



सत्यमेव जयते

File No: J-13012/62/2008-IA. II(T)
Government of India
Ministry of Environment, Forest and Climate
Change
IA Division



Date 01/11/2024



To,

Sh. Santosh Kumar Singh
M/s Adani Power Ltd.
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Subject: Proposed expansion of Raipur Thermal Power Plant by adding 1600 (2x800) MW Ultra-Super Critical to existing capacity of 1370 (2x685) MW in an area of 358.15 Ha by M/s. Adani Power Limited, Raipur (APL) located at CSIDC industrial area in Tilda Block, Raipur District, Chhattisgarh - Grant of Environmental Clearance – regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/CG/THE/490693/2024 dated 17/09/2024 for grant of prior Environmental Clearance (EC) for the project mentioned above under the provisions of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24A0601CG5815357N
(ii) File No.	J-13012/62/2008-IA. II(T)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(d) Thermal Power Plants
(vi) Sector	Thermal Projects Proposed Expansion of Raipur Thermal Power Plant by adding 1600 (2x800) MW Ultra Super-Critical to existing 1370 (2x685) MW in CSIDC Industrial Area, at Village Raikheda, Gaitara & Chicholi, Tilda Block, Raipur District, Chhattisgarh by Adani Power Limited
(vii) Name of Project	
(viii) Name of Company/Organization	M/s Adani Power Ltd.
(ix) Location of Project (District, State)	RAIPUR, CHHATTISGARH
(x) Issuing Authority	MoEF&CC

(xi) Applicability of General Conditions as per EIA Notification, 2006 No

3. M/s. Adani Power Limited has made an online application vide proposal no. IA/CG/THE/490693/2024 dated 17/09/2024 along with copy of EIA/EMP report, Forms (CAF, Part A, B and C) and certified compliance report seeking environmental clearance under the provisions of EIA Notification, 2006 for the project mentioned above.

4. 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 the Central Level.

5. The instant Proposal was considered by the EAC (Thermal) in its 13th meeting held on 01.10.2024. 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 proposed expansion project of Raipur Thermal Power Plant by adding 1600 (2x800) MW Ultra-Super Critical to the existing capacity of 1370 (2x685) MW in an existing area of 358.15 Ha located at CSIDC industrial area in Tilda Block, Raipur District, Chhattisgarh by M/s. Adani Power Limited (APL), Raipur.

7. Ministry had issued EC earlier for the project site as mentioned above vide letter no. J-13012/62/2008-IA. II (T) dated 09.05.2011 and subsequent amendments dated 13.06.2013, 18.11.2014, 04.02.2015 & 09.12.2015 to the existing project i.e. 1370 (2x685) MW in favour of M/s. GMR Chhattisgarh Energy Ltd (GCEL). The EC was transferred to M/s. Raipur Energen Limited (REL) dated 05.11.2019 (GCEL to REL) & subsequently to M/s Adani Power Limited (APL) dated 24.04.2023 (REL to APL).

8. The implementation status of the EC dated 9/5/2011 is as below-

S. No.	Facilities	Units	Power generation capacity	Implementation Status as on	
				01.10.2024	Production as per CTO
1.	2x685	MW	1370 MW	2x685 MW	2x685 MW

9. **Certified compliance report submitted by RO, MoEF&CC:** Regional Office of MoEF&CC at Raipur, Chandigarh has submitted certified EC compliance status report vide letter no. 4-11/2013(Env)/125 dated: 16.08.2024 & updated CCR vide no. 4-11/2013(Env)/135 dated: 13.09.2024. The details of the observations made by RO in the report dated 13/09/2024 and ATR submitted by M/s. APL is given below:

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re- assessment by RO	Action taken report by the PP
1	PA shall get an appropriate amendment on the conditions which are not applicable or repugnant to the statutory provisions or Ministry may consider issuance of EC, superseding the existing EC and amendments accorded.	Not complied	specific condition No.(iv) in letter dated 09.05.2011	PA has not submitted any reply in this regard. Ministry may examine and take appropriate view. As per IRO Certified Compliance Report (CCR) dated 16/08/2024 “It appears that in the EC condition inadvertently stipulated the parameters of PM2.5 & PM10 for monitoring the particulate emission from the Stack. PA should get appropriate amendment in the condition from the Ministry”	Raipur TPP has already installed Online Continuous Emission Monitoring System (CEMS) in Stack for monitoring the parameters of PM, SO ₂ & NO _x and the real-time monitored data has been linked to the servers of CPCB and CECB. In the Stack Monitoring as per CPCB & SPCB only PM (dust) monitoring is required which is being carried out on regular basis. PP will submit the EC amendment application for amendment of Specific condition No.(iv) in

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re- assessment by RO	Action taken report by the PP
					Environmental Clearance.
2	Details of the Public hearing commitments and its implementation status have not been made available	Not complied	-	PA has not submitted any reply/document in this regard and thus no comments are offered by this Sub-Office.	<p>Adani Power Limited, Raipur has approached to CECB (Chhattisgarh Environment Conservation Board) for providing public hearing documents (2009). Action Plan has been prepared as suggested by CECB Officials on public hearing issues. It was suggested that in Public Hearing of Raipur area common issues/opinion are Employment Education, Health, Sustainable livelihood and Community infrastructure development.</p> <p>APL, Raipur is already undertaking CSR activities within 10 km radius area with focus on nearby 16 Villages located around the plant boundary. The development work in these villages is in progress and up to the satisfaction of the villagers. Further, PP has earmarked (allocated) CSR budget of about 50 Crores to be implemented on need based covering EC conditions, public needs as sought during the public hearing.</p> <p>Raipur TPP has conducted the Need based Assessment study, Social Impact Assessment study with community engagement plan in consultation with villagers, stakeholder as Pollution control board to address those point which are the need of villagers to fulfil their requirement and as suggested by stakeholder.</p> <p>The above reports have been prepared by Reputed Government Institute. IISWBM, Kolkata. IISWBM (Calcutta University) is renowned for conducting such</p>

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re- assessment by RO	Action taken report by the PP
					type of studies. CSR activities progress report is submitted along with Six Monthly EC compliance report to MoEFCC, CPCB & SPCB on regular basis with Year wise CSR expenditures.
3	Average ash content in the coal being used is higher than 34%. As per the coal proximate analysis report, average ash content of the domestic coal used is 39.5% and GCV of the domestic coal used is less than 4911 Kcal/kg.	Not complied	specific condition No.(vii), No.(xxxi), additional condition No.2(i) of letter dated 04/02/2015 and additional condition No.2(i) of letter dated 09/12/2015	In the said EC condition, it has been expressly mentioned that in case of variation of coal quality at any point of time its fresh reference shall be made to the MoEF&CC for suitable amendments to environmental clearance condition wherever necessary. It has been observed that PA rely upon the O.M. dated 11/11/2020 of MoEFCC and its amendment dated 06.12.2023 regarding change of Coal Source without amendment in the EC. The observed non-compliance is relevant to the average ash content (around 39.5%) in the coal used is higher than the condition stipulated (34%). Perusal of six-monthly compliance report submitted to this Office, it has been observed that PA has not mentioned the ash content in the coal used rather PA has mentioned the above O.M. and submitted the compliance status of the conditions mentioned in the above O.M. However, quarterly report of average ash content in the Coal used has been received in this office. According to the report for the period January-March 2024 average ash content in Coal is 41.13%. Further, PA has submitted annual fly ash implementation report for the period April 2023 – March'2024. In view of the above Ministry may consider the submissions	Being complied & maintained as per the O.M. dated 11/11/2020 of MoEFCC and its amendment dated 06.12.2023 regarding change of Coal Source without amendment in the EC and same is being submitted along with EC compliance report / quarterly ash % report on regular basis.

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re-assessment by RO	Action taken report by the PP
				of PA.	
4	The proponent shall sponsor a detailed study regarding water availability in Mahanadi River for all competing sources such as drinking, agriculture, industrial, minimum flow of water in the river during the lean season etc. through institutions like IIT, Delhi /IIT Roorkee. The draft terms of reference shall be submitted within three months which shall be finalized by the Expert Appraisal Committee. The preliminary report on the above study shall be submitted within one year.	Not complied. Details are not made available regarding compliance of the condition.	specific condition No.(x).	No documents are made available in support of the compliance of the stipulated condition as above. However, PA has made available a copy of the report titled on "Source Sustainability Study for Withdrawal of Water from River Mahanadi for Proposed Expansion of TPP (2x800 MW) of Adani Power Ltd. Raipur". The said study has been executed in the year 2023-2024 through the Academy of Water Technology & Environment Management in Association with IISWBM, Kolkata & CSIR-CGCRI, Kolkata. Ministry/EAC may take appropriate view in this regard.	The said study has been executed in the year 2023-2024 under the proposed expansion project through the Academy of Water Technology & Environment Management in Association with IISWBM, Kolkata & CSIR-CGCRI, Kolkata, the detailed study report has already been submitted along with Action Taken Report and same will be followed during the plant operation.
5	Details are not made available regarding consultation held in this regard with Central Groundwater Authority / Board for finalization of appropriate rainwater harvesting technology / design within a period of three months from the date of this clearance.	Not complied	specific condition No.(xi).	PA has already constructed rainwater harvesting ponds. However, the observed non-compliance is regarding consultation held in this regard with CGWA for finalization of appropriate rainwater harvesting technology / design within a period of three months from the date of this clearance. PA in their reply reported that detailed report of rainwater harvesting technique and approval letter of CGWA has been submitted to the Regional Office of MoEF&CC and CECB vide their letter no. GMR/CTPP/MOEF/2012-13/269 dated 13/06/2012 by M/s GMR Chhattisgarh Energy Ltd. But, copy of the same has not been made available along with their reply. The said communication is also not available in the relevant	The report of rainwater harvesting technique and approval letter of CGWA has been submitted to the Regional Office of MoEF&CC and CECB vide their letter no. GMR/CTPP/MOEF/2012-13/269 dated 13/06/ 2012 by M/s GMR Chhattisgarh Energy Ltd. Hydrogeology & Rainwater Harvesting Study Report shall be submitted to CGWA for further implementation/suggestion.

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re- assessment by RO	Action taken report by the PP
				project file available in the Sub-Office. Ministry may consider the submission of PA, as the rainwater harvesting ponds have already been constructed.	
6	Though the CSR activities are being reportedly implemented, no documents are made available in support of the claim that three villages have been adopted as stipulated. Details regarding time bound implementation of the CSR formulated within six months and its submission to the Ministry have not been made available.	Not complied	specific condition	PA is reportedly undertaking CSR activities. No documents are made available in support of three villages adopted and time bound implementation of the CSR formulated within six months and its submission to the Ministry. However, the activities undertaken under CSR and the expenditure incurred in this regard during the past five years is already made available by the PA and the same has been incorporated in the monitoring report. Ministry may take appropriate view.	After the acquisition through NCLT, APL has given utmost priority to strengthen the CSR activities that are already being implemented. APL, Raipur is undertaking CSR activities within 10 km radius area with focus on nearby 16 Villages located around the plant boundary. The development work in these villages is in progress and up to the satisfaction of the villagers. Further, we have earmarked (allocated) CSR budget of about 50 Crores to be implemented on need based covering EC conditions, public needs as sought during the public hearing. Raipur TPP has conducted the Need based Assessment study, Social Impact Assessment study with community engagement plan in consultation with villagers, stakeholder as Pollution control board to address those point which are the need of villagers to fulfil their requirement and as suggested by stakeholder. The above reports have been prepared by Reputed Government Institute. IISWBM, Kolkata. IISWBM (Calcutta University) is renowned for conducting such type of studies. CSR activities progress report is submitted along with Six Monthly EC compliance report to MoEFCC, CPCB & SPCB on regular basis with Year wise CSR expenditure.

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re- assessment by RO	Action taken report by the PP
7	Though PA is implementing CSR activities, details are not made available regarding compliance of one-time capital cost of Rs 33.16 Crores earmarked and recurring expenditure of Rs 6.63 Crores per annum.	Not complied	specific condition No.(xxix)	PA submitted in their reply that the condition has been implemented by the previous management during the construction phase. No comments are offered by this Sub-Office, since no supporting documents are made available in respect of one time capital cost of Rs.33.16 Crores earmarked and its utilization.	APL, Raipur is undertaking CSR activities within 10 km radius area with focus on nearby 16 Villages located around the plant boundary. The development work in these villages is in progress and upto the satisfaction of the villagers. APL has given utmost priority to strengthen the CSR activities that are already being implemented & Year wise CSR expenditures is being submitted along with EC compliance report.
8	Details are not made available regarding in-built continuous monitoring mechanism in place for radio activity and heavy metals in coal and fly ash (including bottom ash)	Not complied	specific condition No.(xxxii) & (xxxiii).	Radioactivity (U238 & Th232) analysis in coal and ash is being carried out from the Department of Atomic Energy, Board of Radiation and Isotope Technology (BRIT) Government of India. However, details are not made available regarding in-built continuous monitoring mechanism in place for radio activity and heavy metals in coal and fly ash (including bottom ash). PA in their reply submitted that the technology and monitoring instrument is not available with the suppliers in the country and is not feasible to implement in-built continuous monitoring mechanism as stipulated. In view of the above submissions, Ministry may take appropriate view.	For provision of In-built mechanism continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash), the technology and monitoring instrument is not available with the suppliers in the country and is not feasible to monitor in this mechanism. APL will submit the EC amendment application for amendment in specific condition No.(xxxii) & (xxxiii) of environmental clearance.
9	Details regarding name of the newspaper published have not been made available.	Not complied	general condition No.(ix), additional condition No.(iv) of letter dated 18/11/2014, additional condition No.2.(ii) of	PA in their reply submitted a copy of the newspaper advertisements dated 28/12/2015 regarding the EC amendment dated 09/12/2015 and 18/11/2014. Newspaper advertisements details regarding general condition No.(ix), additional condition No.(iv) of letter dated 18/11/2014, additional	Newspaper cuttings is submitted along with ATR.

S. No	Non-Compliance Details	Observation of RO (abridged)	Condition No	Re-assessment by RO	Action taken report by the PP
			letter dated 04/02/2015	condition No.2.(ii) of letter dated 04/02/2015 have not been made available. It appears that the Unit has been taken over through NCLT from previous management. Corrective action for this condition may not be taken at this stage. Ministry may take appropriate view.	
10	Solar power within the premises of the plant particularly at available rooftops have not been installed as stipulated	Not complied	additional condition No. (xxxiv).	Project Authority has reportedly installed 10KWH solar power unit for internal use. Further, feasibility study has been done & the work has been awarded to M/s Mundra Solar PV Limited (MSPVL). PA shall comply the same as committed within specified timeline, since sufficient open space is available within the Thermal Power Plant. Ministry may consider the submissions of PA.	Implementation of solar harnessing power is being prioritized and service order has already been awarded to MSPVL group company which will be implemented by 2025. Capacity of more than 3000 KVA Solar Panels will be installed within plant premises.
11	The details of quantity and quality of coal transported, source, mode of transportation, electricity units generated and plant Load factor have not been submitted along with six-monthly compliance report.	Not complied	additional condition No. 5(ii).	PA in their action taken report submitted the requisite details as Annexure-IX and assured to submit the same in the six-monthly compliance report in future. Ministry may take appropriate view.	Requisite details has been submitted. Information will be submitted along with six-monthly EC Compliance Report on regular basis as & when needed.

10. ToR Status: The details of the ToR are furnished as below:

Proposal No/ Date of application	Consideration by the EAC	Date of accord	ToR validity
IA/CG/THE/435583/2023 07/07/2023	44th meeting held during '20 July'2023'	10.09.2023	09/09/2027

11. Location of the project site:

Location of TPP Village: Taluk: District: State: Co-ordinates of all four corners: a) TPP site;	Raikheda, Gaitara & Chicholi Tilda Raipur Chhattisgarh Coordinates of TPP site including Ash Pond S.NO. LATITUDE LONGITUDE
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b) Ash pond site; c) township etc.	1	21°27'16.93"N	81°52'5.32"E
	2	21°27'5.66"N	81°52'11.12"E
	3	21°27'2.23"N	81°52'6.66"E
	4	21°26'53.45"N	81°52'5.59"E
	5	21°26'39.41"N	81°51'53.99"E
	6	21°26'35.53"N	81°51'50.97"E
	7	21°26'27.93"N	81°51'45.99"E
	8	21°26'22.65"N	81°51'32.72"E
	9	21°26'38.64"N	81°51'24.60"E
	10	21°26'37.05"N	81°51'9.59"E
	11	21°26'34.69"N	81°50'58.19"E
	12	21°26'25.62"N	81°50'48.16"E
	13	21°26'45.32"N	81°50'48.42"E
	14	21°26'49.55"N	81°50'53.63"E
	15	21°26'52.42"N	81°50'44.48"E
	16	21°26'58.32"N	81°50'49.59"E
	17	21°27'0.07"N	81°50'41.39"E
	18	21°27'3.98"N	81°50'39.90"E
	19	21°27'5.50"N	81°50'42.05"E
	20	21°27'17.06"N	81°50'40.90"E
	21	21°27'15.28"N	81°50'35.33"E
	22	21°27'18.24"N	81°50'33.10"E
	23	21°27'21.92"N	81°50'31.90"E
	24	21°27'23.03"N	81°50'34.26"E
	25	21°27'21.16"N	81°50'38.28"E
	26	21°27'27.07"N	81°50'36.24"E
	27	21°27'26.95"N	81°50'39.03"E
	28	21°27'19.29"N	81°50'49.49"E
	29	21°27'17.33"N	81°51'0.22"E
	30	21°27'14.74"N	81°51'6.38"E
	31	21°27'21.92"N	81°51'8.22"E
	32	21°27'25.57"N	81°51'9.49"E
	33	21°27'27.95"N	81°51'10.09"E
	34	21°27'27.85"N	81°51'5.37"E
	35	21°27'23.29"N	81°50'59.62"E
	36	21°27'21.39"N	81°51'0.25"E
	37	21°27'21.35"N	81°50'57.96"E
	38	21°27'26.86"N	81°50'56.62"E
	39	21°27'28.19"N	81°50'57.76"E
	40	21°27'31.61"N	81°51'3.27"E
	41	21°27'35.06"N	81°51'0.11"E
	42	21°27'36.97"N	81°50'58.77"E
	43	21°27'39.89"N	81°51'0.07"E
	44	21°27'41.30"N	81°51'1.21"E
	45	21°27'41.42"N	81°51'4.19"E
	46	21°27'40.28"N	81°51'5.18"E
	47	21°27'39.32"N	81°51'7.44"E
	48	21°27'39.57"N	81°51'8.66"E
	49	21°27'37.79"N	81°51'13.86"E
	50	21°27'33.76"N	81°51'17.53"E
	51	21°27'35.36"N	81°51'20.67"E
	52	21°27'37.60"N	81°51'17.76"E
	53	21°27'41.49"N	81°51'19.66"E

	54	21°27'41.95"N	81°51'21.77"E
	55	21°27'41.49"N	81°51'26.43"E
	56	21°27'42.82"N	81°51'30.80"E
	57	21°27'42.33"N	81°51'34.72"E
	58	21°27'40.43"N	81°51'37.59"E
	59	21°27'45.22"N	81°51'37.78"E
	60	21°27'43.75"N	81°51'44.16"E
	61	21°27'46.01"N	81°51'45.01"E
	62	21°27'45.96"N	81°51'51.76"E
	63	21°27'44.64"N	81°51'53.49"E
	64	21°27'41.09"N	81°51'52.27"E
	65	21°27'38.17"N	81°51'57.16"E
	66	21°27'35.82"N	81°51'57.20"E
	67	21°27'31.84"N	81°51'52.50"E
	68	21°27'28.95"N	81°51'50.42"E
	69	21°27'26.69"N	81°51'44.88"E
	70	21°27'23.75"N	81°51'41.59"E
	71	21°27'21.98"N	81°51'44.88"E
	72	21°27'19.90"N	81°51'36.66"E
	73	21°27'18.02"N	81°51'33.26"E
	74	21°27'18.19"N	81°51'28.34"E
	75	21°27'20.50"N	81°51'24.01"E
	76	21°27'26.23"N	81°51'18.13"E
	77	21°27'15.35"N	81°51'20.82"E
	78	21°27'1.81"N	81°51'20.26"E
	79	21°27'0.76"N	81°51'33.41"E
	80	21°27'8.98"N	81°51'44.09"E
	81	21°27'10.68"N	81°51'34.93"E
	82	21°27'10.88"N	81°51'30.33"E
	83	21°27'13.26"N	81°51'30.50"E
	84	21°27'12.16"N	81°51'56.93"E
	85	21°27'16.86"N	81°51'57.80"E
Average height of (a) TPP site, (b) ash pond site etc above MSL (m)	TPP site : 306 – 329 m Ash pond site :308 - 321 m		
Inter- state issue involved	No		
Seismic zone	Seismic Zone II- low damage risk zone (MSK VI or less) as per IS 1893: 2002		

12. Land Area Breakup: The proposed expansion will be carried out entirely within the existing area of 358.15 ha which is already under possession of Adani Power Limited. The land use break up is given as below:

Land Requirement(Ha):	34.39
a) TPP Site	60.70
b) Ash Pond	-
c) Township	33.59
d) Railway Siding & Others(Coal & Ash Facility)	50.59
e) Raw Water Reservoir	142.85
f) Green Belt	36.03 (16.18 + 19.85)
g) Others	358.15 Ha. (885 Acres)
Total (if expansion state additional land requirement)	No additional land is required for the proposed expansion.
Status of Land Acquisition:	The proposed expansion is within the land that is already under possession with Adani Power Limited.
Break-Up of land-use of TPP site:	358.15 ha
a. Total land required for project components	-

b. Private land	358.15 ha
c. Government land	-
d. Forest Land	-
CRZ Clearance	Not Applicable
Whether the project is in the Critically Polluted Area (CPA)/Severally Polluted Area (SPA) or within 10 km of CPA. If so, the details thereof:	The project area does not falls within 10 km of CPA does not fall under any Critically or Severely Polluted Areas as per the CEPI Assessment, 2018 of CPCB.

13. Environmental sensitivity of the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate/letter/Remarks
Reserve Forest/Protected Forest Land	Yes	Mohrenga P.F is Adjacent to Plant Boundary.
National Park	No	
Wildlife Sanctuary	No	Khaulidabri P.F (Nature safari) is about 2.9 km in ESE direction.
Archaeological sites monuments/historical temples etc	No	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	No	No National Park, Wildlife Sanctuary, Elephant/Tiger Reserve exists within 15 km of the power station.
Availability of Schedule-I species in study area	No	-
Additional information (if any)	-	-

14. Salient features of the expansion proposal

A. Project description:

Expansion / Green Field (new) : (I P / Merchant / Captive) :	Expansion (IPP)
Cost of the project (As per EC and revised) :	Existing 1370 (2x685) MW units – Rs. 8290 Crores
Cost of the proposed activity in the amendment :	Proposed 1600 (2x800) MW unit – Rs. 13,600 Crores
Employment potential for entire project / plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	During the operative phase about 276 additional no. of persons will be employed for the expansion project. At present 238 people are employed in the unit. Therefore, after the proposed expansion, the total manpower of the unit will be 514 Nos.
Benefits of the project (Specify quantitative information).	Social benefits: Generation of employment, development of peripheral infrastructure and upliftment of nearby villages due to socio-economic developmental activities. Financial benefits: Revenue generation for State and Central exchequer.
Status of other statutory clearances	NA
R&R details	Not Applicable
Power requirement	Power requirement after expansion will be 356400 KVA including existing 164400 KVA and will be met from self-generation. i.e AUX consumption. Existing unit has no DG sets, additionally no DG sets are used as standby during power failure.
Water requirement	Water consumption for thermal power plants as per MoEFCC vide Notification S.O. 3305 (E) dated 07.12.2015 for all existing CT based plants reduce specific water consumption up to maximum of 3.5 m ³ /MWh and as per MoEFCC stipulated norms vide Notification GSR 593 (E) dated 28.06.2018 water allocated to the thermal power plant is 3 m ³ /MWhr for new plants installed after the 1st January, 2017. The total water requirement for the project is 2.56 m ³ /MWh, which will be well within the stipulated norms of Notification dated 07.12.2015/28.06.2018.

B. Electricity generation capacity:

Capacity & Unit Configurations:	1600 MW, Configured as 2x800 MW
Generation of Electricity Annually	1600 MWh

C. Details of fuel and Ash disposal:

Fuel to be used:	Coal and Auxiliary Fuel			
Quantity of Fuel required per Annum:	For the Proposed expansion Project of 1600 MW, the annual fuel requirement is estimated at 6.6 MTPA at 85% plant load factor with Coal GCV of 3200 KCal/kg. Auxiliary liquid fuels, viz. LDO/HSD requirement per annum: 2500 kilo liters per annum. Existing coal requirement = 6.77 MTPA			
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Quantity and details of Linkage Available: 4.0 Million MTPA & Gondulpara Coal mines in Hazaribagh, Jharkhand and e-auction. The method of obtaining remaining coal: MoU/MoA & E auction Ash content in coal 42 (%) Sulphur in coal 0.50 (%) Moisture 17 (%) GCV in coal 3200 Kcal/Kg			
Details of mode of transportation of coal from coal source to the plant premises along with distances	Total distance from the source to Rail: 670 km (from Gondulpara coal mines in Hazaribagh To TPP)			
Fly Ash Disposal System Proposed	High / Medium concentration slurry. Ratio of water and ash – 35-45% (If expansion project state additional area required for ash pond) – not required			
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	Coal requirement: 6.6 MTPA 9064 T/day 2266 T/day			
Fly Ash utilization percentage with details in last 5 years from the existing 1370 MW TPP	Year	Quantity Generated (LMT)	Quantity Utilization (LMT)	Utilization (%)
	2019-20	13.08	13.10	100.16
	2020-21	16.02	16.65	103.98
	2021-22	20.41	20.01	98.06
	2022-23	20.26	20.28	100.06
	2023-24	23.17	23.19	100.09
	Ash Stock (Legacy ash) in operational Ash Pond as on 31.03.2024 – 1.64 LMT			
	Note: Efforts will be made to achieve 100% Ash utilization from commissioning of the plant and will follow fly ash utilization as per MoEF&CC Notification dated 31.12.2021.			
Stack Height (m) & Type of Flue	120 (m) (new) Bi Flue with FGD			

D. Water Requirement:

Source of Water:	Existing Samoda Dam at Mahanadi River approx. at 35 km from Plant Site.
Quantity of water requirement:	36 MCM (Expansion) 25 MCM (Existing) Total: 61 MCM per annum
Distance of source of water from Plant:	35 Km (from existing intake point)
Whether barrage/ weir/ intake well/ jack well/ others proposed:	No
Mode of conveyance of water:	Existing Pipeline

Status of water linkage:	15.03.2024
(If source is Sea water) Desalination Plant Capacity	NA
Mode / Management of Brine:	NA
Cooling system	Induced draft

15. Details of Solid waste/ Hazardous waste generation and its management are given in presentation.

S.No	Particular	Quantity	Management & disposal
1.	Municipal Solid waste	90 TPA	MSW anticipated will be collected; segregated using color coded waste bin collection system and handed over for final disposal to municipal corporation waste disposal site. Organic component of MSW will be converted to compost using Organic waste converters & used as manure for landscaping within plant premises.
2.	Fly Ash & Bottom Ash	3.68 Million MTPA	Efforts will be made to utilize 100% bottom ash as per MoEFCC guidelines. Bottom ash shall be disposed through lean slurry to Ash dyke in case of exigencies.
3.	Construction Waste	350000 Tonnes	Inert component of Construction waste shall be reused in grading & levelling of within premises. Remaining Construction waste will be handed over to contractor for disposal as per C&D Waste rules 2016.
4.	Hazardous waste Used / Spent Oil (Cat. 5.1); Waste or residues containing oil (Cat. 5.2); Empty Barrels/containers/ liners contaminated with hazardous chemicals/wastes (Cat. 33.1) & Spent ion exchange resin containing toxic metals (Cat. 35.2)	125 TPA	These are collected & stored on a designated store / yard with proper shed & impermeable flooring. Hazardous Waste will be send to authorised recyclers as per the Hazardous And Other Wastes (Management and Transboundary Movement) Rules, 2016.
5.	E waste	3.5 TPA	Handed over to the CPCB/SPCB authorised recyclers.
6.	Battery waste	7 TPA	Handed over to the CPCB/SPCB authorised recyclers.
7.	Bio-medical waste	0.12 TPA	Disposed as per the Bio Medical Waste Management Rules, 2016.

16. Baseline Environment Scenario:

Period : From 01.10.2023 to 30.12.2023	
AAQ parameters at locations (min. & Max.)	PM ₁₀ : 72.59 µg/m ³ - 41.15 µg/m ³ . PM _{2.5} : 42.70 µg/m ³ - 28.41 µg/m ³ . SO ₂ : 13.45 µg/m ³ - 7.43 µg/m ³ . NO _x : 21.35 µg/m ³ - 11.80 µg/m ³ . CO: 670 µg/m ³ - 450 µg/m ³ . Hg: BLQ (**LOQ-0.15).
Incremental GLC Level for cumulative AAQ modelling	PM ₁₀ = Max. GLC: 1.19 µg/m ³ PM _{2.5} = Max. GLC: 0.395 µg/m ³ SO ₂ = Max GLC: 1.146 µg/m ³ NO _x = Max GLC: 1.039 µg/m ³
Pond water and River water samples (08 samples) Pond water	pH 6.98 to 7.98, Dissolved Oxygen: 4.5 to 6.6 mg/lit; Total Dissolved Solids: 402 to 590 mg/lit; Total Hardness (as CaCO ₃): 130 to 310 mg/lit & total Alkalinity (asCaCO ₃): 170 to 360 mg/lit; Calcium (as Ca): 40.1 to 92.3 mg/lit; Magnesium (as Mg) : 2.42 to 20.0 mg/lit ; Sulphate (as SO ₄): 41.3 to 74.8 mg/lit , Nitrate (asNO ₃) : 83 to 18.2 mg/lit; Chloride (as

	Cl) : 68.7 to 89.4 mg/lit; Iron (as Fe): 0.16 to 0.24 mg/lit; BOD 7.2 to 10.3 mg/lit; Heavy metals like Copper (as Cu), Lead (as Pb)- BLQ(**LOQ-0.005), Cadmium(as Cd)-BLQ(**LOQ-0.002), Chromium (as Cr)- BLQ(**LOQ-0.02), Arsenic (as As)-BLQ(**LOQ-0.005) and Mercury(as Hg)- BLQ(**LOQ-0.001).
Ground Water samples at 15 locations	pH: 7.02 to 8.02, Total Dissolved Solids: 330 to 610 mg/lit; total Hardness (as CaCO ₃): 170 to 490 mg/lit; Total Alkalinity(asCaCO ₃): ---to --- mg/lit; Calcium (as Ca): 130 to 410 mg/lit; Magnesium (as Mg): 15.27 to 51.17 mg/lit; Sulphate (asSO ₄): 64 to 94.2 mg/lit, Chloride (as Cl): 41 to 81 mg/lit; Iron (as Fe): 29 to 52 mg/lit; Heavy metals like Copper (as Cu), Lead (as Pb)- BLQ(**LOQ-0.005), Cadmium(as Cd)-BLQ(**LOQ-0.002), Chromium (as Cr)- BLQ(**LOQ-0.02), Arsenic (as As)-BLQ(**LOQ-0.005) and Mercury(as Hg)- BLQ(**LOQ-0.001).
Noise levels Leq (Day & Night) at -12 locations	The Leq values for day time was observed to be 48.2 to 60.7 dB (A) in residential area, while during night time 39.4 to 47.1 dB (A).
Soil Quality at 12 Locations	Bulk density: 1.26 to 1.37 gm/cc; pH range 7.38 to 7.71; Electrical conductivity (EC); 0.310 to 0.358 µmhos/cm; calcium content: ---to --- mg/kg; sodium: 30 to 95 mg/kg; potassium: 91.91 to 129.00 kg/hect; Nitrogen: 92.13 to 220.13 kg/hect; Phosphorous: 23.16 to 35.10 kg/hect; Magnesium: 76 to 93 mg/kg; Organic Matter: 0.52% to 0.70%.
Flora & Fauna	No schedule I species observed during field survey.

17. Public Hearing

i. Advertisement for PH with date	22/05/2024
ii. Details of newspaper published	Dainik Bhaskar (Hindi), The Indian Express (English) dated 22.05.2024
Date of PH	22.06.2024
Venue	Playground, Near Government High School, Village Tarashiv, Tehsil - Tilda, District - Raipur, Chhattisgarh (2.7km from the project site)
Chaired by	Sri Devendra Patel, Additional District Magistrate, Raipur
Main issued raised during PH	Employment to the locals and development of nearby villages.
No. of people attended	120

Action plan as per MoEF&CC O.M. dated 30/09/2020

S. No.	Key Area Identification under CSR activities with addressing public need sought during Public Hearing	Time bound (Year wise) budget allocation (Rs. In Crores)					(Budget Rs. In Crores)
		1st	2nd	3rd	4th	5th	
A	Educational Initiatives						
	Modernization and necessary construction of Higher Secondary School (Kg to XII Class),	0.5	0.9	0.9	0.7	1.5	4.5
	Distribution of drinking water filter/Drinking water coolers in schools.	0.1	0.2	0.2	1.75	1.25	3.5
	Basic teaching and learning infrastructure support to Govt. Schools, Supporting in	0.5	0.8	0.8	1.65	1.0	4.75

S. No.	Key Area Identification under CSR activities with addressing public need sought during Public Hearing	Time bound (Year wise) budget allocation (Rs. In Crores)					(Budget Rs. In Crores)
		1st	2nd	3rd	4th	5th	
	creation of assembly halls, prayer halls, classrooms, computer room, space for mid-day meals,						
	playground, school boundary walls etc. for government school.						
	Educational Vocational Guidance fair (EVGF) for career talk.						
	Conducting Quiz competition for Students, Preparatory	0.10	0.20	0.20	1.5	1.25	3.25
	Coaching Classes for Navodaya Entrance Examination.						
	Community to provide awareness about education, health, hygiene, and good practices.	0.05	0.10	0.10	1.25	1.0	2.5
	Program for skill improvements of teaching staffs in govt. school.	0.05	0.10	0.10	0.75	0.5	1.5
	Sub Total	1.3	2.3	2.3	7.6	6.5	20
B	Community Health Initiatives						
	Operation of Primary Health Centre at Raikheda.	1.1	1.1	1.1	1.1	1.1	5.5
	Rural Medical Camps through Medical Team of Primary Health Centre @ 4 Nos. of camps per month (@ 60 patients per camp), Safe Menstrual Hygiene Management Awareness, Mega Health Camp, Cataract Screening & Operation.	0.5	0.5	0.5	0.5	0.5	2.5
	Promotion of awareness of malnutrition and anemia.	0.15	0.15	0.15	0.15	0.15	0.75
	Promotion of Poshan	0.15	0.15	0.15	0.15	0.15	0.75

S. No.	Key Area Identification under CSR activities with addressing public need sought during Public Hearing	Time bound (Year wise) budget allocation (Rs. In Crores)					(Budget Rs. In Crores)
		1st	2nd	3rd	4th	5th	
	Vatika at backyard of villagers & Project Suposhan.						
	Sub Total	1.9	1.9	1.9	1.9	1.9	9.5
C	Sustainable Livelihood and Women Empowerment						
	Skill Development Centre (SDC) to make the youth for achieving their Goals in life by becoming Skilled Professionals.	0.3	0.3	0.3	0.3	0.1	1.3
	Development & Support for Drip irrigation in core zone Villages & Organic farming and support to SHG/ FPO	0.2	0.2	0.2	0.2	0.1	0.9
	Sub Total	0.5	0.5	0.5	0.5	0.2	2.2
D	Community Rural Infrastructure Development						
	Repairing, widening & Maintenance of Existing roads in consultation with Gram Panchayats	0.7	0.7	0.7	0.7	0.7	3.5
	To provide facility for potable drinking water, RO Plants and water supply system through overhead tank in villages.	0.5	0.9	0.4	0.4	0.3	2.5
	Creation of clean and hygienic environment by proper drainage systems, community sanitation campaign etc.	0.5	0.5	0.5	0.35	0.15	2
	Upgradation & Renovation of primary health centers with toilet facilities etc.	0.7	0.7	0.7	0.7	0.7	3.5
	Provision of solar street lighting, green nurturing programs, implementation of Swachhh Bharat initiatives.	1.0	0.65	0.65	0.5	0.7	3.5
	Sub Total	3.4	3.45	2.95	2.65	2.55	15
E	Sports & Culture Development						

S. No.	Key Area Identification under CSR activities with addressing public need sought during Public Hearing	Time bound (Year wise) budget allocation (Rs. In Crores)					(Budget Rs. In Crores)
		1st	2nd	3rd	4th	5th	
	Promotion of sports for youths and women	0.1	0.1	0.1	0.05	0.05	0.4
	Cultural activities for villagers	0.1	0.1	0.1	0.2	0.05	0.55
	Sub Total	0.2	0.2	0.2	0.25	0.1	0.95
F	Development of local youth & women for management & administration						
	Team/ Leaders development at village level as coordinator for various program and activities.	0.4	0.4	0.4	0.4	0.4	2.0
	Vehicles for emergency purpose for local villagers including private ambulances as per requirement	0.1	0.1	0.1	0.1	0.1	0.5
	Sub Total	0.5	0.5	0.5	0.5	0.5	2.5
	Total (A+B+C+D+E+F+G)	7.8	8.85	8.35	13.4	11.75	50.15

18. Environment Management Plan: The capital cost for environmental protection measures is proposed as Rs.2110.33 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.206.55 Crores per annum. The details of cost for environmental protection measures is as follows:

S. No.	Item Description	Cost (Rs. in Crores)	Recurring cost (Rs. in Crores)
1	Electrostatic Precipitator	332.73	35
2	Chimney	69.32	5
3	Cooling Tower	180.23	18
4	Ash Handling including ash water recirculation	120.0	12
5	Ash disposal civil work	50.0	5
6	Dust extraction & suppression system	6.93	0.5
7	DM Plant Waste Treatment System	6.93	0.7
8	Sewerage collection, treatment & disposal	1.39	0.2
10	Green Belt & landscaping	6.93	0.6
11	FGD and SCR	1280.0	125
12	Rainwater harvesting	5.55	0.55
13	Solar power harnessing	8.32	0.7
14	Environmental Laboratory & Environmental Monitoring (Capital + Recurring)	8.5	0.5
15	CEMS, CAAQMS, EQMS monitoring system & Main gate display board	3.5	0.30
16	Wind Breaking Wall, Dry Fog System & RCC Flooring in Coal Storage Area.	30.0	2.5
Total in Rs. in Crores		2110.33 Cr.	206.55

19. Green belt development: A total of 142.85 ha (i.e. 353 acres) area which is 39.88% of total project area, will be covered under green belt, out of which 118 ha area is already developed and remaining 24.85 ha area will be developed as per the CPCB guidelines with densification of existing greenbelt. The greenbelt shall be developed as per the CPCB

guidelines.

A. Details of green area development plan:		
Total Plot area	358.15 Ha	
Total Plantation Area	142.85 Ha (39.88%)	
Existing planted trees	217762 Nos	
Total tree After Expansion	217762 + 68500 = 286262 Nos.	
Proposed Tree to be planted	68,500 Nos.	
B. Budget Allocation for Greenbelt Development:		
No. of trees to be planted	Green area/Plantation	Fund allocation for proposed plantation in lakhs
68,500 nos.	142.85 Ha (39.88%)	Rs 693 Lacs

20. Summary of court cases as on September, 2024

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	DFR 2313 of 2019 Appeal No. 448 OF 2019 REL vs PGCIL & Ors (LTA Relinquishment)	APTEL	IA for name change from REL to APL was allowed by APTEL on 02.06.2023.	02.06.2023	Awaited	On 07.09.2021, pleadings completed
2	DFR No. 176 of 2020 Appeal 39 of 2023 REL vs CERC & PGCIL	APTEL	IA for name change from REL to APL was allowed by APTEL on 02.06.2023.	02.06.2023	Awaited	On 20.10.2021, pleadings completed
3	92/2023	CSERC	Determination of Energy Charge Rate for FY 20-21, FY 21-22, FY 22-23 towards supply of 5% power to CSPDCL.	Date of filing: 29/11/2023	Awaited	Pleadings incomplete
4	SLP (C) No. 13112 of 2019	Supreme Court	(matter directed to be tagged with SLP(C) No. 11998/2019) GCEL Vs Union of India (Coal Mine Matters)	01.04.2024	Awaited	Motion Hearing
5	SLP (C) No. 13151 of 2019 (matter directed to be tagged with SLP(C) No. 11998/2019) GCEL Vs Union of India	Supreme Court	(Coal Mines Matter)	01.04.2024	Awaited	-
6	LPA- 338/2015 GCEL vs Union of India (through the Railway Board)	Delhi High Court	(Rail Transport Clearance case)	06.03.2020	Awaited	-
7	W.P.(C) 12296/2022 Raipur Energen Limited Vs Union Of India & Ors.	Delhi High Court	Ratan India Petition was tagged, and counsel for Ratan India sought adjournment. Respondents did not object, and CIL and MCL sought to file comments on the rejoinder.	08.11.2023	16.07.2024	In a similar case, the Delhi High Court restraining respondents from coercive actions against GMR Kamlanga

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
						Energy Limited, and the company filed a name change application without objections.
8	Writ Petition (Civil)1801/2017	High Court, Orissa	GCEL vs Regional Commissioner, Regional Coal mines office	Hon'ble Court vide order dt. 22.02.2017 has stayed the operation of the demand from the Regional Commissioner	Awaited	There is likelihood of a favorable order
9	W.P.PIL 87/2016	High Court, Chhattisgarh	(Suo motu petition)Court on its own motion vs State of CG and Others	The matter was listed on 15.06.2022 after a gap of more than 2 years & 3 months. The Court has directed the Deputy 2. The case was listed on 15.06.2022, heard on 19.07.2023, appointed several lawyers as Court Commissioners, but reports were not provided to private respondents' counsel	15.07.2024	On 04.12.2023, W.P.PIL 87/2016, (Suo moto petition by the High Court of Chhattisgarh) was heard for placing the reports in compliance of the order 19.07.2023.
10	W.A. No. 1377 of 2022	High Court, Orissa	Raipur Eneenergy Limited vs Hindalco Industries & Ors	16.10.2023	Awaited	For orders
11	WPC No. 2328/2019 Girdhar V/s State Chhattisgarh & 3 ors. (REL is Respdt. No. 4)	High Court, Bilaspur	The court ordered a notice to M/s GEL, listed the matter, and granted two weeks' time for an amendment in the cause title. The matter was listed again on 20.09.2021	20.09.2021	Awaited.	Likelihood of favorable order in the matter.
12	Case No. 47/13Dy. Director- Industrial Health & Safety / Factory Inspector vs Rajkumar &	Judicial Magistrate, First Class, Labour Court, Raipur	Case against the Factory Manager has been disposed of on 06.05.2015, while	06.05.2015	No next date given. The matter will be taken up	Listed for hearing on 03.04.2021 but for COVID-

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
	Anr.		against occupier it is still pending.		on the appearance of the occupier.	19, regular hearing suspended and hence the matter could not be taken up. The matter is pending in District Court, at Raipur on the issue of deposition of Court fees. Meanwhile an application for change of name from GCEL to Raipur Energen Limited has been filed.
13	752 of 2015 Rakesh Kr. Agrawal v/s GCEL & Others Case not yet registered as the issue of payment of Court fees is still pending	District Court, Raipur	Listed for hearing on 16.10.2022. The matter is pending in District Court, at Raipur on the issue of deposition of Court fees. Meanwhile an application for change of name from GCEL to Raipur Energen Limited has been filed.	16.10.2022	Awaited	Likelihood of favourable order in the matter as the petitioner has not yet paid the court fee.
14	WPC No. 1284/2023	Chhatisgarh High Court		20.02.2024	Awaited	
15	MSME online Application No. UDYAM-TN-02-0161824/M/00001 dtd. M/s Valtech Technical Services Vs M/s Raipur Energen Limited	The micro and small enterprises facilitation council - chennai		15.06.2023	Awaited	The MSEF Council will intimate the next date by email.
PP informed that out of 15 court cases listed above there is no any litigation in respect of the subject matters pertaining to the Environment & Forests.						

21. Written submission: PP has submitted the following written submission:

S. No.	Written submissions	Details
i.	Submit an Action Plan to address the issues/non-compliance mentioned in	PP submitted action plan to address the issues mentioned in updated CCR issued by IRO, Raipur vide letter dated 13.09.2024. The Action Plan is furnished at para 13.1.6

S. No.	Written submissions	Details
	Certified EC Compliance Report.	PP submitted undertaking to comply all the conditions stipulated in the previous EC and public hearing conducted dated 12.06.2024 . PP has enhanced the CSR (CER) budget under 5 years plan. Accordingly, the budget has been increased to 50.15 crores .
ii.	Submit details of Public Hearing (2009) for existing (2x685) MW TPP and CSR implementation during the period.	Raipur TPP has approached to CECB for providing public hearing details (2009). Requisite documents are not available, however as per the information collected the PH was held on dated: 15.01.2009. Adani Foundation (CSR arm of Adani Group) under the guidance of APL, Raipur TPP is continuously engaged in CSR activities since 2019 after the GMR group. Identified core areas of working in the field of Education (INR 220 Cr), Community Health (INR 254.74 Cr), Sustainable Livelihood Development (INR 92.15 Cr), Community Infrastructure Development & Climate Action (INR 123.11 Cr), General Management & Administration (INR 190.51 Cr) within 10 km radius area with focus on nearby 16 Villages located around the plant boundary. The development work in those villages is already implemented and up to the satisfaction of the Villagers. APL Raipur hereby submits the undertaking & commitments to comply all the conditions stipulated in the previous EC, public hearing (2009) and public hearing conducted dated 12.06.2024. Further, PP has earmarked (allocated) CSR budget of about 50 Crores to be implemented on need based covering EC conditions, public needs as sought during the public hearing. Raipur TPP has conducted the Need based Assessment study, Social Impact Assessment study with community engagement plan in consultation with villagers, stakeholder as Pollution control board to address those point which are the need of villagers to fulfill their requirement and as suggested by stakeholder. The report has been prepared by Reputed Government Institute, IISWBM, Kolkata. Study report has been submitted.
iii.	Radioactive Monitoring as mentioned in EC Condition, - Either apply for EC Amendment or approach to MoEF&CC to address the issue.	For provision of Inbuilt mechanism for continuous monitoring for radioactivity and heavy metals in coal and fly ash (including bottom ash), the technology and monitoring instrument is not available with the suppliers in the Country and is also technically not feasible to monitor in this mechanism. PP will submit the EC amendment application for amendment in specific condition No.(xxxii) & (xxxiii) of environmental clearance within the month.
iv.	Photographs of Fly ash dumping site along with the permission from CECB shall be provided. Area of ash pond shall be minimized, and the remaining area must be utilized to install solar panels.	PP submitted that they are complying with the condition laid down in NOC by CECB. The Ash generation & utilization detail, photographs of disposal area/abandoned stone quarries and CECB NOC are enclosed. APL has proposed expansion of existing plant of 1370 MW by addition of 1600MW, but not proposed any new ash pond for Phase -II expansion project, so it has been already optimized. Further PP assured that they will install Solar panels within the plant boundary. Ash dyke is required for emergency purpose, Rainy season or in case of any pandemic situation.
v.	CSR budget for Public Hearing commitments shall be increased.	PP has enhanced the CSR (CER) budget under the 5 years plan. Accordingly, the budget has been increased to 50.15 crores.
vi.	Commitment shall be provided to install FGD by Dec' 2025.	APL, Raipur has awarded service order to Power Mech Projects Limited and APL will implement the FGD before 31 March 2026 as per the MoEFCC timeline. Power Mech Projects Limited is already awarded service order for implementation of FGD on priority basis & will complete the work as per terms & conditions, timeline. The copy of Service order is enclosed.
vii.	Solar power capacity shall	APL is committed to install roof top Solar Panels and available land in the

S. No.	Written submissions	Details
	be enhanced.	premises with capacity of > 5000 KVA as suggested by Hon'ble EAC members during the meeting.
viii.	Assess the feasibility to install Air Cooling condenser for Cooling towers.	APL has already completed feasibility study and WRD office has also ensured for sufficient water availability. There is sufficient water available in Chhattisgarh, therefore WCC has been proposed. However, Feasibility to install Air Cooling condenser has been evaluated & found, there are space constraints for installation of ACC as the expansion Project is accommodated in the existing plant area. Moreover, installing ACC will further increase the CAPEX & OPEX for the project which will make it techno economically non-viable.
ix.	Hydrogeology report shall be revalidated by a reputed institute.	Hydrogeology study report will be revalidated by Reputed Institute, PP has already approached on the subject and the report will be submitted to MoEFCC within the month, undertaking is enclosed.
x.	Plan for strengthening the Environmental Laboratory shall be submitted.	PP planned to expand the environmental laboratory with well qualified staff to carry out regular monitoring. Analysis & surveillance for implementation of stipulated environmental safeguards with facility of stack emission, ambient air quality. Noise levels, etc. to meet all the necessary monitoring parameters required for a Thermal Power Plant. PP has already established Environment Cell for existing units and planned to expand the environmental laboratory. Well qualified Engineers, Chemist & Officers are already working to carry out regular surveillance for implementation of stipulated environmental safeguards. PP is in the process of strengthen the environmental laboratory with all necessary facilities to monitor environmental parameters by March 2027 before COD of TPP.

22. Deliberations by the Committee: The EAC in its meeting held on 29th August 2024, inter alia deliberated the following:

i. Instant proposal is for Expansion of Raipur Thermal Power Plant by adding 1600 (2x800) MW Ultra-Super Critical to existing capacity of 1370 (2x685) MW in an area of 358.15 Ha located at CSIDC industrial area in Tilda Block, Raipur District, Chhattisgarh by Adani Power Limited, Raipur (APL).

ii. Ministry had issued EC earlier vide letter no. J-13012/62/2008-IA. II (T) dated 09.05.2011 and subsequent amendments dated 13.06.2013, 18.11.2014, 04.02.2015 & 09.12.2015 to the existing project i.e. 1370 (2x685) MW in favour of GMR Chhattisgarh Energy Ltd (GCEL). The EC was transferred to Raipur Energen Limited (REL) dated 05.11.2019 (GCEL to REL) & subsequently to Adani Power Limited (APL) dated 24.04.2023 (REL to APL).

iii. A total area of 358.15 ha will be required for the proposed expansion, which is within the existing project boundary of 358.15 ha. The entire area of 358.15 ha. is already under possession of Adani Power Limited. No additional land is proposed to be acquired.

iv. The Committee deliberated on the certified compliance report of Regional Office along with the action taken report of the project proponent and found it satisfactory. Requisite amendment in the existing EC conditions shall be obtained by the PP within a time frame of three months.

v. FGD installation in the existing power plant shall be completed by March, 2026.

vi. The hydrogeology study report done by the proponent shall be vetted by an reputed institute/Government organization. The recommendations to be made in this regard shall be complied by the proponent in a time bound manner.

vii. The estimated project cost is Rs. 13,600 Cr. including existing investment of Rs. 8,290 Cr. Total capital cost earmarked towards environmental pollution control measures is Rs. 2,110.33 Cr. and the Recurring cost (operation and maintenance) will be about Rs 206.55 Cr. per annum.

viii. 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.

ix. 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. River Jamuniya Nadi is flowing at a distance of 2.00 km in North direction.

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

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

xii. Public hearing for the project was held on 22/06/2024. 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.

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

xiv. Effluent of 6000 KLD will be treated in ETP and Domestic waste water of 44 KLD will be treated through STP and reused. The plant will be based on Zero Liquid discharge system.

xv. Existing unit has 493 TPH coal fired each boiler. Additionally, 585 TPH coal fired each boiler will be installed. Electrostatic precipitator, NOX Control System & Flue Gas desulphurization system (FGD) with a stack of height of 120 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boilers.

xvi. The proposed power plant does not require additional ash pond as existing ash pond will be used.

xvii. The total water requirement for the project is 2.56 m³/MWh. The water drawl permission of 36 MCM has been obtained from Rajya Nivesh Prothshahan Board (Chhattisgarh Govt.) vide letter dated 15.03.2024.

xviii. The present coal linkage of proposed thermal power plant is from Gondulpara coal mines in Hazaribagh, Jharkhand. MOU /permission for 4.0 million MTPA of coal has been obtained and rest quantity will be met through e-auction.

xix. Green belt is proposed to be developed in an area of 39.88 % of the total area.

xx. No schedule – I species reported in the study area of the project. However, project proponent has prepared the wildlife conservation plan.

xxi. EAC observed that 15 court cases are pending against the proposed project. Out of 15 court cases, no any litigation in respect of the subject matters pertaining to the Environment & Forests. There are no show cause notice pending against the project.

xxii. 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.

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

23. Recommendations of the Committee: The EAC after detailed deliberations on the information submitted and as presented during the meeting **recommended** for grant of Environmental Clearance to the proposed expansion of Raipur Thermal Power Plant by adding 1600 (2x800) MW Ultra-Super Critical to existing capacity of 1370 (2x685) MW in an area of 358.15 Ha at CSIDC industrial area in Tilda Block, Raipur District, Chhattisgarh by **M/s. Adani Power Limited, Raipur (APL)**, under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and standard/general conditions (**Annexure 1**).

24. 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. Adani Power Limited** for “expansion of Raipur Thermal Power Plant by adding 1600 (2x800) MW Ultra-Super Critical to existing capacity of 1370 (2x685) MW in an area of 358.15 Ha at

CSIDC industrial area in Tilda Block, Raipur District, Chhattisgarh” subject to compliance of the Specific/General environmental conditions (**Annexure 1**).

25. 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.

26. 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.

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

28. 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.

29. 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.

30. 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.

31. This issue with an approval of the Competent Authority

Yours faithfully,

(Sundar Ramanathan)
Scientist 'E'/Additional 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, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32.
6. The Member Secretary, Chhattisgarh State Environment Conservation Board (Pollution Control office), Paryavas Bhavan, North Block Sector-19, Atal Nagar Dist- Raipur Chhattisgarh.
7. The District Collector, Raipur District, Chhattisgarh.
8. 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 ash generated as a result of the expansion project in accordance with the ash utilization notification dated 31/12/2021 and its subsequent amendment. No additional ash pond is permitted for the expansion project. In case of exigencies, ash generated from existing and proposed power plant shall be disposed to existing ash bund through high concentration slurry disposal (HCSD) system only.
1.2	PP shall obtain amendment in the condition no. iv, xxxii and xxxiii of the existing EC dated 9/5/2011 and its subsequent amendments as committed within the time frame of three months from the date of grant of EC. A fresh CCR report will be submitted at the time of seeking this amendment.
1.3	PP shall complete the FGD installation for the existing 1370 MW power plant by March, 2026 and for the proposed 1600 MW TPP by June, 2026.
1.4	The hydrogeology study report done by the proponent shall be vetted by a reputed institute/Government organization. The vetted report along with the recommendations to be made in this regard shall be submitted to the Ministry within one month from date of grant of EC and the recommendations of the study report shall be complied by the proponent in a time bound manner. Compliance status in this regard shall be submitted to concerned Regional Office of the Ministry along with the 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

S. No	EC Conditions
	administration wherever feasible. PP shall store rain 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 Environment Management Plan (EMP) in a time-bound manner. The budget earmarked for the same is Rs 2110.33 Crores (Capital) and Rs 206.55 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. In addition to this, PP shall install two continuous ambient air quality monitoring station near ash pond area at suitable locations preferably the village side in consultation of CECB within 6 months from the date of grant of EC.
1.7	Ash pond area and fly ash utilization shall be as per Fly Ash Notification issued by Ministry/ CPCB from time to time.
1.8	PP shall ensure that pipelines carrying the fly ash and effluent shall be inspected regularly for any leakages.
1.9	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. PP has to enhance the Solar power capacity in the project area to 5000 KVA by December, 2025.
1.10	As committed by the PP, Zero liquid discharge shall be adopted.
1.11	PP shall ensure that diesel operated vehicles will be switched over to E-Vehicles/ CNG 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 /CNG 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 such non diesel vehicles deployed etc. in six monthly compliance report.
1.12	PP shall implement the concurrent plantation plan in a time bound manner. The gap plantation shall be completed in the identified 118 Ha land within Plant, residential and administrative areas and around Ash Pond by the planting 2.0 Lakh saplings during 2024-2025. Further, three tier green belt shall be developed in an area of 24.85 ha in a time frame of two years from the date of grant of EC in consultation with Forest department/ Gram Panchayat/District Administration. 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.

S. No	EC Conditions
1.13	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.
1.14	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. 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.
1.15	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.
1.16	Coal for the proposed power plant shall be received at plant through Railway siding only from Gondulpara Coal Mine & e- auction. Transportation of coal by road is not permitted.
1.17	PP shall deploy vacuum based vehicle for everyday cleaning of the road in and around plant site at least for 5 KM.
1.18	Environment Audit of plant shall be done annually and report shall be submitted to Regional office of the Ministry.
1.19	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.
1.20	Oil and grease recovered from the treatment plant should be disposed only through authorized recyclers.
1.21	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
1.22	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.

S. No	EC Conditions
1.23	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 being submitted by PP.
1.24	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.

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 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 reports.
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 50.15 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. PP shall submit the progress report regarding the implementation of action plan to concerned RO along with the six monthly compliance report. 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 camp and take all necessary steps so as to cover maximum number of persons.
2.4	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
2.5	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.

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.

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.
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 Ash Utilization S.O. 5481(E) dated 31/12/2021 as amended from time to time shall be complied.
1.5	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.
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	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.

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 as per G.S.R. 243 (E) dated 31.03.2021 read with G.S.R. 682 (E) dated 05.09.2022 and amended from time to time.
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 120 m shall be provided with continuous online monitoring instruments for SO ₂ , 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 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 PM ₁₀ , PM _{2.5} , SO ₂ , NOX within the plant area. 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.

S. No	EC Conditions
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 3.0 m ³ /MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5.
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

S. No	EC Conditions
	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 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 of 6000 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;
6.10	Sewage generation of 44 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.

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 39.88% 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. Concurrent plantation shall be done and all the earmarked area shall be suitably planted with native species in three rows within the next 2 years.
8.2	In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.

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 S.O. 5481 (E) dated 31.12.2021, S.O.6169 (E) dated 30.12.2022, S.O.0 5 (E) dated 01.01.2024 and amendment thereto.
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

S. No	EC Conditions
	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	<p>The project proponent shall (Post-EC Monitoring):</p> <ol style="list-style-type: none"> send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government; upload the clearance letter on the web site of the company as a part of information to the general public. 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. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically; monitor the criteria pollutants level namely; PM (PM10& PM2.5 incase 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; 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; 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; 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.
10.7	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.

11. Corporate Environmental Responsibility (Cer) Activities

S. No	EC Conditions
11.1	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

S. No	EC Conditions
	during public hearing to facilitate the discussion on the CER in compliance of the shall be submitted.

