

MINUTES OF THE 38TH MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 6TH MARCH, 2023.

The 38th Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Aliganj, Jor Bagh Road, New Delhi was held on 6th March, 2023 through video conference under the Chairmanship of Shri Gururaj P. Kundargi. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No. 38.1: Confirmation of the Minutes of the 36th EAC meeting

The Minutes of the 37th EAC (Thermal Power) meeting held on 14.02.2023 were confirmed in the meeting.

Agenda Item No. 38.2

Expansion of Darlipali Super Coal Based Thermal Power Project by installing 1x800 MW (Stage-II) project in existing project (2x800 MW) in an area of 159.9124 Ha (additional) located at village Darlipali, Taluk Lephripa, District Sundergarh (Orissa) by M/s NTPC Limited - Terms of Reference (TOR) - reg.

[Proposal No. IA/OR/THE/417290/2023; F. No. J-13012/65/2008-IA.I (T)]

38.2.1 The proposal is for grant of Terms of Reference to the project for expansion of Darlipali Super Coal Based Thermal Power Project by installing 1x800 MW (Stage-II) project in existing project (2x800 MW) in an area of 159.9124 Ha (additional) located at village Darlipali, Taluk Lephripa, District Sundergarh (Orissa) by M/s NTPC Limited.

38.2.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

- i. M/s NTPC Limited proposes for expansion of Darlipali Super Coal Based Thermal Power Project by installing 1x800 MW (Stage-II) project in existing project (2x800 MW) in an area of 54.863 Ha (additional) located at village Darlipali, Taluk Lephripa, District Sundergarh (Orissa) by M/s NTPC Limited.
- ii. The silent features of the project are as under:

Project details:

Name of the Proposal	Terms of Reference (ToR) for EIA Study of Darlipali Super Thermal Power Project, Stage-II (1x800 MW).
Proposal No.	IA/OR/THE/417290/2023
Location	Village - Darlipali Taluk – Lephripa District – Sundargarh State - Odisha

	PIN - 770072
Company's Name	NTPC Limited
Accredited Consultant and certificate no.	QCI/NABET Accredited EIA Consultant is being engaged.
Inter- state issue involved	No
Seismic zone	Zone-II (Lowest Seismic Zone)

Category details:

Category of the project	Thermal, Category - A
Capacity	Under Operation Stage-I: 1600 MW (2x800 MW) Proposed Expansion Stage-II: 1x800 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	This is an expansion Unit (1x800 MW) of existing project (2x800 MW) based on pulverised coal fired thermal power generation technology, Water Cooled Condenser System & compliant with new emission norms.

Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	It is an expansion project. Ministry of Environment, Forests and Climate Change (MoEF&CC) had accorded Environmental Clearance (EC) for 2x800 MW (Stage-I) Darlipali Supercritical Coal Based Thermal Power Plant at village Darlipali, in Lephripara Taluk, in Sundergarh Distt in Odisha vide letter no. J-13012/65/2008-IA.1(T) on 17.02.2014.
Amendments granted, if Yes details	Yes. Amendment was accorded vide letter no. J-13012/65/2008-IA.1(T) on 12.02.2019 in the EC for change in coal source from Dulanga mine to SECL and MCL mines including Dulanga mine and accords the temporary permission for transportation of coal by road. However, the MGR has been established now and fully functional. Amendment was accorded vide letter no. J-13012/65/2008-IA.1(T) on 24.12.2021 in Specific Condition (viii) Environmental Clearance dated

	17 th February, 2014 subject to the compliance condition "24x7 online Continuous monitoring system for ambient air quality parameters SO ₂ , NO _x and PM shall be established with connected server to CPCB and SPCB."
Expansion / Green Field (new): (IPP / Merchant / Captive)	Expansion
If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.	At the time of application for EC, certified copy of monitoring report shall be submitted.
Specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/ information.	https://www.ntpc.co.in/en/status-hyc-reports Head of Project, Darlipali Super Thermal Power Station Village - Darlipali Taluk – Lephripara District – Sundargarh State - Odisha Pin - 770072
Co-ordinates of all four corners OF TPP Site:	Main Plant & Township: Latitudes: 21°56'37"N, 21°56'21"N, 21°57'02"N, 21°57'17"N Longitudes: 83°54'26"E, 83°54'17"E, 83°53'03"E, 83°53'32"E Ash Disposal Area: Latitudes: 21°59'05"N, 21°57'31"N, 21°57'33"N, 21°58'58"N Longitudes: 83°54'02"E, 83°54'27"E, 83°55'28"E, 83°54'29"E
Average height of: (a) TPP site, (b) Ash pond site etc. above MSL	215~220 m 220 m
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No
CRZ Clearance	Not Applicable

<p>Cost of the Project (As per EC and revised):</p> <p>Cost of the proposed activity in the amendment:</p>	<p>Cost of the Existing Project at current price level (in Lakhs) [A]</p>	<p>Rs. 1139700</p>
	<p>Cost of the proposed expansion/modernization of Project at current price level (in Lakhs) [B]</p>	<p>Rs. 860734</p>
	<p>Total Cost of the project/ Activity (in lakhs) [A+B]</p>	<p>Rs. 2000434</p>
<p>Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).</p>	<p>The project will generate direct and indirect employment opportunities as well as opportunities for self-employment. The no. of NTPC employees during construction and operation phases are 96 and 366 respectively. Workforce employed during construction phase by the EPC contractors would be much higher (about 2000-2500 during peak deployment). In addition to the people directly involved in construction and operation of the power project, employment opportunities in subsidiary industries and service sectors as well as self-employment opportunities shall also be generated</p>	
<p>Benefits of the project (specify quantitative information)</p>	<p>Construction and operation of the project will generate employment potential both directly or indirectly. Local people will have employment opportunities as skilled, semi-skilled and unskilled laborers as well as self-employment opportunities. Thus, there will be overall improvement in the socio-economic status of the people of the surrounding areas. Power plant will have a positive effect on the socio-economic conditions of the people nearby, the project and service activities will generate steady source of income for local people. With the implementation of the project, employment opportunities, communication, medical facilities, education and skill up-gradation facilities etc. in the area will be further improved. Besides, there will be marked improvement for various facilities in the local areas as shown below.</p> <ul style="list-style-type: none"> ➤ Improvement in medical and health care system. ➤ Improvement in educational services. ➤ Improvement of drinking water & sanitation facilities. ➤ Vocational training facilities for local eligible youth of local community to enable them to seek employment in suitable project operations and elsewhere. ➤ Benefit to the State and the Central governments through financial revenues from 	

	<p>this project directly and also indirectly.</p> <ul style="list-style-type: none"> ➤ Employment opportunities to local persons of different skills and trades. ➤ Improvement in the socio-economic conditions of the inhabitants of the area
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Electricity generation capacity:

Capacity & Unit Configurations:	<p>Under Operation Stage-I: 1600 MW (2x800 MW)</p> <p>Proposed Expansion Stage-II: 1x800 MW.</p>
Generation of Electricity Annually	5.96 Million Units (800 MW @ 85% PLF)

Details of fuel and Ash disposal

Fuel to be used:	Coal
Quantity of Fuel required per Annum	3.82 MTPA corresponding to 85% PLF considering GCV of 3400 Kcal/Kg.
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Coal linkage for Stage-II is yet to be established
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/IR
Fly Ash Disposal System Proposed	<p>The fly ash shall be extracted in dry form from the electrostatic precipitator hoppers. This dry ash shall either be taken to buffer hoppers for its onward transportation in dry form for utilization or shall be slurrified in wetting units for its ultimate disposal in ash disposal area using HSCD System. The bottom ash shall be extracted and disposed off in wet form. It is envisaged to have disposal system sized for 100% generation of ash.</p> <p>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. A blanket of water shall be maintained over the entire ash pond to control fugitive dust emission. After the ash pond is abandoned, it shall be reclaimed through green</p>

	vegetation.
Ash Pond/ Dyke (Area, Location & Co-ordinates)	Area: Existing :160 Ha Proposed : 80 Ha Total: 240 Ha Latitudes: 21°59'05"N, 21°57'31"N, 21°57'33"N, 21°58'58"N Longitudes: 83°54'02"E, 83°54'27"E, 83°55'28"E, 83°54'29"E
Average height of area above MSL(m)	220m
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	1.2 MTPA 0.3 MTPA
Fly Ash utilization (details)	<p>The Ash Utilisation shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021 as amended on 31.12.2022. To utilize ash and also to comply the stipulations of MoEF&CC's Gazette Notification on fly ash dated 31-12-2021 following actions would be taken up by NTPC:</p> <ul style="list-style-type: none"> • NTPC shall provide a system for 100% extraction of dry fly ash along with dedicated dry ash silos for storage of at least sixteen hours of ash based on installed capacity having separate access roads so as to ease the delivery of fly ash. Provision shall also be kept for segregation of coarse and fine ash, loading this ash to closed/ open trucks and also for loading fly ash into rail wagons. This will ensure availability of dry fly ash required for manufacture of Fly Ash based Portland Pozzolana Cement (FAPPC) for cement plants and Ready Mix Concrete plants. • NTPC shall also promote, adopt and set up the ash based product manufacturing facilities within its premises & fly ash brick thus produced shall be utilized in in-house construction works as well as for supply in the market on price. • NTPC shall make efforts to motivate and encourage entrepreneurs to set up ash based building products such as fly ash bricks, blocks

	<p>tiles, fly ash based aggregate etc. in the vicinity of proposed power plant.</p> <ul style="list-style-type: none"> • To promote use of ash in agriculture/low lying areas/wasteland development-show case project shall be taken up in the vicinity of proposed thermal power station. • NTPC shall make efforts with authorities of coal mines and other minerals mines for use of ash in reclamation of mines located within 300 km of proposed power station. • All government/ private agencies responsible for construction/ design of buildings, road embankment, flyover bridges and reclamation/ development of low lying areas within 300 km of the plant areas shall be persuaded to use ash and ash based products in compliance of MoEF&CC's Gazette Notification on fly ash. • With all the efforts mentioned above, it is expected that fly ash generated at proposed thermal power station shall be utilized in the areas of cement, concrete & building products manufacturing, road embankment construction, land development, mine filling, shoreline protection structure, agriculture etc.
Stack Height (m) & Type of Flue	One chimney of 150 M height with single flue is envisaged

Water Requirement:

Source of Water:	Hirakud reservoir
Quantity of water requirement:	2400 m ³ /hr
Distance of source of water from Plant:	30 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Intake well
Mode of conveyance of water:	Pipeline
Status of water linkage:	Water for Darlipali STPP is presently being drawn from Hirakund Reservoir. Govt. of Odisha (GoO) allocated 55 Cusec of water vide its letter dated: 30.01.2019. The total water requirement for Stage-I is 48

	<p>Cusec. Water requirement for Darlipali Stage-II is 24 Cusec. Surplus water available is 7 Cusec. For meeting the requirement of Stage-II, an additional water allocation of 17 Cusec shall be obtained from Govt. of Odisha.</p>
(If source is Sea water) Desalination Plant Capacity	Not Applicable.
Mode / Management of Brine:	Not Applicable.
Cooling system	Water Cooled Condenser System

Land Area Breakup:

<p>Land Requirement:</p> <p>a) TPP Site b) Ash Pond c) Township d) Railway Siding & Others e) Raw Water Reservoir f) Green Belt g) others Total (if expansion state additional land requirement)</p>				
	Description	Existing (Ha.)	Proposed (Ha.)	Total (Ha.)
	Main Plant	322.534	45.3248	367.8588
	Township	62.3216	0	62.3216
	Ash Pond	160	80	240
	Railway siding, Corridor etc.	54.035	0	54.035
	Green belt	76.89	34.5876	111.4776
	Total	675.78	159.9124	835.693
Status of Land Acquisition:	<p>About 1670 Acres (675.78 Ha) of land has been acquired for Darlipali STPP during Stage-I and about 260 acres (105.22)of land is available in two patches.</p> <p>For accommodation of Darlipali STPP Stage-II, 159.91 Ha of land required out of which 54.863 Ha is forest land. Application for forest land has been submitted on 28.11.2022 (Ref. No.: FP/OR/THE/406244/2022). However, revised application is under preparation</p>			

<p>Status of the project:</p> <p>If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.</p> <p>If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons</p>	<p>Construction of Stage-II not yet started</p>			
<p>**Break-Up of land-use of TPP site:</p> <p>a. Total land required for project components</p> <p>b. Private land</p> <p>c. Government land</p> <p>d. Forest Land</p>	<p>Nature of Land involved in (Ha)</p>	<p>Area Existing in Ha [X]</p>	<p>Additional Area Proposed in Ha [Y]</p>	<p>Total Area required after expansion in Ha [X+Y]</p>
	<p>Non-Forest Land [A]</p>	<p>661.83</p>	<p>105.049</p>	<p>766.88</p>
	<p>Forest Land [B]</p>	<p>13.95</p>	<p>54.863</p>	<p>68.813</p>
	<p>Total [A+B]</p>	<p>675.78</p>	<p>159.912</p>	<p>835.693</p>

***As per information submitted by the PP vide email dated 28.02.2023.*

Presence of Environmentally Sensitive areas in the study area

Forest Land/Protected Environmental Sensitivity Zone	Area/ Yes/ No	Details of Certificate/ letter/Remarks
Reserve Forest/Protected Forest Land	Yes	<ol style="list-style-type: none"> 1. Makarachata RFat 8.0 km in SW 2. Bara Banga RF at 8.5 km in NE 3. Balangi Bahal RF at 2.4 km in SE 4. Aulijharan RF at 5.5 km in SW
National Park	No	
Wildlife Sanctuary	No	
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 parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites exists within 10 Km radius

Additional information (if any)	No	
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Court case details:

Any litigation/Court case pertaining to the project	No litigation regarding Environment.				
	Court cases regarding land are as follows:				
	Court Name	Bench	Case Category	Status	Orders Directions
	High Courts	High court of orissa, Cuttack	WP (Civil)	Pending	WPC 25215/2020. Filed on : 28.09.2020 Last dt. 08.02.2021 Next dt. Not fixed
	High Courts	High court of orissa, Cuttack	WP (Civil)	Pending	W.P.(C) No. 17999 of 2022. Pending
	Districts Courts	Court of Senior Civil Judge, Sundargarh	WP (Civil)	Pending	Civil Suit No. 244/2021
High Courts	High court of orissa, Cuttack	WP (Civil)	Pending	WP (C) 252/2016. Filed on 06.01.2016 Last dt : 07.01.2016 Next Dt: Not given Status: Fresh Admission stage. Vide order dtd. 07.01.2016, made to be taken along with WPC 3076/2014 (Bharat ku Mishra vs State)	

Is the proposal under any investigation? If so, details thereof.	No
Any violation case pertaining to the project:	No
Additional information (if any)	-

38.2.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for expansion of Darlipali Super Coal Based Thermal Power Project by installing 1x800 MW (Stage-II) project in existing project (2x800 MW) in an area of 159.9124 Ha (additional) located at village Darlipali, Taluk Lephripara, District Sundergarh (Orissa) by M/s NTPC Limited.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that Coal linkage for Stage-II is yet to be established and for construction of Darlipali STPP Stage-II, 159.91 Ha of land required out of which 54.863 Ha is forest land. The committee suggested the project proponent to reduce the ash pond area and remove the forest area from layout toward downward side. The EAC also noted that the site selected for ash disposal is not suitable and therefore PP shall select alternate site for the same.

38.2.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting **recommended** for grant of Standard ToR for conducting EIA study for expansion of Darlipali Super Coal Based Thermal Power Project by installing 1x800 MW (Stage-II) project in existing project (2x800 MW) in an area of 159.9124 Ha (additional) located at village Darlipali, Taluk Lephripara, District Sundergarh (Orissa) by M/s NTPC Limited., under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

- i. The site selected for ash disposal is not suitable. Alternate site shall be selected and plan to reduce the area for ash disposal by using latest technology. Also remove the forest area located at downward side of the plant towards Basundhara river. Accordingly, a revised layout map shall be submitted along with EIA/EMP.
- ii. Detailed River protection & conservation plan for Basundhara river shall be prepared and incorporate in EIA/EMP.

- iii. An action plan for strengthening of bund of existing Ash pond be prepared after consultation with reputed Government expert institution and report be submitted along with EIA/EMP report.
- iv. Details of nos. of tree along with their density and nomenclature of the tree species required to be felled for project components and ash pond area shall be studied.
- v. Details of Ash management of existing and proposed project shall be submitted keeping in view that the fly ash disposal area for existing plant shall not be used for proposed expansion.
- vi. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.
- vii. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed Ash pond and water body (minimum 60 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate with any fresh water body. High Density Slurry disposal plan shall be prepared.
- viii. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted.
- ix. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.
- x. Details pertaining to water source, treatment and discharge should be provided.
- xi. Revise water balance shall be submitted with Zero Liquid Discharge plan.
- xii. Action plan for development of green belt (33% of total project cover area) across the periphery of the project boundary shall be provided with a video clip of existing green belt.
- xiii. Status of Ash Utilization of last 5 years, action plan for 100% ash utilization along with timeline need to be submitted.
- xiv. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
- xv. Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
- xvi. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.
- xvii. Provision to left the space for installing SCR. Also, a write up shall be submitted regarding technical feasibility on non-working of SCR.
- xviii. Study on Biodiversity within 10 km radius of plant shall be conducted and report of the same shall be submitted.

[B] Disaster Management

- xix. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

[C] Miscellaneous

- xx. Public Consultation shall be carried out by uploading the draft EIA/EMP report on Pollution Control Board's website, District collector website/office and publishing notice in newspapers (both in Hindi and English) for seeking comments from the general public. The comments received so shall be addressed in the final EIA report along with time bound action plan and financial budget allocation.
- xxi. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC.
- xxii. PP shall submit details of court cases and its status for the project (if any).
- xxiii. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- xxiv. Arial view video of project site shall be recorded and to be submit.
- xxv. PP shall submit the chronology of court cases with comparative chart and judgement passed.

Agenda Item No. 38.3

Expansion by addition of 2 x 660 MW Supercritical Units in an area of 70.73 ha (additional) located at village Korba, district Korba (Chhattisgarh) by M/s Chhattisgarh State Power Generation Co. Ltd. (CSPGCL), Korba West, Chhattisgarh– Terms of Reference (TOR) - reg

[Proposal No. IA/CG/THE/417530/2023; F. No. J-13012/24/2004-IA.II(T)]

38.3.1 The proposal is for grant of Terms of Reference to the project for Expansion by addition of 2 x 660 MW Supercritical Units in an area of 70.73 ha (additional) located at village Korba, district Korba (Chhattisgarh) by M/s Chhattisgarh State Power Generation Co. Ltd. (CSPGCL), Korba West, Chhattisgarh.

38.3.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

- i. M/s NTPC Limited proposes for Expansion by addition of 2 x 660 MW Supercritical Units in an area of 70.73 ha (additional) located at village Korba, district Korba (Chhattisgarh) by M/s Chhattisgarh State Power Generation Co. Ltd. (CSPGCL), Korba West, Chhattisgarh.

- ii. Chhattisgarh State Power Generation Company Limited (CSPGCL), a Govt. of Chhattisgarh Undertaking, commissioned 4x210 MW & 1x500 MW Hasdeo Thermal Power Plant together with all other infrastructures at Korba village in Korba district of Chhattisgarh in three stages i.e. Stage-I, Stage-II & Stage-III respectively using coal from Kasmunda coal mine of Coal India's South Eastern Coal Field Limited (SECL).
- iii. In the 1st Stage, CSPGCL had set up Subcritical Power Station comprising two (2) units of 210 MW each (Unit # 1 & Unit # 2) alongwith all BOP (Balance of Plant) facilities. The Power Plant had started power generation since 1983. During 2nd Stage Expansion, two more units (Unit # 3 & Unit # 4) of 210 MW each were added. In 3rd Stage Expansion, one (1) more unit (Unit # 5) of 500 MW was added, thus adding the total installed capacity of Hasdeo TPS to 1340 MW
- iv. The silent features of the project are as under:

Project Details:

Name of the Proposal	Proposed Expansion by addition of 2 x 660 MW Supercritical Units of Chhattisgarh State Power Generation Co. Ltd (CSPGCL), Korba West, Chhattisgarh
Proposal No.	IA/CG/THE/417530/2023
Location	Korba, Chhattisgarh
Company's Name	Chhattisgarh State Power Generation Company Limited
Accredited Consultant and certificate no.	-
Inter- state issue involved	Not Applicable
Seismic zone	The project area falls under seismic zone-III as per IS: 1893 (Part-1): 2002.

Category Details

Category of the project	A
Capacity	1320 MW (2 X 660 MW)
Attracts the General Conditions (Yes/No)	Not Applicable
Additional information (if any)	Not Applicable

Project Details

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	EC Letter No: J-13012/24/2004-IA II(T) ; Dated: 23.06.2005
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<p>Amendments granted, if Yes details</p>	<p>Yes (J-135012/24/2004-IA.II(T) ; Dated: 20.05.2011</p> <p>a) The configuration viz. 2 x 300 MW mentioned in the subject matter shall be now substituted by 1 x 500 MW</p> <p>b) The proposal is regarding expansion in the existing 4 x 210 MW Hasdeo TPS by installing two units of 300 MW each”, shall now be substituted under: “The proposal is regarding expansion in the existing 4 x 210 MW Hasdeo TPS by installing 1 x 500 MW</p> <p>C) After clause no. (xxv), under para no.3, of this Ministry’s letter of even no. dated 23.06.2005, the following shall be added:</p> <p>(xxvi) The project proponent shall upload the status of compliance of the conditions stipulated in the environment clearance issued vide this Ministry’s letter of even no. dated 23.06.2005, in its website and updated periodically and also simultaneously send the same by e-mail to the Regional Office of the Ministry of Environment and Forests.</p> <p>(xxx) Criteria Pollutants levels including NO_x, RSPM (PM₁₀ & PM_{2.5}), SO_x (from stack and ambient air) shall be regularly monitored and results displayed in your website and also at the main gate of the power plant.</p>
<p>Expansion / Green Field (new): (IPP / Merchant / Captive):</p>	<p>Expansion</p>
<p>If expansion, the date of latest monitoring done by the Regional Office (R.O) of MoEF&CC for compliance of the conditions stipulated in the environmental and CRZ clearances of the previous phases. A certified copy of the latest R.O. monitoring report shall also be submitted.</p>	<p>With reference to Letter No: 21-81/Env./HTPS/235 ; dated: 07.02.2023 the monitoring has been done by HTPS CSPGCL Korba West to The Chief Engineer, Conservation & Environment Division, Central Electricity Authority. A certified copy of the latest. Monitoring report submitted is provided in Annexure-I</p>
<p>Specific webpage address</p>	<p>Website Address: www.cspc.co.in</p>

where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also contact details of PP's officer responsible for updating this webpage/information.																
Co-ordinates of all four corners OF TPP Site:	<table border="1"> <thead> <tr> <th>Sr.No</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>22°25'1.51"N</td> <td>82°40'1.59"E</td> </tr> <tr> <td>2</td> <td>22°25'10.03"N</td> <td>82°41'1.49"E</td> </tr> <tr> <td>3</td> <td>22°24'44.59"N</td> <td>82°41'37.17"E</td> </tr> <tr> <td>4</td> <td>22°24'20.16"N</td> <td>82°41'38.17"E</td> </tr> </tbody> </table>	Sr.No	Latitude	Longitude	1	22°25'1.51"N	82°40'1.59"E	2	22°25'10.03"N	82°41'1.49"E	3	22°24'44.59"N	82°41'37.17"E	4	22°24'20.16"N	82°41'38.17"E
Sr.No	Latitude	Longitude														
1	22°25'1.51"N	82°40'1.59"E														
2	22°25'10.03"N	82°41'1.49"E														
3	22°24'44.59"N	82°41'37.17"E														
4	22°24'20.16"N	82°41'38.17"E														
Average height of: (a) TPP site (b) ash pond site etc. above MSL	<p>a) TPP site – 292 m (MSL) to 316 m (MSL)</p> <p>b) Ash pond site – 314 m (MSL) to 331 m (MSL)</p>															
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	Not Applicable															
CRZ Clearance	Not Applicable															
Cost of the Project (As per EC and revised): Cost of the Project (As per EC and revised):	INR 1291462.5 Lakhs															
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	Existing employment is 3069. After the abandonment of the 4x210 MW units, its manpower will be used in the new 2x660 MW units.															
Benefits of the project (specify quantitative information)	National GDP at the all-India level will continue to grow at the average compound annual growth rate (CAGR) of about 7.3%, Higher Growth rates of electricity consumption. Expansion proposed to meet this major demand. Housing, Education, Market, Healthcare, Road Network, etc., will be developed															

Electricity generation capacity:

Capacity & Unit Configurations:	Proposed: 2 x 660 MW Post Expansion: 1820 MW (1 X 500 MW + 2 X 660 MW) as existing (4 x 210 MW) will be decommissioned
Generation of Electricity Annually	Present – 1340 MW Post Expansion – 1820 MW

Details of fuel and Ash disposal

Fuel to be used:	Coal			
Quantity of Fuel required per Annum:	Proposed 2 x 660 MW			
	Particulars	Unit	Design Coal	Worst Coal
	Annual Coal requirement per unit at 85% PLF	MTPA	3.25	3.46
	Annual Coal requirement for two units at 85% PLF	MTPA	6.50	6.93
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Coal Linkage Details: Availability of coal through long-term linkage from Kusmunda mines by seeking allocation from MoC, Government of India, through existing Long-Distance Coal Conveyor (LDCC) system from newly constructed 20000 MT coal bunker of SECL. Issue of Allocation of Coal was considered on Standing linkage committee meeting on 21.02.2023.			
Details of mode of transportation of coal from coal source to the plant premises along with distances	Two (2) nos. long distance coal conveyors as available for existing 4x210 MW units can be utilized after due renovation & modernization for coal transportation from newly constructed 20000 MT coal bunker at SECL mine for the proposed 2x660 MW units.			
Fly Ash Disposal System Proposed	Fly Ash - dry extraction would be adopted for gainful utilisation. Provision for disposal by High Concentration Slurry Disposal (HCSD) mode to the ash disposal area shall also be kept to operate during exigency. Rapid Loading			

	System is envisaged for transportation of fly ash through Railway Wagon.															
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Ash Pond / Dyke – Area: 112.571 ha Location & Coordinates: <table border="1"> <thead> <tr> <th>Sr.No</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>22°28'27.85"N</td> <td>82°39'5.11"E</td> </tr> <tr> <td>2</td> <td>22°28'46.94"N</td> <td>82°39'50.27"E</td> </tr> <tr> <td>3</td> <td>22°28'35.06"N</td> <td>82°39'57.24"E</td> </tr> <tr> <td>4</td> <td>22°28'17.14"N</td> <td>82°39'9.74"E</td> </tr> </tbody> </table> Average Height of area above MSL - 314 m (MSL) to 331 m (MSL)	Sr.No	Latitude	Longitude	1	22°28'27.85"N	82°39'5.11"E	2	22°28'46.94"N	82°39'50.27"E	3	22°28'35.06"N	82°39'57.24"E	4	22°28'17.14"N	82°39'9.74"E
Sr.No	Latitude	Longitude														
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3	22°28'35.06"N	82°39'57.24"E														
4	22°28'17.14"N	82°39'9.74"E														
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	a.) Max. Fly Ash Generation / unit– 196.78 Tons/hr (90%) b.) Max. Bottom Ash Generation / unit – 54.66 Tons/hr (25%) Considering 47% Ash															
Fly Ash utilization (details)	Fly ash will be utilized for fly ash brick manufacturing, lightweight aggregates manufacturing, cement admixtures, Backfilling of open cast mine, Building Blocks, Road Sub-base, Grouting material, Land filling material etc.,															
Stack Height (m) & Type of Flue	125 m twin flue with FGD facility chosen to limit ground level concentration of SO _x , NO _x , etc. within acceptable limits by proper															

Water Requirement:

Source of Water:	Surface water (Hasdeo Barrage)
Quantity of water requirement:	3200 m ³ /hr (28 MCM)
Distance of source of water from Plant:	1.3 km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	From Hasdeo barrage by installing raw water pumps in new raw water pump house adjacent to existing Raw Water Pump House and using existing pipe corridor for laying the intake raw water pipe.
Mode of conveyance of water:	Pipeline
Status of water linkage:	CSPGCL will seek permission from Water Resource Department (WRD), GoCG for allotment of additional 5 MCM raw water as the

	water requirement for proposed expansion is 28 MCM (3200 m ³ /hr) against existing 23 MCM water agreement for HTPS 4 X 210 MW from Hasdeo Barrage.
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	Semi-open recirculating condenser cooling system with wet-type natural draft cooling tower

Land Area Breakup:

<p>Land Requirement:</p> <ul style="list-style-type: none"> a) TPP Site b) Ash Pond c) Township d) Railway Siding & Others e) Raw Water Reservoir f) Green Belt g) Others <p style="text-align: center;">Total (if expansion state additional land requirement)</p>	<p>Land Requirement: Expansion:</p> <ul style="list-style-type: none"> a) TPP site: 60.61 ha b) Ash Pond: 0 ha (Initially existing Ash Pond will be utilized) c) Township: 0 ha d) Railway siding & others: 0 ha e) Raw water reservoir: 0 ha f) Green Belt: 0 ha g) Others: 10.117 ha for Road <p>(Note: To cater future requirement 133 ha land shall be identified and acquired to make starter dyke as per MoEF&CC Guideline (i.e 0.1 ha / MW)</p>
Status of Land Acquisition	3.12 Ha land of Irrigation Colony of GoCG adjacent to the plant boundary shall be acquired. The undisturbed area of 67.61 ha at HTPS will be utilized for the proposed expansion.
<p>Status of the Project</p> <p>If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.</p> <p>If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.</p>	<p>Status of the proposed (2 x 660 MW)</p> <p>1. Preliminary works for implementation of the project is in progress.</p>

Break-Up of land-use of TPP site:	Break-Up of land-use of TPP site
a. Total land required for project components b. Private land c. Government land d. Forest land	a. Total land required for project components – 70.73 ha b. Private land – 0 ha c. Government land – 70.73 ha d. Forest land – 0 ha

Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate/letter/Remarks
Reserve Forest/Protected Forest Land	Yes	1. Pantha PF(11.1 km, N) 2. Ajarbahar PF (7.6 km, NE) 3. PF Near Niktikhar village (11.8 km, SE) 4. PF Near Bhalumara village (10.5 km, SE) 5. PF Near Kharmora village (8.0 km, SE) 6. PF Near Pondibahar village (10.1 km, SSE) 7. PF Near Rampakharra village (10.5 km, SSE) 8. PF Near Ponri village (14.1 km, SW) 9. PF Near Junadih village (12.7 km, SW)
National Park	No	within 10 km radius
Wildlife Sanctuary	No	within 10 km radius
Archaeological sites monuments/historical temples etc	No	within 10 km radius
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	Yes	Lemru Elephant Reserve (7.6 km, NE)
Additional information (if any)	Yes	Water bodies: Hasdeo River (0.2 km, E) Darri Dam (0.2 km, SSE)

		Belgari Nala (1.5 km, SE) Hasdeo left bank canal (0.9 km, SE) Dhengur Nala (3.1 km, SSE) Hasdeo right bank canal (0.2 km, SSE) Kholar nala (5.9 km, SW) Aharan Nadi (3.5 km, W)
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Availability of Schedule-I species in study area

Court case details:

Any litigation/ Court Case pertaining to the project	Not Applicable
Is the proposal under any investigation? If so, details thereof.	Not Applicable
Any violation case pertaining to the project:	Not Applicable
Additional information (if any)	Not Applicable

38.3.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for expansion by addition of 2 x 660 MW Supercritical Units in an area of 70.73 ha (additional) located at village Korba, district Korba (Chhattisgarh) by M/s Chhattisgarh State Power Generation Co. Ltd. (CSPGCL), Korba West, Chhattisgarh.

The project/activity is covered under category A of item 1(d) 'Thermal Power Plants' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The EAC noted that the Lemru Elephant Reserve is 7.6 km away from the project boundary and Elephant corridor is near the project site. The committee suggested the project proponent to submit a report on mapping of elephant reserve and submit the exact plant boundary. The EAC also suggested the PP to not propose new ash pond site. Further, it was noted that undisturbed area of 67.61 ha at HTPS will be utilized for the proposed expansion, 3.12 Ha land of Irrigation Colony of GoCG adjacent to the plant boundary shall be acquired. The project proponent has informed that the approx. 18000 tree will be cut down due to this expansion.

The EAC suggested the project proponent to keep distance of 1 km from the township and plant boundary. In view of the site location, the EAC suggested for site visit in respect of Elephant reserve and corridor, ash pond area, Distance and impact on Hasdeo river, actual plant layout and nearby habitation. It was noted that total area covered under green belt is 11.25% of total project cover area which is much lower than the standard norms.

38.3.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting **recommended** for grant of Standard ToR for conducting EIA study for expansion by addition of 2 x 660 MW Supercritical Units in an area of 70.73 ha (additional) located at village Korba, district Korba (Chhattisgarh) by M/s Chhattisgarh State Power Generation Co. Ltd. (CSPGCL), Korba West, Chhattisgarh, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

- i. Details of Ash management of existing and proposed project shall be submitted keeping in view that the fly ash disposal area for existing plant shall not be used for proposed expansion.
- ii. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.
- iii. Proper protection measures like HDPE lining, appropriate height of bund and adequate distance between proposed Ash pond and water body (minimum 60 meter) etc. shall be planned so as to reduce the possibility of mixing of leachate with any fresh water body. High Density Slurry disposal plan shall be prepared.
- iv. Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA/EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted.
- v. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.
- vi. Details pertaining to water source, treatment and discharge should be provided.
- vii. Revise water balance shall be submitted with Zero Liquid Discharge plan.
- viii. Action plan for development of green belt (33% of total project cover area) across the periphery of the project boundary shall be provided with a video clip of existing green belt.
- ix. Status of Ash Utilization of last 5 years, action plan for 100% ash utilization along with timeline need to be submitted.
- x. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
- xi. Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
- xii. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.
- xiii. Provision to left the space for installing SCR.

- xiv. Site specific wildlife conservation plan duly approved by DFO shall be submitted and no vehicle purchase to be done/ proposed in the said plan.
- xv. Details of nos. of tree along with their density and nomenclature of the tree species required to be felled for project components and ash pond area and afforestation plan inside or outside the plant boundary shall be studied.
- xvi. Ground water quality around the ash pond area and along the Hasdeo river within 10 km stretch during the baseline study period shall be carried out and detailed River protection plan for Hasdeo river shall be prepared accordingly and incorporated in EIA/EMP.
- xvii. The project proponent shall submit the CEPI score of the Korba city from the SPCB.
- xviii. Proper dismantling plan for existing unit with environmental protection measures shall be submitted.
- xix. Plan for transportation of coal through closed conveyor belt shall be prepared and be submitted.
- xx. Site location map duly authenticated by the PCCF (wildlife) indicating distance of ESZ/boundary of protected area be submitted as Lemru Elephant Reserve is located in the vicinity.

[B] Disaster Management

- xxi. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.

[C] Miscellaneous

- xxii. Public Consultation shall be carried out by uploading the draft EIA/EMP report on Pollution Control Board's website, District collector website/office and publishing notice in newspapers (both in Hindi and English) for seeking comments from the general public. The comments received so shall be addressed in the final EIA report along with time bound action plan and financial budget allocation.
- xxiii. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC.
- xxiv. PP shall submit details of court cases and its status for the project (if any).
- xxv. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- xxvi. Arial view video of project site shall be recorded and to be submit.
- xxvii. PP shall submit the chronology of court cases with comparative chart and judgement passed.
- xxviii. The online proposal for transfer of exiting environmental clearance in the name of M/s Chhattisgarh State Power Generation Co. Ltd. (CSPGCL) shall be submitted. Also

submit clarification operating the unit without transferring the EC in the new name.

- xxix. Site visit shall be conducted by the Sub-committee of the EAC before submission of EIA/EMP report for grant of additional ToR in respect to Elephant reserve and corridor, ash pond area, Distance and impact on Hasdeo river, actual plant layout and nearby habitation.

Agenda Item No. 38.4

Additional agenda item:

Expansion of Captive Power Plant of 3000MW (from 2880 MW to 5880 MW) Project in area of 15.99 ha located at Reliance Industries Limited (RIL) Jamnagar Manufacturing Division (JMD) at Village Motikhavdi, Tehsil Lalpur, District Jamnagar(Gujarat) by M/s Reliance Industries Limited - Site visit report – reg.

38.4.1 The Member Secretary informed the EAC that as per recommendations of the EAC (Thermal Power Project) during the EAC meeting held on 11th Jan 2022, a Sub-committee of EAC, comprising following members visited M/s Reliance Industries Limited, Jamnagar for Site Inspection during 17th -20th Nov 2022, for the purpose to assess and ascertain before appraisal of EC specific condition w.r.t marine ecology and other measures for mitigation of environment pollution:

- | | | |
|------------------------------|---|---------------------------------|
| 1. Sh. Suramya Dolarray Vora | - | Expert Member, EAC (Thermal) |
| 2. Dr. Nandini N. | - | Expert Member, EAC (Thermal) |
| 3. Dr. Mahi Pal Singh | - | Expert Member, EAC (Thermal) |
| 4. Sh. Yogendra Pal Singh | - | Member Secretary, EAC (Thermal) |

The committee was introduced to the Site Management, headed by Sh. P K Jain. A brief presentation regarding Jamnagar Site, Proposed Projects and CSR initiatives was presented to the committee.

A total of five locations have been identified within existing RIL complex at Jamnagar where the CPPs will be located. A site visit to these locations was conducted which indicated that adequate land is available to set up the proposed project. The committee also visited Control Room of one of the existing refinery and CPP and where appraised of its details. The committee visited the Sea Water Intake Facility (SWRO), Desalinisation Unit and the Jetty.

The visit to Seawater Intake Facility demonstrated the methodology being adopted and the safeguards incorporated in the present system. It was explained that the seawater passes through bar screen and a fine 10 mm mesh before entering the pump.

The ecological status of the sea water intake system was agreed to be submitted by the PP. It was informed that marine monitoring conducted by NCSCM, Chennai shows that the ecological status of the region is maintained without any significant changes. The PP also informed that

the monitoring by NCSCM is a regular feature but the same has been interrupted since 2020 because of COVID pandemic and will now be commenced.

The committee asked about the sedimentation rate within the stilling basin. It was informed that the same has been studied as part of EIA Study conducted during the process of clearance for the Seawater Intake and Desalination units. A significant sediment build up has not been estimated during the modelling study for the stilling basin and the same has been observed during operations of intake system.

The Sub- Committee made following observations:

1. Study for sea water intake system efficiency w.r.t. conservation and protection of marine biota need to be conducted. Best environmentally sound technology for the same may be opted and discussed with the EAC.
2. Impact analysis report of compliance made on the safeguards w.r.t. protection of marine environment mentioned in the Environmental Clearances granted by the MoEF&CC may be submitted so that EAC can deliberate on further need of measures for sustainable management of marine ecosystem.

The EAC after examination of the site visit report was of the view that findings of the sub-committee may be taken into consideration while examining the project for grant of Environmental Clearance.

The meeting ended with vote of thanks to the Chair.

ATTENDANCE

S. No.	Name	Role	Attendance
1.	Shri Gururaj P. Kundargi	Chairman	P
2.	Shri K. B. Biswas	Member	P
3.	Shri Suramya Dolarray Vora	Member	P
4.	Dr. Umesh Kahalekar	Member	P
5.	Shri M. P. Singh	Member	P
6.	Prof (Dr.) Nandini N	Member (Representative of CEA)	P
7.	Dr. Nazimuddin	Member (Representative of Central Pollution Control Board)	P
8.	Shri Yogendra Pal Singh	Member Secretary	P

APPROVAL OF THE CHAIRMAN

From: gpkundargi@gmail.com

To: "Yogendra Pal Singh" <yogendra78@nic.in>

Sent: Wednesday, March 22, 2023 3:29:25 PM

Subject: Re: Draft MOM of 38th EAC (Thermal) held on 06.03.2023 - reg

Dear Yogendra ji

Draft minutes are fine & approved for further needful.

Thank you

G P Kundargi