MINUTES OF THE 37TH MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 14th FEBRUARY, 2023.

The 37th 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 14th February, 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. 37.1: Confirmation of the Minutes of the 36th EAC meeting

The Minutes of the 36th EAC (Thermal Power) meeting held on 25th January, 2023 were confirmed in the meeting.

Agenda Item No. 37.2

Expansion of Kalisindh Ultra Super critical (1 X 800 MW) Coal based Thermal Power Project from 2x600 MW in an area of 555 Ha (Existing) at Village Nimoda, Tehshil Jhalara Patan, District Jhalawar (Rajasthan) by M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd – Reconsideration of Terms of Reference – reg.

[Proposal No. IA/RJ/THE/406137/2022; F. No. J-13011/80/2007-IA.II (T)]

37.2.1 The proposal is for grant of Terms of Reference to the project for Expansion of Kalisindh Ultra Super critical (1 X 800 MW) Coal based Thermal Power Project from 2x600 MW in an area of 555 Ha (Existing) at Village Nimoda, Tehshil Jhalara Patan, District Jhalawar (Rajasthan) by M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

37.2.2 The proposal was last considered by the EAC in its meeting held on 16th December, 2022, wherein the EAC deferred the proposal for want of following additional information:

i. *PP shall submit water utilization of the adjacent water pond, its quality parameters and behaviour ash pond towards the water pond along with small drone videography and photographs*
ii. *Source of water for Neemoda village and its ground water quality status with comparative chart with previous value to current values shall be submitted.*
iii. *PP shall submit Water balance of existing thermal power plant unit and water conservation activities/measures taken.*
iv. *PP shall submit details of green plantation area within the plant premises, around the periphery of the plant and ash pond area along with their survival rate and species planned supporting with small drone videography and photographs.*
v. *PP shall submit details of ash pond including its life span, height, legacy ash, ash utilization status for last 5 years with its transportation details and future plans for ash utilization.*
vi. *PP shall submit air, water soil, hazardous waste quality data for last two years.*
vii. *Coal quality parameters report for ash content, sulphur content, heavy metal and radioactivity of the coal feeding for the boilers shall be submitted*

viii. PP shall submit small drone videography and photographs of fish migration channel.

37.2.3 The project proponent has submitted the point wise reply is as under:-

S.No	EAC Queries	Reply
1.	PP shall submit water utilization of the adjacent water pond, its quality parameters and behavior ash pond towards the water pond along with small drone videography and photographs.	Water pond adjacent to ash pond is naturally made and no water seepage from ash pond is observed. Pond water is being utilized for cattle bathing and irrigation purpose. Pond water sample is collected for quality checking and its report has been submitted. LDPE lining is available in entire ash pond. There is no overflow of water from ash pond. Due to LDPE lining, any chance of percolation of water from ash pond is negligible. Boundary of ash pond is clearly demarcated and separated from water pond. Ash pond and natural water pond is shown in drone videography and photographs has been submitted.
2.	Source of water for Neemoda village and its ground water quality status with comparative chart with previous value to current values shall be submitted.	Sources of water for drinking purpose in village-Neemoda are open well, tube well and hand pump. It is worthwhile here to mention that presently in nearby villages of KaTPP such as Devri, Motipura and Undel drinking water supply is being provided by PHED under "Jal Jeevan Mission" and at Neemoda village PHED drinking water supply line is under consideration. Reports of PHED of water sample collected from different sources has been submitted**.** However**,** the photographs of PHED (Government Deptt) line under "Jal Jeevan Mission" for nearby villages of KaTPP is also provided.
3.	PP shall submit Water balance of existing thermal power plant unit and water conservation activities/measures taken.	Water balance diagram of existing thermal power plant has been submitted**.** Rain water from the roof of all buildings and floors in existing units is collected in rain water harvesting pond of capacity 20,000 M^3 for recharging of ground water and plantation work.

		The Photographs and videography of rain water harvesting system has been submitted. Other water conservation activities/ measures taken as- 1. RVUNL has deployed a number of water conservation measures such as the concepts of three 'R' – reduce, reuse and recycle. 2. Water monitoring using auditing is being done to reduce fresh water consumption. 3. Cooling tower blow down is being used as service water/ash water, and cooling water (CW) treatment is being done by online chemical treatment. 4. RVUNL is also focusing on optimizing the CW system make-up water requirement. 5. To compensate for the loss of water due to boiler blow down and other losses from the system, optimization of power cycle make-up is being done.
4.	PP shall submit details of green plantation area within the plant premises, around the periphery of the plant and ash pond area along with their survival rate and species planned supporting with small drone videography and photographs.	In the existing plant premises, the developed green belt area is as under- <u>Details of plantation: -</u> A. Total trees planted =1,95,000 nos B. Total trees survived = 1,45,320 nos C. Trees around periphery area of the existing plant = 78,533 nos D. Trees inside the plant premises = 65,275 nos E. Tree around ash pond area = 1512 nos. The species planted are namely Neem, Seesam, Mango, Semla, Arjun, Saagwan, Guavava, Karanj, Alstonia, Kusum, Gullar, Kachnarr, Paarijit, Gulmohar Ashoka, Desi babol etc.
5.	PP shall submit details of ash pond including its life span, height, legacy ash, ash utilization status for last 5 years with its transportation details and future plans for ash utilization.	The top area of existing ash pond (Excluding water recovery pond) is 1,68,300 square meter, Depth= 6.0 meters and life span is 25 years and other details of legacy ash & ash utilization plan of last five year with transportation has been submitted. Further, it is also to submit that dry fly ash is sold to cement industries like M/s Ultratech, wonder cement, Ambuja cement Ltd., Birla cement, J&K cement, Shree cement and others. Dry fly ash is

		being transported through closed bulkers and bottom ash through dumpers/trucks/ tractors etc.
6.	PP shall submit air, water soil, and hazardous waste quality data for last two years.	The quality data for last two years of air, water and hazardous waste has been submitted. Whereas, Ambient air quality stations are also installed at different locations in the plant premises and online data for air emission and effluent are continuously transmitted to RPCB and CPCB server.
7.	Coal quality parameters report for ash content, sulphur content, heavy metal and radioactivity of the coal feeding for the boilers shall be submitted.	The quality parameters of coal feeding to the boilers for ash content, Sulphur content, heavy metals and radioactive metals has been submitted.
8.	PP shall submit small drone videography and photographs of fish migration channel.	The videography and photographs details has been submitted.

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

i. M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL) proposes to establish 1x 800 MW capacity coal based Ultra supercritical thermal power project adjacent to Stage-I power station which is currently in operation.

ii. The Environmental Clearance was accorded vide letter dated 26th February, 2009 by Ministry to 2x600 MW Coal based Thermal Power Plant at Kalisindh, Jhalawar District, Rajasthan by M/s RRVUNL.

iii. The proposed 1 X 800 MW project is an extension of existing 2X600MW units with adequate area for power house, steam generators, transformer yard, switch yard, coal and ash handling plant, cooling towers, other major balance of plant equipment/facilities and green belt The land for this project is available for power project and totally encumbrance-free.

iv. The site is easily accessible by road and rail. Site is located near to the NH 12 and only 4 Kms to SH 19. Ramganj Mandi Railway station which is nearest railway station (between Jaipur & Jhalawar). The nearest airport is Jaipur which is about 370 km from the site. All the heavy equipment for the power plant are expected to be received at site via road / through rail.

v. The annual coal requirement for 1 X 800 MW units is estimated to be about 2.8 million tones/year of having an average calorific value of 4500 kCal/kg and plant would operate at a plant load factor (PLF) of 85 %. The secondary fuel would be HFO as per IS 1593 and the start-up oil would

be LDO as per IS 1460-1995.

vi. **Coal Supply Arrangement & Coal Handling system**:
The requirement of about 2.8 million tonnes / year of domestic coal would be met through from captive block in Chattisgarh /MP or from SECL /NCL. Domestic coal with average GCV of 4500Kcal/Kg is envisaged. Existing infrastructure such as railway line, wagon tipplers would be utilized for the proposed new unit also.
Additional stockpile, stacker reclaimers, crushers, screens and set of belt conveyors along with Junction towers etc. would be installed to supply coal to coal bunkers of 1x 800 MW Units through travelling trippers.

vii. **Ash Handling System:** The system proposed for bottom ash removal would be wet slurry system with Jet pumps. Bottom ash is further pumped to the new ash disposal area in lean slurry form with provisions for recovery of water from the ash pond.

viii. **Water requirement:** The total raw water required for phase – 2, 800 MW unit would be 1948 m3/hr (545mcft) and same will be sourced from Kalisindh dam which is about 20 kms away from the plant. 665 mcft water out of total Dam capacity 1920 mcft available in Kalisindh Dam (Total 1920 mcft, less 1200 mcft for KaTPP Unit 1&2, - 47 mcft RICO - 09 mcft Horticulture) as per the inputs provided by RRVUNL.

ix. **Condenser Cooling and Make-up Water:** The total requirement of raw water make-up is of the order of 545 mcft /year for the 800 MW power plant capacity. An allocation of 665 mcft has been considered due to evaporation and pipe losses which are located outside of plant boundary. Raw water is proposed to be pumped from the existing intake system.

For the condenser cooling, closed circuit re-circulation system with filtered water make-up using natural draft cooling towers (NDCT) has been proposed. The make-up water for the cooling towers would be drawn from the filtered water sump and gets discharged into the CW forebay. From the CW pump house the cooling water would be pumped to the condenser through individual MS conduits. The discharge would be led to the cooling tower through similar MS conduits.

Raw water required for other services viz. DM plant will be drawn from a clarified water tank. Water required for cooling water make up for air-conditioning & ventilation system and plant potable water system, service water shall be drawn from filtered water sump / overhead tank. Water required for coal and ash handling systems, fire protection system, etc. will be taken from cooling tower blow down tank.

Feed cycle makeup and cooling water for steam generator and turbine generator auxiliaries would be met from the DM plant output.

x. **Environmental Aspects:**

a) Sulphur oxides are generated as a result of oxidation of the sulphur present in the coal at the combustion zone. Considering the extent of sulphur absorption required and the large volume of flue gas to be treated, limestone slurry sorbent based once- through, wet type FGD with forced oxidation, having a minimum SO2 absorption efficiency of 95% is proposed. The steam generators would be provided with low NOx burners resulting in lower emission of oxides of Nitrogen from the steam generator.
b) A RCC chimney with multi-flue 100 meters high are proposed to be provided for effective dispersion of SO2, NOX and SPM. The steam generators would be provided with electrostatic precipitators to limit the particulate matter in the flue gas to 30 mg / N m3.
c) The steam generators would be provided with electrostatic precipitators to limit the particulate matter in the flue gas to 30 mg / N m3 as per the present guidelines of Central Pollution Control Board and State Pollution Control Board.
d) Adequate provisions are proposed for neutralising the effluents from the water treatment plant. Effluents from the entire power plant are proposed to be treated and reused in the power plant to minimise the make-up water requirement.
e) Effective ash management plan for utilization of fly ash would be planned and implemented to ensure proper disposal and use of generated fly ash. The ash utilization would be progressively increased to achieve 100 %.
f) All the measures would be taken to limit the noise levels within the permissible limits in the premises and at the plant boundary.
g) Provision would be made for the green belt within the premises.
h) No villages are directly affected by this project; hence rehabilitation and resettlement issues are expected to be bare minimum.
i) In view of the above measures no significant impact on environment is expected due to the installation of proposed power project.

xi. **Land Availability:** Total land area of about 555 Hectares, including 420 Ha for the power plant which includes area for existing unit of 2 x 600 MW and Proposed unit of 1 x 800 MW and auxiliaries, 85 Ha for the ash disposal area and 50 Ha for the township/colony.

xii. **Project Cost:** Total capital cost including the interest during construction for the proposed 1 x 800MW project is estimated to be Rs. 6054.58 Crores (Rs. 7.56 Crores / MW).

xiii. The silent features of the project are as under:

Project details:

Name of the Proposal	Proposal for Setting up of 1 X 800 MW Ultra Supercritical Coal Fired expansion Thermal Power Project at Kalisindh TPP in District-Jhalawar , Rajasthan
Proposal No.	IA/RJ/THE/406137/2022

Location	Village- Nimoda, Tehsil-JhalraPatan, Distt-Jhalawar, Rajasthan
Company's Name	Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL).
Accredited Consultant and certificate no.	EIA Study would be conducted by NABET Accredited Consultant M/s PCRI -BHEL , Haridwar has been appointed as EIA consultant.
Inter- state issue involved	No inter- state issue involved
Seismic zone	Seismic zone- II

Category details:

Category of the project	Category 'A' project
Capacity	Existing Units Stage-I: 1200 MW (2 X 600 MW) Coal Fired Thermal Power Plant Proposed Unit Stage-II: 800 MW (1 X 800 MW) Coal Fired Thermal Power Plant
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	-

Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	Environmental Clearance of existing units (2x600 MW Coal Based thermal power project) was obtained from MoEF&CC vide F. No. J-13011/80/2007-IA.II(T) dated 26.02.2009
Amendments granted, if Yes details	No amendment was sought
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion Project Merchant Power Project
If expansion, the date of latest monitoring done by the Regional Office (RO) 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.	Compliance of conditions stipulated in environment clearance (EC) of the existing units is being regularly submitted to Regional Office of Ministry of Environment, Forest and climate change, (MoEF&CC), GoI. Latest R.O Monitoring reports has been 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.	Environmental related documents pertaining to RVUNL projects are available at following link:- https://energy.rajasthan.gov.in/content/raj/energy-department/rvunl/en/environment-clearance-.html Name of the responsible officer: - Mr. Rajeev Kumar Batra, Executive Engineer, RVUN, Jaipur. Mob: - 9413349958.
Co-ordinates of all four corners of TPP Site:	Power Plant Area: (1) 24.532679 °N 76.094073 °E (2) 24.527819 °N 76.100467 °E (3) 24.523910 °N 76.088518 °E (4) 24.520556 °N 76.094074 °E Ash Pond Area: (1) 24.520003 °N 76.104736 °E (2) 24.515464 °N 76.106399 °E (3) 24.520003 °N 76.104736 °E Township Area: (1) 24.543025 °N 76.104493 °E (2) 24.543028 °N 76.105434 °E (3) 24.541069 °N 76.104451 °E (4) 24.541039 °N 76.104071 °E (5) 24.539565 °N 76.104042 °E (6) 24.539559 °N 76.105321 °E
Average height of: (a) TPP site, (b) ash pond site etc. above MSL	 (a) 343.3 meter (b) 338.4 meter
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No, Project is not in the Critically Polluted Area (CPA) or within 10 km of CPA.
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Cost of the Existing Project as per EC Rs. 5416 Crs and revised cost Rs 9680.03 Crs. Cost of the proposed activities in existing units (FGD installation) is Rs. 600 Crs
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	**In Existing Units:** (a) Permanent Employee = 465 (b) No of Man days = 9125 (considering project life of 25 years) *Total no of Permanent Man days Employment = 4243125*

	(c) Temporary Employee = 1700 (d) No of Man days = 9125 (considering project life of 25 years) *Total no of Contractual Man days Employment =15512500* **In Proposed Unit: during Construction phase** (a) Permanent Employee = 100 (b) No of Man days = 1350 (considering project construction period of 45 months) *Total no of Permanent Man days Employment = 135000* (c) Temporary Employee = 1000 (d) No of Man days = 1350 (considering project construction period of 45 months) *Total no of Contractual Man days Employment = 1350000* **In Proposed Unit: during operation phase** (a) Permanent Employee = 194 (b) No of Man days = 9125 (considering project life of 25 years) *Total no of Permanent Man days Employment = 1770250* (c) Temporary Employee = 500 (d) No of Man days = 9125 (considering project life of 25 years) *Total no of Contractual Man days Employment = 4562500*
Benefits of the project (specify quantitative information)	(e) Employment generation (Permanent+ Temporary)=694 persons (f) Additional Electricity generation= 5957 MU per year @85% PLF

Electricity generation capacity:

Capacity & Unit Configurations:	800 MW; Consisting 1 No. unit of 800 MW
Generation of Electricity Annually	Annual Gross Generation = 5957 Mkwh @ 85%PLF

Details of fuel and Ash disposal

Fuel to be used:	Indigenous coal
Quantity of Fuel required per Annum:	2.8 Million Tons (with 85 %PLF)

Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Captive Blocks allocated to RVUN in Chhattisgarh state by MoC, GoI (i) Parsa East and Kanta Basan,:- FC granted on 15.03.2012 & EC granted for 15 MTPA on dated 10.08.2018 (ii) Parsa: - FC granted on 21.10.2021 & EC granted on 12.07.2019. (ii) Kente extension: - Mining plan of 09 MTPA approved on dated 04.06.2021 by MoC, GoI.
Details of mode of transportation of coal from coal source to the plant premises along with distances	Coal is proposed to be transported by rail wagons to the plant site. Power station is situated at a distance approximately 1000 Km from coal mines.
Fly Ash Disposal System Proposed	Dry fly ash disposal is by trucks for utilisation.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Ash Pond Area = 21 Ha Ash pond is proposed near the existing ash Pond. (1) 24.520003 °N 76.104736 °E (2) 24.515464 °N 76.106399 °E (3) 24.520003 °N 76.104736 °E
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	Based on ash content 30% and coal firing rate of 385 TPH for 100% BMCR condition: a. 80% Fly Ash amounting 809424 TPA will be generated. b. 20% Bottom Ash amounting 202356 TPA will be generated.
Fly Ash utilization (details)	Fly ash generated from the plant would be commercially utilized in one or more of the following industries to the extent possible: (1) Cement industry (2) Brick industry (3) Fly ash aggregate making industry (4) Road making / paving
Stack Height (m) & Type of Flue	One multi flue 100 m height

Water Requirement:

Source of Water:	Kalisindh Dam
Quantity of water requirement:	Total water requirement for the proposed power

	plant is 54636 KLD
Distance of source of water from Plant:	Approximately 20 Km
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Barrage
Mode of conveyance of water:	Over ground pipeline
Status of water linkage:	Water resource department (WRD), GoR vide letter dated 02.09.2009 has allocated 1320 Mcft water from Kalisindh dam for future projects
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	Natural Draft Cooling Tower

Land Area Breakup:

Land Requirement: 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)	Land requirement for the proposed expansion project is as follows: (a) 60 Ha consisting Railway siding and raw water reservoir (b) 21 Ha (c) 4.23 Ha (d) Included in TPP site area (e) Included in TPP site area (f) 45 Ha (g) Nil Total land required for the proposed expansion is 130.23 Ha
Status of Land Acquisition:	Land required for the proposed expansion power project is under the ownership of RRVUNL

Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.	Exiting both (02) units of 600 MW capacity are operational COD date of Unit#1 is 07.05.2014 COD date of Unit#2 is 25.07.2015 No site activity for the proposed 1x800 MW unit is being started.
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 the expansion project is 130.23 Ha b. NIL c. NIL d. NIL No land acquisition is involved for the proposed project. Moreover, required land is already available with RRVUNL

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	No Reserve Forest/Protected Forest Land is located within 10 km radius of the proposed project.	
National Park	No National Park is located within 10 km radius of the proposed project.	
Wildlife Sanctuary	No Wildlife Sanctuary is located within 10 km radius of the proposed project.	
Archaeological sites monuments/historical temples etc	old Shiv Temple - Protected Archaeological Site approximately 7 Km From the Proposed Power Plant	

Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	NIL	
Additional information (if any)	-	

Availability of Schedule-I species in study area **–NO**

Court case details:

Any litigation/ Court Case pertaining to the project	No litigation/Court Case pertaining to the project
Is the proposal under any investigation? If so, details thereof.	No, proposal is not under any investigation.

Any violation case pertaining to the project:	No violation case pertaining to the project

37.2.5 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion of Kalisindh Ultra Super critical (1 X 800 MW) Coal based Thermal Power Project from 2x600 MW in an area of 555 Ha (Existing) at Village Nimoda, Tehshil Jhalara Patan, District Jhalawar (Rajasthan) by M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

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.

37.2.6 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 Kalisindh Ultra Super critical (1 X 800 MW) Coal based Thermal Power Project from 2x600 MW in an area of 555 Ha (Existing) at Village Nimoda, Tehshil Jhalara Patan, District Jhalawar (Rajasthan) by M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd., under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

i. *Existing Ash pond location is very much sensitive and very close to fresh water body which is being used for irrigation by the local farmers. There is quite possibility of mixing of ash pond leachate with the water body. 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.*

ii. *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.*

iii. *Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.*

iv. *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.*

v. *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.*

vi. *Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.*

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

viii. *Zero Liquid Discharge plan shall be submitted.*

ix. *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.*

x. *Status of Ash Utilization of last 5 years, action plan for 100% ash utilization along with timeline need to be submitted.*

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

xii. *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*

xiii. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.

[B] Disaster Management

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

[C] Miscellaneous

xv. 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.

xvi. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC.

xvii. PP shall submit details of court cases and its status for the project (if any).

xviii. 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.

xix. Arial view video of project site shall be recorded and to be submit.

xx. Site shall be conducted by the Sub-committee of the EAC before submission of EIA/EMP report to finalize environmental safeguards for (1) ash handling (2) coal handling (3) dry ash handling system.

Agenda Item No. 37.3

Expansion of Chhabra Thermal Power Project of capacity 2x660 MW (Unit 7&8, Stage- III) located at near Chhabra town, District Baran, Rajasthan M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd – Terms of Reference – reg.

[Proposal No. IA/RJ/THE/404292/2022; F. No. J-13012/15/2009-IA.II(T)]

37.3.1 The proposal is for grant of Terms of Reference to the project for Expansion of Chhabra Thermal Power Project of capacity 2x660 MW (Unit 7&8, Stage- III) in area of 702 ha (Existing) located at near Chhabra town, District Baran, Rajasthan M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

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

i. The proposed 2 X 660 MW project is an extension of existing 2320 MW units (2x250 MW + 2x250 MW + 2x660 MW) with adequate area as shown in the Plot Plan which shows the layout of main plant including power house, steam generators, transformer yard, switch yard, coal and ash handling plant, cooling towers, other major balance of plant equipment/facilities and green

belt. The land for this project is available for power project and totally encumbrance-free. 2

ii. Total land area of about 726.858 Hectares / 2871.05 Bighas (2431.11 Bigha Private land + 439.14 Bigha Govt. land) was acquired by the side of the existing power project (Stage-I) which is adequate for the proposed power plant including the coal stockyard and green belt. 213 Ha of land is used for 2 X 660 MW Plant in stage II.

iii. Coal would be the load carrying Fuel and beneficiated (washed) coal would be used. The annual coal requirement for 2 x 660 MW units is estimated to be about 5.00 million tones/year of washed coal having an average calorific value of 4500 kCal/kg at plant load factor (PLF) of 85 %. The secondary fuel would be HFO as per IS 1593/LSHS and the start-up oil would be LDO as per IS 1460-1995

iv. The total water allocated for Chhabra plant is 2185 MCFT per year (1,69,508 m3/day). The allotted water would be met from Lhasi dam (300 mcft), Parbati river (300 mcft) and Parwan Major Irrigation Project/dam (1585 mcft). Water resource department, GoR has allotted additional 1320 MCFT water for proposed power project from parwan dam vide letter dt 02.09.2009.

v. The silent features of the project is as follows: -

Project details:

Name of the Proposal	Proposal for Setting up of 2 X 660 MW Ultra Supercritical Coal Fired Expansion Thermal Power Project Unit#7&8 at Chhabra TPP in District- Baran(Rajasthan).
Proposal No.	IA/RJ/THE/404292/2022
Location	Village: ChowkiMotipura, Distt: Baran(Rajasthan)
Company's Name	Rajasthan Rajya Vidyut Utpadan Nigam Limited
Accredited Consultant and certificate no.	EIA Study would be conducted by NABET Accredited Consultant and M/s PCRI BHEL Haridwar has been appointed as EIA consultant.
Inter- state issue involved	No inter- state issue involved
Seismic zone	Seismic zone II as per IS : 1893 (Part 1) 2016

Category details:

Category of the project	Category 'A' project
Capacity	***Existing Units*** Stage-I Phase-I: 500 MW (2 x250 MW) Coal Fired Thermal Power Plant Stage-I Phase-II: 500 MW (2 x250 MW) Coal Fired Thermal Power Plant Stage-II :1320 MW (2 x660 MW) Supercritical technology based Coal Fired Thermal Power Plant ***Proposed Unit*** Stage-III: 1320 MW (2x660 MW) Ultra Supercritical technology

	based Coal Fired Expansion Thermal Power Plant
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	-

Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	Environmental Clearance of existing units, Stage-I Phase-I (2x250 MW Coal Based thermal power project) was obtained from MoEF&CC vide F.No. J-13011 / 21 / 2005-IA.II(T) dated 03.02.2006. Environmental Clearance of existing units, Stage-I Phase-II (2x250 MW Coal Based thermal power project) was obtained from MoEF&CC vide F.No. J-13011 /8 / 2007-IA.II(T) dated:19.05.2008. Environmental Clearance of existing units, Stage-II(2x660 MW Coal Based thermal power project) was obtained from MoEF&CC vide F.No. J-13012/15/2009-IA.II(T) dated 23.05.2012 for unit- 5 only and for unit- 6 on dated 02.02.2015.
Amendments granted, if Yes details	EC was accorded for 1x660 MW (Unit 5) out of the 2x660 MW (Units 5&6) on 23.05.2012 as firm coal linkage was available only for 1x660 MW. However, EIA/EMP and public hearing was conducted for both the units i.e. 5&6. Based on the plan submitted by Board of Directors of RVUN and the State Government, EC was granted by MoEF vide F.No. J-13012/15/2009-IA.II(T) dated 02.02.2015.
Expansion / Green Field (new): (IPP / Merchant / Captive):	Expansion Project Merchant Power Project

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.	Compliance of conditions stipulated in Environment clearance (EC) of the existing is being regularly submitted to Regional office of Ministry of Environment, Forest and Climate Change , GoI Latest R.O Monitoring reports are attached
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.	Environmental related documents pertaining to RVUNL projects are available at following link:- https://energy.rajasthan.gov.in/content/raj/energy-department/rvunl/en/environment-clearance-.html
Average height of: (a) TPP site, (b) Ash pond site etc. above MSL	(a) 394.6 meter (b) 390.3 meter
Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No, Project is not in Critically Polluted Area (CPA) or within 10 km of CPA.
CRZ Clearance	For the proposed project CRZ clearance is not required.
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Cost of the Existing Project is Rs. 11,99,555 Lakh Cost of the Project Project is Rs. 9,60,606 Lakh
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	**In Existing Units:** (a) Permanent Employee = 732 (b) No of Man days = 9125 (considering project life of 25 years) Total no of Permanent Man days Employment = 6679500 (c) Temporary Employee = 3934 (d) No of Man days = 9125 (considering project life of 25 years) Total no of Contractual Man days Employment =35897750

	In Proposed Unit: during Construction phase (a) Permanent Employee = 100 (b) No of Man days = 1350 (considering project constructionperiod of 45 months) *Total no of Permanent Man days Employment = 135000* (c) Temporary Employee = 1000 (d) No of Man days = 1350 (considering project construction period of 45 months) *Total no of Contractual Man days Employment = 1350000* **In Proposed Unit: during operation phase** (a) Permanent Employee = 194 (b) No of Man days = 9125 (considering project life of 25 years) *Total no of Permanent Man days Employment = 1770250* (c) Temporary Employee = 500 (d) No of Man days = 9125 (considering project life of 25 years) *Total no of Contractual Man days Employment = 4562500*
Benefits of the project (specify quantitative information)	(1) Permanent as well as temporary employment generation. (2) Additional Electricity generation = 9829 MU per year @85% PLF.

Electricity generation capacity:

Capacity & Unit Configurations:	1320 MW; Consisting 2 Nos.of unit of 660 MW
Generation of Electricity Annually	Annual Gross Generation = 9829Mkwh @ 85%PLF

Details of fuel and Ash disposal

Fuel to be used:	Indigenous coal
Quantity of Fuel required per Annum:	5.0 Million Tons (with 85 %PLF)
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Captive Blocks allocated to RVUN in Chhattisgarh state by MoC, GoI (i) Parsa East and Kanta Basan,:- FC granted on 15.03.2012 & EC granted for 15 MTPA on dated 10.08.2018

	(ii) Parsa :- FC granted on 21.10.2021 & EC granted on 12.07.2019. (ii) Kente extension:- Mining plan of 09 MTPA approved on dated 04.06.2021 by MoC, GoI .
Details of mode of transportation of coal from coal source to the plant premises along with distances	Coal is proposed to be transported by rail wagons to the plant site. Power station is situated at a distance approximately 800 Km from coal mines.
Fly Ash Disposal System Proposed	The fly ash generated in the plant shall be evacuated and disposed off by an outside agency for which separate contract shall be provided.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Ash Pond Area = 56 Ha Ash pond is proposed near the existing ash Pond. (1) 24.643819 °N 77.051159 °E (2) 24.643514 °N 77.052643 °E (3) 24.641564 °N 77.055963 °E (4) 24.641004 °N 77.055981 °E (5) 24.640964 °N 77.057081 °E (6) 24.639206 °N 77.056830 °E (7) 24.637915 °N 77.054258 °E (8) 24.631113 °N 77.050438 °E (9) 24.631352 °N 77.048574 °E
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	Based on ash content 30% and coal firing rate of 325 TPH for each unit for 100% BMCR condition a. 80% Fly Ash amounting 1198080 TPA will be generated. b. 20% Bottom Ash amounting 299520 TPA will be generated.
Fly Ash utilization (details)	Fly ash generated from the plant would be commercially utilized in one or more of the following industries to the extent possible: (1) Cement industry (2) Brick industry (3) Fly ash aggregate making industry (4) Road making / paving
Stack Height (m) & Type of Flue	One multi flue 100 m height

Water Requirement:

Source of Water:	Lhasi Dam & Parwan Dam
Quantity of water requirement:	Total water requirement for the proposed power plant is 86,201 m^3/day
Distance of source of water from Plant:	Lhasi Dam & Parwan Dam approximately 20 km and 60 km respectively.
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Barrage
Mode of conveyance of water:	Over ground pipeline
Status of water linkage:	Water resource department (WRD), GoR vide letter dated 02.09.2009 allocated 1320 Mcft water from Parvan dam for future projects
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	Natural Draft Cooling Tower

Land Area Breakup:

Land Requirement: 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)	Land requirement for the proposed expansion project is as follows: (a) 156 Ha consisting Railway siding and raw water reservoir (b) 56 Ha (c) 40 Ha (d) Included in TPP site area (e) Included in TPP site area (f) 84 Ha included in above area (g) Nil Total land required for the proposed expansion is 252 Ha
Status of Land Acquisition:	Land required for the proposed expansion power project is under the ownership of

	RRVUNL
Status of the project: If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion. If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.	All Exiting 06 units are operational COD date of Unit-1 (250 MW) is 11.06.2010 COD date of Unit-2 (250 MW) is 15.10.2011 COD date of Unit-3 (250 MW) is 19.12.2013 COD date of Unit-4 (250 MW) is 30.12.2014 COD date of Unit- 5 (660 MW) is 09.08.2018 COD date of Unit-6 (660 MW) is 02.04.2019 No site activity for the proposed 2x660 MW unit is being done.
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 the expansion project is 252 Ha b. NIL c. NIL d. NIL No land acquisition is involved for the proposed project. Moreover, required land is already available with RRVUNL

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	No Reserve Forest/Protected Forest Land is located within 10 km radius of the proposed project.	
National Park	No National Park is located within 10 km radius of the proposed project.	
Wildlife Sanctuary	No Wildlife Sanctuary is located within 10 km radius of the proposed project.	

Archaeological sites monuments/historical temples etc	No Archaeological sites monuments/historical temples etc. is located within 10 km radius of the proposed project.	
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	NIL	
Additional information (if any)	-	

Availability of Schedule-I species in study area **-No**

Court case details:

Any litigation/ Court Case pertaining to the project	No litigation/Court Case pertaining to the project
Is the proposal under any investigation? If so, details thereof.	No, proposal is not under any investigation.

37.3.3 The EAC during deliberations noted the following:

The EAC in the present meeting (40th meeting) deliberated on the information submitted and as presented in the meeting by the PP and observed that the proposal is for grant of Terms of Reference to the project for conducting EIA study for Expansion of Chhabra Thermal Power Project of capacity 2x660 MW (Unit 7&8, Stage- III) in area of 702 ha (Existing) located at near Chhabra town, District Baran, Rajasthan M/s Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

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 air quality data including SOx emissions are very much erratic and it appears that the monitoring instruments are not functional or calibrated. It was also observed that the AAQMS

data was not getting updated on CPCB server. The EAC suggested to get SPCB inspection report verifying that air quality monitoring stations are functional and AAQMS is connected with CPCB server.

Therefore, the EAC suggested to submit following additional information:

(i) Plan for Ash utilization shall be submitted.

(ii) Green belt is not adequate. Submit the revised layout with 33 % green belt area.

(iii) Monitoring of air quality data shall be conducted by third Party.

(iv) Report from SPCB shall be submitted regarding data of Air emissions.

*The EAC therefore **deferred** the proposal till submission of the above information by the PP.*

Agenda Item No. 37.4

Expansion of existing 2x300 MW coal based thermal unit by installing new 1x800 MW supercritical unit at Deen Bandhu Chhotu Ram Thermal Power Plant (DCRTPP) at Yamuna Nagar, Haryana by M/s Haryana Power Generation Corporation Limited- Terms of Reference – reg.

[Proposal No. IA/HR/THE/416223/2023; F. No. J-13012/14/2004-IA.II (T)]

37.4.1 The proposal is for grant of Terms of Reference to the project for Expansion of existing 2x300 MW coal based thermal unit by installing new 1x800 MW supercritical unit at Deen Bandhu Chhotu Ram Thermal Power Plant (DCRTPP) in an area of 409.242 Ha at Yamuna Nagar, Haryana by M/s Haryana Power Generation Corporation Limited.

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

i. Total area under possession of DCRTPP, HPGCL is 409.242 Ha (1011.26 acres) including existing unit. The proposed project will be installed within the existing project area of 409.242 Ha, already under possession of HPGCL. No additional land is proposed to be acquired. No R&R involved. The total project area of 409.242 Ha comprises of Government land and forest land. The NOC from Forest Department obtained. Forest land present is being preserved and protected by HPGCL. No expansion is proposed in the forest land.
ii. The Environmental Clearance (EC) of the existing 2x300 MW coal based Thermal power plant has been accorded by MoEFCC vide letter no. J-13012/14/2004.IA-II(T) dated 18th November 2004. Amendment in Environmental Clearance for installation of Solar power plant within the 90 acres of the vacant HPGCL land between Ash pond and Saharanpur-Jagadhri Railway line was accorded by MoEFCC vide J-13012/14/2004.IA-II(T)(Part) dated 11th July, 2016. The installation of solar plant has not been implemented.
iii. No National Park, Wildlife Sanctuary, Ecologically sensitive area, Tiger Reserve etc. within 15kms of the project. The Environmental Sensitivity is given below:

Interstate boundary	: Yes, Haryana-UP Border at ~4.5 km from plant and ~0.5 km (aerial distance) from Ash Dyke area.
Rivers/Nallah	Yamuna River (0.63 km, S); Western Yamuna Canal (1.2 km, N)
National Park, Biosphere reserve, Tiger Reserve	: None
Seismic Zone	: Zone - IV
Defense installation	: Sarsawa Air Force Station, Saharanpur, UP (9.6 km SE)
Forests	: PansaraRF(0 km), Kalanaur RF (0.6km, S); Bir Tapu (4km, NE); Sugh PF (2.6km N); Modhuwala RF (9.3 km N)
Other Industries	: Several Plywood Industries, Industrial estate
Nearest Highway	: NH 344
Nearest Airport	: Chandigarh Airport (~ 80 km, NW)
Nearest Railway Station	: Yamunanagar Jagadhri (2.3 km, NW)
Nearest town	: Yamunanagar (~2 km, W)
Located proximity to Severely Polluted Areas	: No

iv. The silent features of the project are as under:

Project details:

Name of the Proposal	Expansion of existing 2x300 MW coal based thermal unit by installing new 1x800 MW supercritical unit at Deen Bandhu Chhotu Ram Thermal Power Plant (DCRTPP) at Yamuna Nagar, Haryana by M/s Haryana Power Generation Corporation Limited.
Proposal No.	IA/HR/THE/416223/2023
Location	Yamuna Nagar, Haryana
Company's Name	Deen Bandhu Chhotu Ram Thermal Power Plant (DCRTPP), Haryana Power Generation Corporation Limited (HPGCL).
Accredited Consultant and Certificate no.	Consultant: MECON Limited, Ranchi Certificate No.: NABET/EIA/2023/RA 0195 (Rev. 02), Valid till 09.02.2024
Inter- state issue involved	Haryana-UP Border at a distance of ~4.5 km (aerial distance) from power plant and ~0.5 km (aerial distance) from Ash Dyke area.
Seismic zone	Falls under Seismic Zone IV

Category details:

Category of the project	"A" as per Schedule of EIA Notification, 2006

Capacity	Existing: 2 x 300 MW Proposed Additional: 1 x 800 MW
Attracts the General Conditions	Yes, Haryana-UP Border at ~4.5 km (aerial distance) from plant and ~0.5 km (aerial distance) from Ash Dyke area.
Additional information (if any)	

Project Details:

If expansion, the details of ECs (including amendments and extension of validity) of existing Units etc.	Environmental Clearance for the existing 2x300 MW coal based Thermal power plant has been accorded by MoEFCC vide letter no. J-13012/14/2004.IA-II(T) dated 18th November 2004. Status: Already Implemented.
Amendments granted, if Yes details	Amendment in Environmental Clearance for installation of Solar power plant within the 90 acres of the vacant HPGCL land between Ash pond and Saharanpur-Jagadhri Railway line was accorded by MoEFCC vide J-13012/14/2004.IA-II(T)(Part) dated 11th July, 2016. Status: Not Implemented.
Expansion / Green Field(new):	Expansion (Merchant)

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.	Certified Compliance report from the Regional Office (R.O) of MoEFCC will be requested after grant of ToR. CRZ Clearance is not applicable.
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.	Environmental Monitoring will be carried for the upcoming Summer Season (March-April-May 2023). ToR meeting scheduled on 14th February, 2023.
Co-ordinates of all four corners of TPP Site:	Bonded between Latitudes: 30° 7'20.15"N to 30° 4'30.06"N Longitude: 77°18'29.15"E to 77°21'50.26"E

Average height of: (a) TPP site, (b) ash pond site etc. above MSL	 ~280 m ~270 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
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	214904 Lakhs 535275 Lakhs
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	• Construction Stage: Temporary - 250 • Operation Stage: Temporary - Existing 1126; Proposed 500 Permanent – Existing 740; Proposed 300
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.

Electricity generation capacity:

Capacity & Unit Configurations:	Existing: 2 x 300 MW Proposed Additional: 1 x 800 MW
Generation of Electricity Annually	Existing: 5256 MU Proposed Additional: 7008 MU Total: 12,264 MU

Details of fuel and Ash disposal

Fuel to be used:	1. Coal 2. LDO (required only during start-up)
Quantity of Fuel required per Annum:	1. Coal Existing: 2.8 Million Tonnes per annum Proposed Additional: 3.71 Million Tonnes per annum Total: 6.51 Million Tonnes per annum 2. LDO (required only during start-up) Existing: 1020 Tonnes per annum Proposed Additional: 455 Tonnes per annum Total: 1475 Tonnes per annum
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Source: 1. Coal - Coal India Limited 2. LDO - IOCL

Details of mode of transportation of coal from coal source to the plant premises along with distances	1. Coal – From Coal India Limited – ~1200km through Rail 2. LDO – From IOCL - ~400km through Rail
Fly Ash Disposal System Proposed	The fly ash has been sold to various companies through MSTC E-Auction.
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Ash Dyke area: 121 Ha Location: Latitude 30° 5'5.97"N; Longitude 77°21'5.98"E Avg. Height: 270m
Quantity of a. Fly Ash to be generated b. Bottom Ash to be generated:	Proposed for 1 x 800 MW Fly Ash: 1312226 TPA Bottom Ash: 437409 TPA
Fly Ash utilization (details)	The fly ash has been sold to various companies through MSTC E-Auction.
Stack Height (m) & Type of Flue	Existing :275 mts, The proposed stack height will be considered as per MoEFCC circular dated 28th June, 2018.

Water Requirement:

Source of Water:	Western Yamuna Canal
Quantity of water requirement:	Existing: 46296 KLD Proposed: 52797 KLD Total: 99093 KLD
Distance of source of water from Plant:	1000 mts
Whether barrage/ weir/ intake well/ jack well/ others proposed:	None. The structure required is already in place.
Mode of conveyance of water:	Channel
Status of water linkage:	Consent for providing additional 22 Cusec (52797 KLD) from WJC has been accorded by Irrigation Department.
(If source is Sea water) Desalination Plant Capacity	Not Applicable
Mode / Management of Brine:	Not Applicable
Cooling system	Proposed: Natural draft Cooling Tower. Cooling Tower height: 150 mts Total CW Flow: 85000 cum/hr

Land Area Breakup:

<table>
<tr><td>Land Requirement:
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)</td><td>
<table>
<tr><td rowspan="2">Description of Activity / Facility / Plant / Others</td><td colspan="3">Land requirement in Ha</td></tr>
<tr><td>Existing</td><td>Proposed Incremental</td><td>Total after expansion</td></tr>
<tr><td>TPP Site</td><td>24.9</td><td>16.18</td><td>41.08</td></tr>
<tr><td>Ash Pond</td><td>121</td><td>0</td><td>121</td></tr>
<tr><td>Water Reservoir</td><td>18</td><td>0</td><td>18</td></tr>
<tr><td>Green belt</td><td>104</td><td>32</td><td>136</td></tr>
<tr><td>Others</td><td>40.962</td><td>52.2</td><td>93.162</td></tr>
<tr><td>Total</td><td>308.862</td><td>100.38</td><td>409.242</td></tr>
</table>
</td></tr>
<tr><td>Status of Land Acquisition:</td><td>Entire land of 409.242 Ha (1011.26 acres) is already under possession of HPGCL.</td></tr>
<tr><td>Status of the project:

If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.

If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown</td><td>Under Operation

Date of Commissioning:
Unit 1 - 14.04.2008
Unit 2 - 24.06.2008</td></tr>
<tr><td>Break-Up of land-use of TPP site:</td><td></td></tr>
<tr><td>a. Total land required for project components
b. Private land
c. Government land
d. Forest Land</td><td>409.242 Ha
Nil
401.302 Ha
7.94 Ha*
*NOC from Forest Department Obtained. Forest land present is being preserved and protected.</td></tr>
</table>

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	Pansara RF (0 km), Kalanaur RF (0.6 km, S); Bir Tapu (4 km, NE); Sugh PF (2.6 km N); Modhuwala RF (9.3 km N) NOC from Forest Department Obtained. Forest land present is being preserved and

National Park	None	-
Wildlife Sanctuary	None	-
Archaeological sites monuments/ historical temples etc	None	-
Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	None	-
Additional information (if any) • Defense installations	Yes	Sarsawa Air Force Station, Saharanpur UP [9.6 km (SE)- aerial distance]

Availability of Schedule-I species in study area

Ecology and Bio-diversity study (Flora and Fauna list) will be undertaken during the Baseline Data generation scheduled from Summer season 2023 (March-April-May 2023).

10. **Court case details:**

Any litigation/ Court Case pertaining to the project	Yes (against 2x300 MW, DCRTPP, Yamunanagar).		
	Name of the specific Court/Bench	:	Supreme Court of India
	Case Category and Number	:	Writ Petition(s)(Civil) No(s). 13029/1985
	Status of court case [Disposed off/ Reserved for judgment / Pending / Interim order, if any]	:	Pending
	Orders/Directions of the court, if any, and its relevance with the proposed project		I.A. NOS. 72778 AND 72779/2020
Is the proposal under any investigation? If so, details thereof.	No		
Any violation case pertaining to the project:	No		

37.4.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Expansion of existing 2x300 MW coal based thermal unit by installing new 1x800 MW supercritical unit at Deen Bandhu Chhotu Ram Thermal Power Plant (DCRTPP) in an area of 409.242 Ha at Yamuna Nagar, Haryana by M/s Haryana Power Generation Corporation 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.

37.4.4 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 existing 2x300 MW coal based thermal unit by installing new 1x800 MW supercritical unit at Deen Bandhu Chhotu Ram Thermal Power Plant (DCRTPP) in an area of 409.242 Ha at Yamuna Nagar, Haryana by M/s Haryana Power Generation Corporation Limited, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

i. *Commitment for no construction in 45 ha of forest land.*
ii. *Details of trees to be felled and proposed plantation shall be submitted with the EIA/ EMP report.*
iii. *Baseline Study Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.*
iv. *Details pertaining to water source discharge treatment should be provided.*
v. *Zero Liquid Discharge plan shall be submitted.*
vi. *Status 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.*
vii. *Status of Ash Utilization of last 5 years, action plan for 100% ash utilization along with timeline need to be submitted.*
viii. *PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.*
ix. *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*

[B] Disaster Management

x. *Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.*

[C] Miscellaneous

xxi. *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.*
xxii. *Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC.*
xxiii. *PP shall submit details of court cases and its status for the project (if any).*
xxiv. *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.*
xxv. *Arial view video of project site shall be recorded and to be submit.*

The meeting ended with vote of thanks to the Chair.

****

Annexure

ATTENDANCE

S. No.	Name	Role	Attendance
1.	Shri Gururaj P. Kundargi	Chairman	P
2.	Dr. Narmada Prasad Shukla	Member	P
3.	Dr. Santosh Kumar Hampannavar	Member	P
4.	Dr. Umesh Kahalekar	Member	P
5.	Shri K. B. Biswas	Member	P
6.	Shri M. P. Singh	Member (Representative of CEA)	P
7.	Shri Suramya Dolarray Vora	Member	P
8.	Dr. Nazimuddin	Member (Representative of Central Pollution Control Board)	P
9.	Prof R.K. Giri	Member (Representative of IMD)	P
10.	Shri Yogendra Pal Singh	Member Secretary	P

APPROVAL OF THE CHAIRMAN

From: gpkundargi@gmail.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Thursday, March 2, 2023 3:55:00 PM
Subject: Re: Draft MOM of 37TH EAC (Thermal) held on 10.02.2023-reg

Dear Dr Yogendra ji
Draft minutes are fine with me & approved for further needful.
Thank you
G P Kundargi