY 2024-25 and report in this regard submitted to RO, MoEF&CC
1.8	Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time
1.9	PP shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages
1.10	PP shall install solar power plant on roof top and also road side poles within the project site will be lighting through solar power. Implementation status of solar plant shall be specifically submit in six monthly compliance report
1.11	As committed by the PP Zero liquid discharge shall be adopted
1.12	PP shall ensure that diesel operated vehicles will be switched over to E-Vehicles in a time bound manner, replace the passenger vehicles to E-vehicle in phased manner. Further, for local movement of officials Contract of Vehicles deployment shall be awarded to Project affected people and all efforts for adopting heavy E-vehicles like Bulkers for ash transportation for short distance subject to availability of such E-vehicle and adequate charging infrastructure in the surrounding area shall be provided. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of e-vehicles deployed etc. in six monthly compliance report
1.13	PP shall implement the concurrent plantation plan in a time bound manner. The gap plantation shall be completed in the identified 27.65 Ha land within Plant, residential and administrative areas and around Ash Pond by the planting 1.0 Lakh saplings during 2024-2025 and for the subsequent seven years PP shall plant 1.0 lakhs saplings per year in consultation with Forest department/ Gram Panchayat/District Administration. PP shall also adopt Miyawaki plantation technique and plantation with minimum 5m height of the saplings in upcoming monsoon season. The budget proposed is Rs 772 Laks for F.Y 2024-25 and for subsequent years it is 1600 Lakh/ annum till 2028-29. If require the same may be increased. 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

S. No	EC Conditions
	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
1.14	Extensive green cover within 2 km range of the plant boundary and for the schools within 10 KM radius shall be developed. An action plan in this regard to be prepared in consultation with state forest department/expert institution and submitted before Regional Office of the Ministry within 6 months
1.15	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 shall be submitted to RO, MoEF&CC and the budget approved by the concerned authority shall be deposited in government account
1.16	24x7 online monitoring system for ambient air quality shall be established with its connectivity with SPCB and CPCB server. Stack monitoring shall be done through 24X7 online monitoring system. The real time data so generated from CAQMS shall be uploaded on company website and linked it with website of CPCB & SPCB. In addition to this, one more CAQMS is required to be installed at 4-5 km away near local market site where population are residing. Further, LED display of air quality (Continuous Online monitoring) shall be installed 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
1.17	PP shall install at least three portable “ Weather Monitoring Stations “ in and around the plant for continuous weather monitoring
1.18	Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as waste delivery points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system. Water Sprinkling on roads inside the plant area/ administrative/ residential areas and outside the plant area at least for 2KM on a regular basis to control the air pollution. A logbook shall be maintained for the activity and be in six-monthly compliance report
1.19	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM
1.20	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry
1.21	Project proponent shall explore the use of treated sewage water from the Sewage Treatment Plant of Municipality / local bodies/ similar organization located within 50km radius of the proposed power project to minimize the water drawl from surface water bodies
1.22	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

S. No	EC Conditions
1.23	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers
1.24	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.
1.25	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
1.26	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 being submitted by PP
1.27	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

2. [B] Socio-economic

S. No	EC Conditions
2.1	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 5km radius of the project cover area, creation of sacred groves etc. 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.
2.2	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.
2.3	The budget proposed for PH is Rs 27.0393 (8.5 Cr and 18.5393 Cr). In addition to this PP has proposed a budget of Rs 8 Cr under CSR after commissioning of the project. The budget proposed shall be kept in a separate account and audited annually. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), status of implementation of PH action plan submitted during the meeting etc. in six monthly compliance report.
2.4	PP shall provide the health services and organize medical camps for residents of the surrounding villages as committed during the meeting. PP shall carry out the analysis of the data of medical

S. No	EC Conditions
	camp and take all necessary steps so as to cover maximum number of persons.
2.5	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
2.6	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.
2.7	PP shall take up the matter with SECR Railway Authorities for the feasibility of construction of underpass/overpass based on utility at railway crossing which is causing long waiting period to the general public. Meanwhile PP shall provide two sheds (one on each side) on Railway MGR Gatora connecting line crossing by July 25 with approximate cost Rs. 10-15 lakhs. PP shall submit the action taken report to concerned RO with amount spent, photographs (before & after), number of sheds provided etc. in six monthly compliance report.

3. [C] Miscellaneous

S. No	EC Conditions
3.1	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.
3.2	Consent to Establish/Operate 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.
3.3	All necessary clearance from the concerned Authority, as may be applicable should be obtained prior to commencement of project or activity.
3.4	A sub Committee of the EAC shall visit the site post EC to recommend any further mitigation measures.

Standard EC Conditions for (Thermal Power Plants)

1. Statutory Compliance

S. No	EC Conditions
1.1	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.
1.2	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.

S. No	EC Conditions
1.3	MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/washed coal with ash content not exceeding 34% shall be complied with, as applicable.
1.4	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.
1.5	Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of 2.5 m ³ /MWh and Zero effluent discharge.
1.6	The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
1.7	No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
1.8	Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

2. Ash Content/mode Of Transportation Of Coal

S. No	EC Conditions
2.1	EC is given on the basis of assumption of ____% of ash content and ____km distance of transportation in rail/road/conveyor/any other mode. Any increase of %ash content by more than 1 percent, and/or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact assessment' and proposal for mitigation measures.

3. Air Quality Monitoring And Management

S. No	EC Conditions
3.1	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 of 100 mg/Nm ³ .
3.2	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/Nm ³ .
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 .
3.4	Stacks of prescribed height ____m shall be provided with continuous online monitoring instruments for SOX, NOx and Particulate Matter as per extant rules.
3.5	Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also

S. No	EC Conditions
	be monitored periodically.
3.6	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, NOX within 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.
3.7	Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
3.8	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.

4. Noise Pollution And Its Control Measures

S. No	EC Conditions
4.1	The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
4.2	Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
4.3	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.

5. Human Health Environment

S. No	EC Conditions
5.1	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.
5.2	Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
5.3	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.
5.4	Sewage Treatment Plant shall be provided for domestic wastewater.

6. Water Quality Monitoring And Management

S. No	EC Conditions
6.1	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 2.5 m ³ /MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
6.2	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.
6.3	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.
6.4	Rainwater harvesting in and around the plant area be taken up to reduce drawl of fresh water. If possible, recharge of groundwater to be undertaken to improve the ground water table in the area.
6.5	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.
6.6	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.
6.7	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.
6.8	Based on the commitment made by the Project Proponent, Sewage Treatment Plants within the radius of 50 km from proposed project, the treated sewage ofKLD from STP (name) shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
6.9	Wastewater generation ofKLD 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;
6.10	Sewage generation ofKLD 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.

7. Risk Mitigation And Disaster Management

S. No	EC Conditions
7.1	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.
7.2	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%.
7.3	Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
7.4	Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
7.5	Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

8. Green Belt And Biodiversity Conservation

S. No	EC Conditions
8.1	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.
8.2	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
8.3	Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.

9. Waste Management

S. No	EC Conditions
9.1	Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
9.2	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.
9.3	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.
9.4	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 and amendment thereto. By the end of 4th year, 100% fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) will be monitored in the bottom ash as also in the effluents emanating from the

S. No	EC Conditions
	existing ash pond. Flyash utilization details shall be submitted to concerned Regional Office along with the six-monthly compliance reports and utilization data shall be published on company's website.
9.5	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.
9.6	In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up: i) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled. ii) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.

10. Monitoring Of Compliance

S. No	EC Conditions
10.1	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.
10.2	Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
10.3	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.
10.4	Monitoring of Carbon Emissions from the existing power plant as well as for the proposed power project shall be carried out annually from a reputed institute and report be submitted to the Ministry's Regional Office.
10.5	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.
10.6	Environment Cell (EC) shall be constituted by taking members from different divisions, headed by a qualified person on the subject, who shall be reporting directly to the Head of the Project.
10.7	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

S. No	EC Conditions
	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.

11. Corporate Environmental Responsibility (Cer) Activities

S. No	EC Conditions
11.1	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.

12. Marine Facilities

S. No	EC Conditions
12.1	As the seawater intake systems are required for the plant fall in CRZ area, recommendations from State Coastal Zone Management Authority (SCZMA) as per CRZ Notification shall be implemented.
12.2	Marine intake and outfall pipelines shall be located as per the recommendations State Coastal Zone Management Authority (SCZMA).

13. Sea Water Intake

S. No	EC Conditions
13.1	Seawater intake system shall be so designed and constructed to ensure sufficient sweater in terms of quantity and quality.
13.2	The withdrawal of seawater shall be preferably through a pipeline with a riser equipped with a velocity cap arrangement and bar screen to arrest the impingement of large marine organisms.
13.3	In all tide conditions (particularly at spring low tides) the riser head must be flooded with the required submergence of seawater above its top.

14. Effluent Release

S. No	EC Conditions
14.1	At the effluent release point, maximum temperature of the discharge water shall not be more than 5oC and salinity shall not exceed 50 ppt with respect to that of the ambient seawater.
14.2	Use of antifouling agents like chlorine / hypochlorite, shall be carefully controlled. The chlorine concentration shall not exceed 0.2 ppm at the effluent release point.
14.3	The effluent when released at the selected location shall attain sufficient dilution so that near ambient water quality (particularly temperature and salinity) is attained within 500 m from the release location, at low tide.
14.4	The location of the diffuser shall be marked with a solar lighted buoy to avoid accidents.
14.5	The site selected based on mathematical modeling shall ensure absence of recirculation of the effluent plume in the seawater intake area under all tidal conditions.
14.6	The effluent shall be released through a properly designed multiport diffuser above the seabed to facilitate its efficient initial mixing with the receiving seawater.
14.7	Efficacy of the diffuser shall be ascertained at least once in 2 years through scientific studies and corrective actions such as cleaning of the diffuser from marine growth, removal of silt deposits, etc. shall be taken up, if warranted.
14.8	Continuous online monitoring system for Temperature and Salinity shall be installed to monitor the quality of effluent.

15. Common To Intake And Effluent

S. No	EC Conditions
15.1	The pipeline shall be buried below the seabed at a depth to ensure its stability under rough sea conditions particularly during cyclone / tsunami. The depth of burial will depend on the seafloor strata but normally the top of the pipeline shall be at least 1 m below the bed level. In the surf and intertidal zones, the pipeline shall be buried below the maximum scour level.
15.2	In case of open channel, the channel shall be constructed as per the recommendations of State Coastal Zone Management Authority (SCZMA).
15.3	If the substratum is rocky the pipeline may be anchored to the rock provided the geology of the area satisfactorily supports the structure which shall be ascertained through geo-technical investigations.
15.4	Exposed pipeline section and riser shall be protected by armour stone from waves, boats anchoring, fishing activities etc.
15.5	The location of the riser & diffuser shall be marked with a solar lighted buoy to avoid accidents from boats.
15.6	Marine / Sea water quality shall be monitored at effluent release location at the center. Parameters to be monitored shall be as follows: a. Physico-chemical: Temperature, Salinity, pH and Dissolved Oxygen. b. Biological: Primary Productivity, Phytoplankton (Chlorophyll a, Phaeophytin,

S. No	EC Conditions
	Population, Species), Zooplankton (Biomass, Population, Species) and Benthos (Biomass, Population, Species).
15.7	In case of Coastal Power Plants, the Mangrove plantation shall be taken up in an area ofha, along the coast/ on the banks of Estuary.

