सत्यमेव ज अ	Government of India Ministry of Environment, Forest and Climate Change IA Division (Thermal Projects) *** inutes of 3RD MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) meeting Thermal Projects held from 30/11/2023 to 30/11/2023
MoM ID:	EC/MOM/EAC/700983/11/2023
Agenda ID:	EC/AGENDA/EAC/700983/11/2023
Meeting Ve	ue: N/A
Meeting Mc	de: Virtual
Date & Tim	K L V ES
	30/11/2023 10:30 AM 05:30 PM

1. Openin<mark>g remarks</mark>

The 3rd Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 30th November, 2023 through video conference under the Chairmanship of Dr. Sharad Singh Negi.

2. Confirmation of the minutes of previous meeting

The Minutes of the 2nd EAC (Thermal Power) meeting held on 31st October, 2023 and 1st November, 2023 were confirmed in the meeting and recommended for deletion of additional/specific ToR mention at Sub-clause xxv of Clause [C] Socio-economic Study of Agenda Item No. Agenda Item No.2.2 Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.). The EAC also recommended for recommended for deletion of additional/specific ToR mention at Sub-clause xxix of Clause [C] Socio-economic Study of Agenda Item No. 2.4 Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited.

3. Details of proposals considered by the committee

Day 1 -30/11/2023

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Proposed DVC, Raghunathpur Thermal Power Project-PH-II (2x660 MW) by DAMODAR VALLEY CORPORATION located at PURULIA,WEST BENGAL

Proposal For

Fresh EC

Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/WB/THE/451957/2023	<u>VB/THE/451957/2023</u> J-13011/22/2007-IA.II(T)		Thermal Power Plants (1(d))

3.1.2. Project Salient Features

3.2.1 The proposal is for grant of environmental clearance to the project for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) by M/s Damodar Valley Corporation.

3.2.2 The Project Proponent and the accredited Consultant M/s Envirotech East Pvt. Limited made a detailed presentation on the salient features of the project and informed that:

- 1. M/s Damodar Valley Corporation. proposes for Expansion of Raghunathpur Thermal Power Station by installing capacity 1320 (2x660) MW (Phase II) within existing land area.
- 1. Raghunathpur Thermal Power Station (RTPS) is located in Raghunathpur Sub-Division of Purulia District of West Bengal. The Project is located at 38 Kmfrom District Hea dQuarters Purulia and is well connected by Purulia-Barakar State HighwaySH-5.
- 1. The geographical co-ordinates of the project area is Latitude 23°36'6.90"N to 123°37'59.54"N and Longitude 86°38'51.12"E to 86°40'5.07"E with above mean sea level (AMSL) as 193 m. (633.20 ft).
- 1. The existing Raghunathpur Thermal Power Station (RTPS) of DVC is located at village Raghunathpur, having total installed capacity of 1200 MW (2x600 MW) under Ph-1 to which MoEF&CC has granted Environmental Clearance vide letter dated 18.10.2007 to 1200 MW (2x600 MW). The commercial operation of the Phase 1 project i.e. 1200 MW (2x600 MW) has been started in March, 2016.
- 1. Earlier, Raghunathpur Thermal Power Station was accorded Environment Clearance on 23.05.2012 by MOEF&CC for 2x660 MW under Phase II. Public Hearing for this project was successfully conducted. However, due to one or more reasons, activities of Ph-II could not be taken up further and the project was dropped by DVC in 2014-15 and contracts for different packages were terminated. The validity of environmental clearance has expired on 22.05.2017.

e-Payments

- 1. The MoEF&CC vide its letter dated 10.05.2023 has issued a ToR for conducting EIA study for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) in favour of M/s Damodar Valley Corporation.
- 1. Green Belt Development (RTPS):

Total Land For Green Belt	Green Bel a	t Are	Number Of Trees		Total
	Existing	Pr	Existing	Proposed	

		op ose d			
222.983 Hectares (55 1 acres) of land (33% of 840.5 hactares / 20 77 acres)	222.983 hectares (551 acr es)	-	3,13,300Tr ees on 222. 983 hectare s. [@1405 tre es per hecta re]	1,88,420 (@ 845 n umber of trees per hectare for 222.97 hectares)	5,01,720 (3,13,300 + 1,88,420) num ber of trees on 222.983Ha i.e. (@ 2250 number trees per hectare

- 1. Rs. 3 lakhs has been estimated for every 2250 no. of trees, therefore, budgetary estimate of Rs. 252 lakhs have been kept for the expansion proposal of RTPS.
- 1. Public hearing was held on 17th August, 2023 at 12.00 hrs at Outside campus of Administrative Building Raghunathpur Thermal Power Station, vill - Dumdumi, PO - Nildih, PS - Raghunathpur, District - Purulia, PIN -723133, West Bengal chaired by Mr. Rajesh Rathod, Additional District Magistrate (LA), Purulia. Details of advertisement given on 16thJuly, 2023 in Bengali newspaper "Ajkal", English newspaper "Millennium Post" and Hindi newspaper "Sanmarg".
- 1. The IRO, Kolkata visited the site on 9.10.2023 and submitted the compliance status of the existing EC dated 18.10.2007.
- 2. Baseline Environmental Scenario: The area falling within the radius of 10 km around the proposed expansion of existing Steel Plant at Village: Raghunathpur, Dist.-Purulia in the state of West Bengal has been considered as study area. This chapter presents the detailed discussion on the field data for soil, meteorology, water quality, air quality, noise, ecology and socio-economic, which were generated during the period (1st December, 2022 – 28th February, 2023).
- 1. Ambient Air Quality

PC GRE Ambient air quality was monitored at ten (10) locations in and around the project site. The overall mean values of PM10, PM2.5, SO2, NO2 and CO in the area (mean of all the 10 locations) were 65.9 μ g/m3, 30.1 μ g/m3, 9.3 μ g/m3, 22.7 µg/m3 and 0.45 mg/m3 respectively.

Potects if She W

1. Water Quality:

Water samples were collected and analyzed at ten (10) locations to assess the surface water quality in the study area. Water samples were collected from nine (9) locations to assess the baseline status of the ground water quality of the study area.

River Water

The pH values of the collected two water samples from the River Kelighai were found pH 6.83 - 7.33 Value of Dissolved Oxygen were observed (7.1-7.2) mg/lit. Total Dissolved Solids were found (236 - 245) mg/lit while value of total Hardness (as CaCO3) & total Alkalinity (as CaCO3) were found (127 - 135) mg/lit & (132 - 140) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found (34 - 36) mg/lit and (11 - 11) mg/lit respectively. Oil and grease was below detection limit (<1.4 mg/lit) in these sample. Sulphate (as SO4), Nitrate (as NO3) and Chloride (as Cl) were observed (25 - 27) mg/lit, (5.5 - 5.8) mg/lit and (36 - 39) mg/lit respectively. Iron (as Fe) contents were found (0.16 - 0.18) mg/lit and BOD were found (2 - 2) mg/lit respectively.

Heavy metals like Copper (as Cu), Lead (as Pb), Cadmium (as Cd), Chromium (as Cr), Manganese (as Mn), Arsenic (as As) and Mercury (as Hg) in these two (2) river water samples were below their respective detection limits.

Pond Water

The pH values of the collected pond water samples were found in the range of (7.02 - 7.82). Dissolved Oxygen was observed in the ranges of (6.08 - 7.19) mg/lit. Total Dissolved Solids were found in the ranges of (290 - 394) mg/lit while total Hardness (as CaCO3) & total Alkalinity (as CaCO3) were found (131 - 172) mg/lit & (109 - 119) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found varying in the ranges of (30 - 52) mg/lit and (8 - 17) mg/lit respectively. Oil and grease was below detection limit (<1.4 mg/lit) in these samples. Sulphate (as SO4), Nitrate (as NO3) and Chloride (as Cl) were observed varying in the ranges of (13 - 36) mg/lit, (3.8 - 6.6) mg/lit and (64 - 112) mg/lit respectively. Values of Iron (as Fe) were found in the ranges of (0.16 - 0.25) mg/lit.

Heavy metals like Copper (as Cu), Lead (as Pb), Cadmium (as Cd), Chromium (as Cr), Manganese (as Mn), Arsenic (as As) and Mercury (as Hg) of these pond water samples were below their respective detection limits.

Ground Water

The pH values of collected ground water samples were found in the range of (6.6 - 7.5). Total Dissolved Solids (TDS) was found in the range of (336-552) mg/lit, while Total Hardness (as CaCO3) was found in the ranges of (158 - 222) mg/lit. Alkalinity (as CaCO3) was found in the ranges of (135 - 251) mg/lit. Calcium (as Ca) and Magnesium (as Mg) were found varying in the ranges of (43 - 70) mg/lit and (8 - 16) mg/lit respectively. Sulphate (as SO4), Nitrate (as NO3) and Chloride (as Cl) were observed in the ranges of (10 - 38) mg/lit, (3.0 - 5.7) mg/lit and (778 - 145) mg/lit respectively. Iron (as Fe) content was found in the range of (0.23 - 0.43) mg/lit and Zinc (as Zn) content was found (0.08 - 0.11) mg/lit.

Other heavy metals like Copper (as Cu), Lead (as Pb), Cadmium (as Cd), Chromium (as Cr), Manganese (as Mn), Arsenic (as As) and Mercury (as Hg) were below their respective detection limits.

1. Noise

A total of 10 locations around the proposed project were selected for the measurement of ambient noise levels. During the day time, the equivalent noise levels were found to vary in the range of (54.1 - 67.8) dB (A) while in the night time, the equivalent noise levels were observed to be varying in the range of (42.9 - 52.9) dB (A)

1. The land use breakup of the project site has been presented in Table below.

Land use break-up

S1 No	Description	Area (in acre)		
SI. NO.	Description	Existing	Proposed	
1	Main Power House (Boiler + TG + ESP + Fans + Mills)	90	90	
2	Coal Handling Plant	100	-	
3	Switch yard	45	45	
4	Lime storage & FGD etc.	15	15	
5	Ash disposal area	300	-	
6	Township (CISF Complex)	72	-	
7	In plant water reservior, cooling towers etc.	250	-	

8	Water Corridor	33	-
9	Corridor between ash pond and plant	22	-
10	Rail cum road corridor	340	-
11	Township (including approach road) for employee	70	-
12	Road widening (SH-5, Jharukhamar Ghutitara plant gate)	19	-
13	Plant area approach road & Free space	20	-
14	Green belt	551	-
	TOTAL	1927	150

Project details:

1. The salient features of the project are as under: -						
Project det <mark>ails:</mark>	Project details:					
Name of the Proposal	Proposed Expansion of Raghunathpur Thermal Power Station by installing capacity 1320 (2x660) MW (Phase - II)					
Propo <mark>sal No.</mark>	IA/WB/THE/451957/2023					
Location	Village: Dumdumi, P.O Nildih, P.S.: Raghunathpur, District: Purulia, West Beng al					
Company's Name	M/s Damodar Valley Corporation					
Accredited Consultant and certificate no.	Envirotech East Pvt. Limited NABET/EIA/2225/RA 0279 VALIDITY – 12th September, 2025					
Inter- state issue involved	No					
Seismic zone	Zone-III					

Category details:

Category of the project	"A"
Capacity	1320 (2x660) MW
Attracts the General Co nditions (Yes/No)	No

Additional information (if any)	RTPS (PH-2) - 1320 (2x660) MW This proposal obtained Environmental Clearance obtained from MoEF&CC in 2012. Activities for implementation for Phase II were started after obtaining EC, but due to o ne or more reasons, activities of Ph-II could not be continued further. The validity of environmental clearance has expired on 22.05.2017. On the basis of approval from Ministry of Power, Govt. of India, DVC proposes RTP S-II Hence, This is revival of erstwhile Proposal (RTPS-II).
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Project Details:

		Sl. N o.	Facility	Environmen tal Clearanc e	Consent to Ope rate	Remark s
		RTP	s-b	VF		
KYA	-	1.	2 X 600 MW Th ermal P ower Pl ant	Letter No. J- 13011 / 22 /2 007-IA.II(T), dated 18.10.2 007 Issued by Mo EF&CC	Memo No. 209 7-WPBA / Red (Prl)/ Cont(380)/ 2015, dated 30.1 0.2018. Valid Till Issued by WBP CB	SSD
If expansion, the detail s of ECs (including am endments and extensio	1	RTPS - II				
n of validity) of existin g Units etc.	ance	2.	2 X 660 MW Th ermal P ower Pl ant	Letter No. J- 13012 /258/2 007-IA.II(T) dated 23.05.2 012 Issued by Mo EF&CC Validity expi red in 2017	e-Processi	Project w as droppe d by DV C in 201 4-15
		RTP	PS - II (Reviv	al of erstwhile pr	oposal)	
		Boar nath ded l	rd of DVC ac pur TPS Ph-I by Ministry o	corded approval fo I (2x660 MW) and f Power on 23.02.2	or the revival of erstv 1 in principle approva 2022.	vhile Raghu al was accor
Amendments granted, if Yes details	-					

Expansion

09.10.2023 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 Certified copy of the latest CRZ clearances of the previous phases. A certified copy of the latest R.O. monito R.O. monitoring report has b ring report shall also be submitted. een attached as Annexure I. Webpage address : https://w ww.dvc.gov.in Specific webpage address where all EC related documents (including mon Mr. ABHAIKUMAR SRIV itoring and compliance related reports/documents) of the specific project under c onsideration are/will be available. Also contact details of PP's officer responsible ASTAV for updating this webpage/information. Sr. GM 79039 88242 The four points on the bound ary of the project site are as f ollows: 1. Latitude - 23°37'28.7 6"N & Longitude - 8 6°40'0.87"E (TRC) 2. Latitude - 23°37'59.5 4 N & Longitude - 8 6°38'51.12" E (TLC) Co-ordinates of all four corners of TPP Site: 3. Latitude - 23°36'6.9 Potects if She 15 0"N & Longitude - 8 6°39'13.82"E (BLC) 4. Latitude - 22°36'8.7 1"N & Longitude - 8 6°40'5.07"E (BRC) (Where, T: Top, B: Bottom, L: Left, R: Right, C: Corner, M: Middle) Average height of: Average height of: 1. TPP site : 193 m. (63 1. TPP site, 3.20 ft) 2. Ash pond site etc. abo ve MSL : 176 m (57 1. ash pond site etc. above MSL 7.42 ft) Whether the project is in the Critically Polluted Area (CPA) or within 10 km of C No PA. If so, the details thereof:

CRZ Clearance	-
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Rs. 11,554.29 Crores
Employment Potential for entire project/plant and employment potential for the p roposed amendment (specify number of persons and quantitative information).	350 persons (both regular an d contractual)
Benefits of the project (specify quantitative information)	Rs. 13,830 Crores (details gi ven in Ch -9 of EIA Report)

Electricity generation capacity:

Capacity & Unit Configurations:	82.5 MW (Source : Captive)	CAR
Generation of Electricity Annually	2 X 600 MW : 1200 MW 2 X 660 MW : 1320 MW	
	Total : 2520 MW	

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Details of <mark>fuel and Ash disp</mark>osal

Fuel to be used	Coal
Quantity of Fuel re quired per annum	6.60 Million Metric Tonne per annum
Coal Link age / Coal Block (If Block allotted, st atus of E C & FC o f the Bloc k)	Coal Linkage from Central Coalfield Limited (CCL) available. M/s Central Coalfields Limited (CCL) on 03.01.2011 issued a Letter of Assurance (LOA) for 4.69 MTPA of E-Grade Coal for Ph-II. DVC vide its letter ref. no- ED(Fuel)/ MOP/RTPS, Ph-II/2021-2 2/559 dated: 21.03.2022 to Ministry of Power has requested extension of validity of LOA for a furth er period of 4 years with effect from 31.03.2022 towards fuel security of RTPS Ph-II. Further, SLC- LT, in its meeting held on 08.08.2022, has recommended the grant of coal linkage under Para B (i) o f SHAKTI Policy to Raghunathpur TPS Ph-II from Coal India Limited.
Fly Ash D isposal Sy stem prop osed	The fly ash shall be extracted in dry form from the electrostatic precipitator hoppers. This dry ash is taken to buffer hoppers for its onward transportation in dry form to storage silos for utilization. In ca se of non-utilization, fly ash can be converted to slurry in wetting units/through feeder ejectors for it s ultimate disposal in wet form to ash disposal area.

Ash Pond / Dyke (Area, location, & co-ordinat es Average height of the area a bove MSL (m)	The geographical co-ordinates of the ash pond is Latitude 23°36'11.23"N to 23°3 7'12.74"N and Longitude 86°37'3.97"E to 86°38'4.73"E. Average height of the area 176m (577.42 ft.) above MSL
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Quantity of		
 Fly ash to be generate d Bottom ash to be gen erated 	Fly ash - 23.76 Lakh Metric Tonne per Annum Bottom ash - 5.94 Lakh Metric Tonne per Annum	
Fly ash utilisation details	Fly ash will be utilized in nearby Cement Plants & Brick manufacturing units	
Stack height (m) & Type of f lue	In the proposed (RTPS, Ph-II) project, Either, One twin flue stack of 220 M height Or, Two single flue stacks of 150 M height is envisaged.	

Water Requirement:

Vater Requirement:				
Source of Water:	Panchet Dam of DVC			
Quantity of water requirement:	95,049 Kilo Litres per Day (KLD)			
Distan <mark>ce of source of w</mark> ater from Pla nt:	12 Km.			
Whether barrage/ weir/ intake well/ j ack well/ others proposed:	Barrage			
Mode of conveyance of water:	Pipe line			
Status of water linkage:	Damodar Valley Corporation is the Authority for drawl of water from Pa nchet Dam. Therefore, water linkage is not required.			
(If source is Sea water) Desalination Plant Capacity	Not applicable			
Mode / Management of Brine:	Not applicable			
Cooling system	Water Cooling			

Land Area Breakup:

LandRequirement:	Land requirement for RTPS phase – II will be 150 acres, which is available within the existing project area of 840.53 Hectares (2077 acres), which is already acquire d.
2. Ash Pond 3. Township 4. Railway Siding & Ot	Land of 507.480 acres (205.37 Ha.) for the existing Ash disposal system in RTPS (ph-1) comprising of Ash pond, ash pipeline corridor, green belt etc. will be utilise d for RTPS (Ph-2) also.

hers 5. Raw Water Reservoi r 6. Green Belt 7. others	The ash dyke is about 3 Km from Plant premises.
Total (if expansion state ad ditional land requirement)	
Status of Land Acquisition:	Already acquired

Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/Environmental Sensitivity Zone	Ye s/N o	Details of Certificate/letter/Remarks		
Reserve Forest/Protected Forest Land	No			
National Park	No	2		
Wildlife Sanctuary	No	No Environmentally Sensitive areas are present within the stu		
Archaeological sites monuments/historical temples etc	No	dy area		
Names & distance of National parks, Wildlife sanctuaries, Biosphere re serves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located withi n 10 Km from the plant boundary:	No	20		
Court case details:				

Court case details:

Cou rt C ase	Original Application No. 104/2021/EZ
Cou rt	Hon'ble NGT, Eastern Zone Bench, Finance Centre, Kolkata
Co mpl aint	On receiving a reference from the West Bengal Human Rights Commission with reference to media report dated 9.7.2021 in Bengali Daily Newspaper "Gana Shakti". Media report was that effluents were being dis charged by Raghunathpur Thermal Power Plant on agricultural lands in Villages Ghutitora, Lachhiara, Va ldubi, Asta, Pathuriadanga and Khairabad in District Purulia, West Bengal resulting in damage to agricult ural fields which were covered by the fly ash.
Pres ent Stat us	Order Date: 10.04.2023 The application is disposed of.

N/A

3.1.4. Deliberations by the EAC in current meetings

The proposal is for grant of Environmental Clearance to the project for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) by M/s Damodar Valley Corporation.

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.

Earlier, the Ministry had granted Environment Clearance vide letter dated 23.05.2012 to 2x660 MW under Phase II Raghunathpur Thermal Power Station. The project was dropped by DVC in 2014-15. The validity of environmental clearance had expired on 22.05.2017.

The MoEF&CC vide its letter dated 10.05.2023 has issued a ToR for conducting EIA study to the project for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) in favour of M/s Damodar Valley Corporation.

The land area mentioned in the proposal is not matching with the earlier EC. It seems that the project proponent has changed the area mentioned in earlier EC without informing the Ministry. The EAC suggested to submit proposal for amendment in EC for change in land area from 1820 acre to 2076 acre.

EAC further noted that green belt has not been developed in a proper manner. The EAC also noted that ash utilization is very less and accordingly not complying with Ministry's Fly ash utilization norms i.e. 100% ash utilization. It was also noted that no stack emissions control equipments have not been installed due to which SOx and NOx emissions are beyond permissible limit.

The certified compliance report submitted by the IRO, Kolkata mentioned several major non-compliance of conditions mentioned in the EC letter dated 18.10.2007. The EAC observed that PP & consultant were not well prepared for presentation as they were unable to present the facts & future plan for ash utilization.

The EAC after detailed deliberation on the information submitted and as presented during the meeting decided to **defer** the proposal for want of following additional information:

- 1. Requisite amendment shall be obtained w.r.to change in land area.
- 2. Action plan for development of 3 layer peripheral greenbelt with 90% survival rate for the empty spaces shall be submitted.
- 3. Compliance of non-compliances noted by the IRO during site inspection shall be ensured and a compliance report duly certified by the IRO be submitted along with the present proposal.
- 4. Fly ash utilization plan shall be submitted for proposed and existing unit for ensuring 100% Ash utilization shall be submitted as per extent rules and regulations of the Ministry.
- 5. Detailed Action plan with timelines for addressing the issues/activities raised during public hearing shall be submitted along with budget proposed for future issues/activities.
- 6. Action plan for installation of emission control devices for existing unit as well as expansion unit to limit emissions level within as per extent rules and regulations of the Ministry.
- 7. Air monitoring and stack emissions shall be carried out by third party. Latest data of continuous online air quality monitoring shall be submitted.

The proposal is therefore **deferred** on the above lines.

3.1.5. Recommendation of EAC

Deferred for ADS

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Dr Sharad Singh Negi	Chairman, EAC	sha*******@gmail.com	
2	Shri Inder Pal Singh Matharu, IFS (Retd.)	Member	mat******@gmail.com	
3	Shri Lalit Kapur	Member	lka*****@yahoo.com	
4	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	uka******@rediffmail.com	
5	Dr Santoshkumar Hampannavar	Member (EAC)	san*******@yahoo.com	
6	Shri Savalge Chandrasekhar	Member	sav*****@gmail.com	Absent
7	Shri <mark>K B Biswas</mark>	Member (EAC)	bis*****@gmail.com	Absent
8	Prof. Shyam Shanker Singh	Member	sin*****@gmail.com	
9	Dr. Vinod Agrawal	Member	vin****@yahoo.com	
10	Dr Nazimuddin	Member (EAC)	naz*****@nic.in	Absent
11	Shri Mahi Pal Singh	Member (EAC)	mps*****@nic.in	
12	Shri Harmeet Sahaney	Member	har********@imd.gov.in	
13	Prof. R M Bhattacharjee	Member Show	rmb*********@iitism.ac.in	1
14	Yogendra Pal Singh	Scientist E	yog*****@nic.in	
	e-l	Payments	e-Proce-	

MINUTES OF THE 3RD MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 30TH NOVEMBER, 2023

The 3rd Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 30th November, 2023 through video conference under the Chairmanship of Dr. Sharad Singh Negi. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No.3.1: Confirmation of the Minutes of the 2nd EAC meeting held on 31st October, 2023 and 1st November, 2023

The Minutes of the 2nd EAC (Thermal Power) meeting held on 31st October, 2023 and 1st November, 2023 were confirmed in the meeting and recommended for deletion of additional/specific ToR mention at **Sub-clause xxv** of Clause [C] **Socio-economic Study** of Agenda Item No. Agenda Item No.2.2 Expansion of Coal Based Thermal Power Plant from 1x350 MW to 2X350 MW at Village Sahajbahal, Tehsil Lakhanpur, Dist Jharsuguda, Odisha by M/s Ind-Barath Energy (Utkal) Ltd (IBEUL) (subsidiary of JSW Energy Ltd.).

The EAC also recommended for recommended for deletion of additional/specific ToR mention at **Sub-clause xxix** of Clause [C] **Socio-economic Study** of Agenda Item No. 2.4 Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase-II) at village Kamalanga, Taluk Odapada, District Dhenkanal, Odisha by M/s GMR Kamalanga Energy Limited.

Agenda Item No.3.2

Expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) by M/s Damodar Valley Corporation - Environmental Clearance (EC) - reg.

[Proposal No. IA/WB/THE/451957/2023; F. No. J-13011/22/2007-IA.II (T)]

3.2.1 The proposal is for grant of environmental clearance to the project for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) by M/s Damodar Valley Corporation.

3.2.2 The Project Proponent and the accredited Consultant M/s Envirotech East Pvt. Limited made a detailed presentation on the salient features of the project and informed that:

i. M/s Damodar Valley Corporation. proposes for Expansion of Raghunathpur Thermal Power Station by installing capacity 1320 (2x660) MW (Phase II) within existing land area.

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ii. Raghunathpur Thermal Power Station (RTPS) is located in Raghunathpur Sub-Division of Purulia District of West Bengal. The Project is located at 38 Kmfrom District Hea dQuarters Purulia and is well connected by Purulia-Barakar State HighwaySH-5.

iii. The geographical co-ordinates of the project area is Latitude 23°36'6.90"N to I23°37'59.54"N and Longitude 86°38'51.12"E to 86°40'5.07"E with above mean sea level (AMSL) as 193 m. (633.20 ft).

iv. The existing Raghunathpur Thermal Power Station (RTPS) of DVC is located at village Raghunathpur, having total installed capacity of 1200 MW (2x600 MW) under Ph-1 to which MoEF&CC has granted Environmental Clearance vide letter dated 18.10.2007 to 1200 MW (2x600 MW). The commercial operation of the Phase 1 project i.e. 1200 MW (2x600 MW) has been started in March, 2016.

v. Earlier, Raghunathpur Thermal Power Station was accorded Environment Clearance on 23.05.2012 by MOEF&CC for 2x660 MW under Phase II. Public Hearing for this project was successfully conducted. However, due to one or more reasons, activities of Ph-II could not be taken up further and the project was dropped by DVC in 2014-15 and contracts for different packages were terminated. The validity of environmental clearance has expired on 22.05.2017.

vi. The MoEF&CC vide its letter dated 10.05.2023 has issued a ToR for conducting EIA study for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) in favour of M/s Damodar Valley Corporation.

Total Land	Green Belt Area		Number Of Tre	Total	
Fo <mark>r Gree</mark> n Belt	Existing	Proposed	Existing	Proposed	20
222.983 Hectares (551 acres) of land (33% of 840.5 hactares / 2077 acres)	222.983 hectares (551 acres)	- e-p	3,13,300Trees on 222.983 hectares. [@1405 trees per hectare]	1,88,420 (@ 845 number of trees per hectare for 222.97 hectares)	5,01,720 (3,13,300 + 1,88,420) number of trees on 222.983Ha i.e. (@ 2250 number trees per hectare

vii. Green Belt Development (RTPS):

viii. Rs. 3 lakhs has been estimated for every 2250 no. of trees, therefore, budgetary estimate of Rs. 252 lakhs have been kept for the expansion proposal of RTPS.

ix. Public hearing was held on 17th August, 2023 at 12.00 hrs at Outside campus of Administrative Building Raghunathpur Thermal Power Station, vill - Dumdumi, PO - Nildih, PS - Raghunathpur, District -Purulia, PIN - 723133, West Bengal chaired by Mr. Rajesh Rathod, Additional District Magistrate (LA), Purulia. Details of advertisement given on 16thJuly, 2023 in Bengali newspaper "Ajkal", English newspaper "Millennium Post" and Hindi newspaper "Sanmarg".

x. The IRO, Kolkata visited the site on 9.10.2023 and submitted the compliance status of the existing EC dated 18.10.2007.

xi. Baseline Environmental Scenario: The area falling within the radius of 10 km around the proposed expansion of existing Steel Plant at Village: Raghunathpur, Dist.-Purulia in the state of West Bengal has been considered as study area. This chapter presents the detailed discussion on the field data for soil, meteorology, water quality, air quality, noise, ecology and socio-economic, which were generated during the period (1st December, 2022 – 28th February, 2023).

a. Ambient Air Quality

Ambient air quality was monitored at ten (10) locations in and around the project site. The overall mean values of PM10, PM2.5, SO2, NO2 and CO in the area (mean of all the 10 locations) were 65.9 µg/m3, 30.1 µg/m3, 9.3 µg/m3, 22.7 µg/m3 and 0.45 mg/m3 respectively.

b. Water Quality:

Water samples were collected and analyzed at ten (10) locations to assess the surface water quality in the study area. Water samples were collected from nine (9) locations to assess the baseline status of the ground water quality of the study area.

River Water

The pH values of the collected two water samples from the River Kelighai were found pH 6.83 - 7.33 Value of Dissolved Oxygen were observed (7.1- 7.2) mg/lit. Total Dissolved Solids were found (236 - 245) mg/lit while value of total Hardness (as CaCO3) & total Alkalinity (as CaCO3) were found (127 - 135) mg/lit & (132 - 140) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found (34 - 36) mg/lit and (11 - 11) mg/lit respectively. Oil and grease was below detection limit (<1.4 mg/lit) in these sample. Sulphate (as SO4), Nitrate (as NO3) and Chloride (as Cl) were observed (25 - 27) mg/lit, (5.5 - 5.8) mg/lit and (36 - 39) mg/lit respectively. Iron (as Fe) contents were found (0.16 - 0.18) mg/lit and BOD were found (2 - 2) mg/lit respectively.

Heavy metals like Copper (as Cu), Lead (as Pb), Cadmium (as Cd), Chromium (as Cr), Manganese (as Mn), Arsenic (as As) and Mercury (as Hg) in these two (2) river water samples were below their respective detection limits.

Pond Water

The pH values of the collected pond water samples were found in the range of (7.02 -7.82). Dissolved Oxygen was observed in the ranges of (6.08 -7.19) mg/lit. Total Dissolved Solids were found in the ranges of (290 – 394) mg/lit while total Hardness (as CaCO3) & total Alkalinity (as CaCO3) were found (131 - 172) mg/lit & (109 - 119) mg/lit respectively. Calcium (as Ca) & Magnesium (as Mg) were found varying in the ranges of (30 - 52) mg/lit and (8 - 17) mg/lit respectively. Oil and grease was below detection limit (<1.4 mg/lit) in these samples. Sulphate (as SO4), Nitrate (as NO3) and Chloride (as Cl) were observed varying in the ranges of (13 - 36) mg/lit, (3.8 - 6.6)mg/lit and (64 - 112) mg/lit respectively. Values of Iron (as Fe) were found in the ranges of (0.16 - 0.25) mg/lit .

Heavy metals like Copper (as Cu), Lead (as Pb), Cadmium (as Cd), Chromium (as Cr), Manganese (as Mn), Arsenic (as As) and Mercury (as Hg) of these pond water samples were below their respective detection limits.

Ground Water

The pH values of collected ground water samples were found in the range of (6.6 – 7.5). Total Dissolved Solids (TDS) was found in the range of (336-552) mg/lit, while Total Hardness (as CaCO3) was found in the ranges of (158 – 222) mg/lit. Alkalinity (as CaCO3) was found in the ranges of (135 - 251) mg/lit. Calcium (as Ca) and Magnesium (as Mg) were found varying in the ranges of (43 - 70) mg/lit and (8 - 16)mg/lit respectively. Sulphate (as SO4), Nitrate (as NO3) and Chloride (as Cl) were observed in the ranges of (10 - 38) mg/lit, (3.0 - 5.7) mg/lit and (778 - 145) mg/lit respectively. Iron (as Fe) content was found in the range of (0.23 - 0.43) mg/lit and Zinc (as Zn) content was found (0.08 – 0.11) mg/lit.

Other heavy metals like Copper (as Cu), Lead (as Pb), Cadmium (as Cd), Chromium (as Cr), Manganese (as Mn), Arsenic (as As) and Mercury (as Hg) were below their respective detection limits.

C. Noise

A total of 10 locations around the proposed project were selected for the measurement of ambient noise levels.

During the day time, the equivalent noise levels were found to vary in the range of (54.1 - 67.8) dB (A) while in the night time, the equivalent noise levels were observed to be varying in the range of (42.9 - 52.9) dB (A)

xii. The land use breakup of the project site has been presented in Table below.

SI. Description Area (in acre) No. Proposed Existing Main Power House (Boiler + TG + ESP + 90 1 Fans + Mills) 2 **Coal Handling Plant** 100 3 Switch yard 45 Lime storage & FGD etc. 15 4 5 Ash disposal area 300

Land use break-up

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90

45

15

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6	Township (CISF Complex)	72	-
7	In plant water reservior, cooling towers etc.	250	-
8	Water Corridor	33	-
9	Corridor between ash pond and plant	22	-
10	Rail cum road corridor	340	-
11	Township (including approach road) for	70	-
	employee		
12	Road widening (SH-5, Jharukhamar	19	-
	Ghutitara plant gate)		
13	Plant area approach road & Free space	20	-
14	Green belt	551	-
	ΤΟΤΑΙ	1927	150

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

Project details:

Name of the Proposal	Proposed Expansion of Raghunathpur Thermal Power Station by installing capacity 1320 (2x660) MW (Phase - II)
Proposal No.	IA/WB/THE/451957/2023
Location	Village: Dumdumi, P.O Nildih, P.S.: Raghunathpur, District: Purulia, West Bengal
Company's Name	M/s Damodar Valley Corporation
Accredited Consultant and certificate no.	Envirotech East Pvt. Limited NABET/EIA/2225/RA 0279 VALIDITY – 12th September, 2025
Inter- state issue involved	No
Se <mark>ismic zone</mark>	Zone-III

Category details:

Category of the project	"A"
Capacity	1320 (2x660) MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	RTPS (PH-2) - 1320 (2x660) MW This proposal obtained Environmental Clearance obtained from MoEF&CC in 2012. Activities for implementation for Phase II were started after obtaining EC, but due to

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one or more reasons, activities of Ph-II could not be continued further. The validity of environmental clearance has expired on 22.05.2017. On the basis of approval from Ministry of Power, Govt. of India, DVC proposes RTPS-II
Hence, This is revival of erstwhile Proposal (RTPS-II).

Project Details:

If expansion, the details					
of ECs (including amendments and	SI.	Facility	Environment	Consent to	Remarks
extension of validity) of		IV	RTPS	-	
existing Units etc.	1.	2 X 600 MW Therma I Power Plant	Letter No. J- 13011 / 22 /2007-IA.II(T), dated 18.10.2007 Issued by MoEF&CC	Memo No. 2 097- WPBA / Red (Prl)/ Cont(380)/20 15, dated 30.10.2018. Valid Till Issued by WBPCB	
	2		RTPS	- 11	
e complence	2.	2 X 660 MW Therma I Power Plant	Letter No. J- 13012 /258/2007- IA.II(T) dated 23.05.2012 Issued by MoEF&CC Validity expired in 2017	Tocessing	Project was dropped by DVC in 2014-15
RTPS - II (Revival of erstwhile proposal		sal)			
	Raghunathpur TPS Ph-II (2x660 MW) and in principle approval was accorded by Ministry of Power on 23.02.2022.			ciple approval	
Amendments granted, if Yes details	-				
Expansion / Green Field (new):	Expan	sion			

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(IPP / Merchant /	
Captive):	

If expansion, the date of latest monitoring	09.10.2023
done by the Regional Office (R.O) of	
MoEF&CC for compliance of the	Certified copy of the latest R.O. monitoring
conditions stipulated in the	report has been attached as Annexure I.
environmental and CRZ clearances of	
the previous phases. A certified copy of	
the latest R.O. monitoring report shall	
also be submitted.	
Specific webpage address where all EC	Webpage address : https://www.dvc.gov.in
related documents (including	
monitoring and compliance related	Mr. ABHAIKUMAR SRIVASTAV
reports/documents) of the specific	Sr. GM
project under consideration are/will be	
available. Also contact details of PP's	79039 88242
officer responsible for updating this	
webpage/information.	
Co-ordinates of all four corners of TPP	The four points on the boundary of the project
Site:	site are as follows:
	1. Latitude - 23°37'28.76"N & Longitude -
	86°40'0.87"E (TRC)
	2. Latitude - 23°37'59.54 N & Longitude -
	86°38'51.12" E (TLC)
	3. Latitude - 23°36'6.90"N & Longitude -
	86°39'13.82"E (BLC)
	4. Latitude - 22°36'8.71"N & Longitude -
	86°40'5.07"E (BRC)
	St.
	(Where, T: Top, B: Bottom, L: Left, R: Right, C:
e-Payn	Corner, M: Middle)
Average height of:	Average height of:
(a) TPP site,	(a) TPP site : 193 m. (633.20 ft)
	(b) Ash pond site etc. above MSL : 176 m (577.42
(b) ash pond site etc. above MSL	ft)
Whether the project is in the Critically	
	INO
Polluted Area (CPA) or within 10 km of	INO

CRZ Clearance	-
Cost of the Project (As per EC and revised):	Rs. 11,554.29 Crores
Cost of the proposed activity in the amendment:	
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	350 persons (both regular and contractual)
Benefits of the project (specify quantitative information)	Rs. 13,830 Crores (details given in Ch -9 of EIA Report)

Electr<mark>icity generatio</mark>n capacity:

Capacity & Unit Configurations:	82.5 MW (Source : Captive)
Generation of Electricity Annually	2 X 600 MW : 1200 MW 2 X 660 MW : 1320 MW
	Total : 2520 MW

Details of fuel and Ash disposal

Fuel to be used	Coal
Quantity of Fuel required per annum	6.60 Million Metric Tonne per annum
Coal Linkage / Coal Block (If Block allotted, status of EC & FC of the Block)	Coal Linkage from Central Coalfield Limited (CCL) available.
e-Payme	M/s Central Coalfields Limited (CCL) on 03.01.2011 issued a Letter of Assurance (LOA) for 4.69 MTPA of E-Grade Coal for Ph-II. DVC vide its letter ref. no- ED(Fuel)/ MOP/RTPS, Ph-II/2021-22/559 dated: 21.03.2022 to Ministry of Power has requested extension of validity of LOA for a further period of 4 years with effect from 31.03.2022 towards fuel security of RTPS Ph-II. Further, SLC-LT, in its meeting held on 08 08 2022 has recommended the grant
	of coal linkage under Para B (i) of SHAKTI

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	Policy to Raghunathpur TPS Ph-II from Coal
	India Limited.
Fly Ash Disposal System proposed	The fly ash shall be extracted in dry form
	from the electrostatic precipitator hoppers.
	This dry ash is taken to buffer hoppers for its
	onward transportation in dry form to storage
	silos for utilization. In case of non-utilization,
	fly ash can be converted to slurry in wetting
	units/through feeder ejectors for its ultimate
	disposal in wet form to ash disposal area.

Ash Pond / Dyke (Area, location, & co-ordinates Average height of the area above MSL (m)	The geographical co-ordinates of the ash pond is Latitude 23°36'11.23"N to 23°37'12.74"N and Longitude 86°37'3.97"E to 86°38'4.73"E.
	above MSL
Quantity of	
S Q B	
a. Fly ash to be generated	Fly ash - 23.76 Lakh Metric Tonne per
b. Bottom ash to be generated	Annum
	Bottom ash - 5.94 Lakh Metric Tonne per
	Annum
Fly ash utilisation details	Fly ash will be utilized in nearby Cement
	Plants & Brick manufacturing units
Stack height (m) & Type of flue	In the proposed (RTPS, Ph-II) project,
	5
Part Part	Either,
S Contracts of S	One twin flue stack of 220 M height
	Or,
PC CD	Two single flue stacks of 150 M height is
	envisaged.

Water Requirement:

Source of Water:	Panchet Dam of DVC
Quantity of water requirement:	95,049 Kilo Litres per Day (KLD)
Distance of source of water from Plant:	12 Km.
Whether barrage/ weir/ intake well/ jack	Barrage
well/ others proposed:	
Mode of conveyance of water:	Pipe line
Status of water linkage:	Damodar Valley Corporation is the
	Authority for drawl of water from Panchet
	Dam. Therefore, water linkage is not
	required.

(If source is Sea water) Desalination Plant Capacity	Not applicable
Mode / Management of Brine:	Not applicable
Cooling system	Water Cooling

Land Area Breakup:

Land Requirement: a) TPP Site b) Ash Pond	Land requirement for RTPS phase – II will be 150 acres, which is available within the existing project area of 840.53 Hectares (2077 acres) which is
c) Township	already acquired.
d) Railway Siding & Others	
e) R <mark>aw Wate</mark> r Reservoir	Land of 507.480 acres (205.37 Ha.) for
f) Green Belt	the existing Ash disposal system in
g) others	RTPS (ph-1) comprising of Ash pond, ash pipeline corridor, green belt etc. will be utilised for RTPS (Ph-2) also.
	The ash dyke is about 3 Km from Plant
T <mark>otal (if expans</mark> ion state additional land	premises.
requirement)	
Status of Land Acquisition:	Already acquired

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 No	No Environmentally Sensitive areas are present within the study area
National Park	No	e.P
Wildlife Sanctuary	PaymeNots	
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	

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Court case details:

Court Case	Original Application No. 104/2021/EZ		
Court	Hon'ble NGT, Eastern Zone Bench, Finance Centre		
	Kolkata		
Complaint	On receiving a reference from the West Bengal Human Rights Commission with reference to media report dated		
	9.7.2021 in Bengali Daily Newspaper "Gana Shakti".		
	Media report was that effluents were being discharged by		
	Raghunathpur Thermal Power Plant on agricultural lands		
	in Villages Ghutitora, Lachhiara, Valdubi, Asta,		
	Pathuriadanga and Khairabad in District Purulia, We		
	Bengal resulting in damage to agricultural fields which		
	were covered by the fly ash.		
Present Status	Order Date: 10.04.2023		
	The application is disposed of.		

3.2.3 The EAC during deliberations noted the following:

The proposal is for grant of Environmental Clearance to the project for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) by M/s Damodar Valley Corporation.

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.

Earlier, the Ministry had granted Environment Clearance vide letter dated 23.05.2012 to 2x660 MW under Phase II Raghunathpur Thermal Power Station. The project was dropped by DVC in 2014-15. The validity of environmental clearance had expired on 22.05.2017.

The MoEF&CC vide its letter dated 10.05.2023 has issued a ToR for conducting EIA study to the project for expansion of Raghunathpur Thermal Power Station by installing 1320 (2x660) MW capacity Thermal Power plant (Phase-II) at village Raghunathpur, District Purulia (West Bengal) in favour of M/s Damodar Valley Corporation.

The land area mentioned in the proposal is not matching with the earlier EC. It seems that the project proponent has changed the area mentioned in earlier EC without informing the Ministry. The EAC suggested to submit proposal for amendment in EC for change in land area from 1820 acre to 2076 acre.

EAC further noted that green belt has not been developed in a proper manner. The EAC also noted that ash utilization is very less and accordingly not complying with Ministry's Fly ash utilization norms i.e. 100% ash utilization. It was also noted that no stack emissions control equipments have not been installed due to which SOx and NOx emissions are beyond permissible limit.

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The certified compliance report submitted by the IRO, Kolkata mentioned several major non-compliance of conditions mentioned in the EC letter dated 18.10.2007. The EAC observed that PP & consultant were not well prepared for presentation as they were unable to present the facts & future plan for ash utilization.

3.2.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting decided to **defer** the proposal for want of following additional information:

- i. Requisite amendment shall be obtained w.r.to change in land area.
- ii. Action plan for development of 3 layer peripheral greenbelt with 90% survival rate for the empty spaces shall be submitted.
- iii. Compliance of non-compliances noted by the IRO during site inspection shall be ensured and a compliance report duly certified by the IRO be submitted along with the present proposal.
- iv. Fly ash utilization plan shall be submitted for proposed and existing unit for ensuring 100% Ash utilization shall be submitted as per extent rules and regulations of the Ministry.
- v. Detailed Action plan with timelines for addressing the issues/activities raised during public hearing shall be submitted along with budget proposed for future issues/activities.
- vi. Action plan for installation of emission control devices for existing unit as well as expansion unit to limit emissions level within as per extent rules and regulations of the Ministry.
- vii. Air monitoring and stack emissions shall be carried out by third party. Latest data of continuous online air quality monitoring shall be submitted.

The proposal is therefore **deferred** on the above lines.

Agenda Item No. 3.3:

Setting up 120 MW of Combined Cycle Gas Turbine (CCGT) Power Plant located at village Manikyanagar (Rokhia), Tehsil Valuarchar, District Sepahijala (Tripura) by M/s Tripura State Electricity Corporation Limited - Terms of Reference - reg.

[Proposal No. IA/TR/THE/239146/2021; F. No. J-13012/3/2021-IA.I (T)]

3.3.1 The proposal is for grant of Terms of Reference for conducting EIA study to the proposed project for Setting up 120 MW of Combined Cycle Gas Turbine (CCGT) Power Plant in an area of 4.5 ha located at village Manikyanagar (Rokhia), Tehsil Valuarchar, District Sepahijala (Tripura) by M/s Tripura State Electricity Corporation Limited.

3.3.2 The Project Proponent and the accredited Consultant M/s. MITCON Consultancy & Engineering Services Ltd., made a detailed presentation on the salient features of the project and informed that:

i. M/s Tripura Power Generation Limited (TPGL) decided to set up technologically advanced power generation facility within its premises of Rokhia to provide reliable & quality power to the Customer.

- ii. Earlier, the Ministry had granted EC vide its letter dated 06.11.2023 to the existing project i.e. 3x21 MW Gas based Thermal Power Station under violation category. As part of the conditions mentioned in the Environmental Clearance, TSECL has already submitted Bank Guarantee to TSPCB for a period of 5 years. However, as per condition of the EC, all works mentioned in Remediation Plan and Natural & Resource Augmentation Plans shall be completed within 3 years, as per budget allocation already provided.
- iii. The Proposed 120 MW Combined Cycle Gas Turbine (CCGT) Project will be set up by TPGL (erstwhile Tripura State Electricity Corporation Ltd. or TSECL) at Rokhia, Tripura to augment their power generation capacity for energy security and meeting the increased power demand of the State and the North East Region, and to supply reliable power to its consumers.
- iv. The Project has been approved by Dept. of Economic Affairs (DEA), Government of India. and will be funded by the Asian Development Bank (ADB). Based on 3 season data and 2 Public Consultation as per ADP SPS 2009, EIA report has been prepared by ADB and loan negotiations have been completed.
- v. The Project location lies around 3.25 Km from the India Bangladesh International Border, and hence as per application of General Condition the proposal needs to be appraised as a Category A project.
- vi. The fuel of the power plant will be Natural Gas, which shall be sourced from ONGC / GAIL as per the existing agreements to provide 0.58 MMSCMD through underground pipeline. The existing plant, which currently uses the same fuel, shall be operated for 5 years till the construction of the proposed plant is completed, after which it will be completely decommissioned.
- vii. The configuration of the CCGT Plant will consist of high efficiency state of the art gas turbine associated with Heat Recovery Steam Generator (HRSG) and Steam Turbine Generator, which will generate 120 MW electricity by using the same amount of fuel currently being used by three 21 MW units.
- viii. The Power Plant will develop greenbelt in an area of 33 % i.e., 14930 m² out of total area of the project. The estimated project cost is Rs. 845.36 Crores. Total Employment will be 78 persons as direct & 20 persons indirect after construction. Industry proposes to allocate Rs. 8.45 Crores @ of 1 % towards CER (as per Ministry's OM dated 1st May, 2018).
- ix. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger
 / Elephant Reserves, Wildlife Corridors etc, within 10 km distance from the project site. River Bijoy is flowing at a distance of 3.5 km in NNE direction.
- Total water requirement is 560 m3/day of which fresh water requirement of 560 m3/day will be met from groundwater. Effluent of 5 m³/hr quantity [HRSG blowdown @ 2.5 m³/hr + effluent from DM plant (Neutralizing pit) @ 1 m³/hr

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(DM plant regeneration) + filter backwash @1 m³/hr + floor drains (as applicable) @ $0.5m^3$ /hr] will be treated through 5 m³/hr. capacity ETP.

- xi. Status of Litigation Pending against the proposal, if any.
 - Case No:- CR(C) 93 of 2023 Tripura State Pollution Control Board & Anr. Vs. TSECL & ors.
 - Credible Action taken by TSPCB against TSECL regarding operation of 3x21 MW units (Violation case) without valid EC.
- xii. The salient features of the project are given below:

Name of Consultant(s) who prepared	MITCON Consultancy & Engineering		
Capacity & Unit Configurations:	Services Lia.		
Land requirement: a) TPP site b) Ash Pond c) Township d) MGR etc. (if expansion state additional land requirement)	2.46 ha. (24600 m2) 		
Location	Village Manikyanagar, Taluk Veluarchar, District Sepahijala, Tripura – 799102		
(Including coordinates)	Point Lat Long		
7 13	A 23°37'25.03" N 91°11'43.18" E		
2	B 23°37'27.11" N 91°11'48.71" E		
	C 23°37'25.70" N 91°11'52.93" E		
Part	D 23°37'20.29" N 91°11'50.72" E		
	E 23°37'20.74" N 91°11'43.51" E		
	F 23°37'21.42" N 91°11'42.86" E		
Inter- state issue involved	No		
Seismic zone	Zone V		
Capacity / Cultural command area (CCA)	Not Applicable		
Attracts the General Conditions (Yes/No)	Yes		
Powerhouse Installed Capacity	-		
Generation of Electricity Annually	900 MU (approx.)		
No. of Units	1		
Cost of project	Rs. 845.36 Crores		
Total area of Project	4.50 Ha.		
Project Benefits	Provides electricity to Tripura State		
Status of other statutory clearances	Environmental Clearance obtained for existing 3x21 MW OCGT units with following details:		

	EC Identification No. : EC23A004TR128265 File No. : J-13012/13/2019-IA.I(T) Project Type : New Category : A Project Activity (Schedule) : 1(d) Thermal	
P&P dotails	Power Plants	
Any litigation/Court case pertaining to	Not Applicable	
the project	NO	
Is the proposal under any	No	
investigation? If so, details thereof.		
Any violation case pertaining to the	No	
project:	Ca .	
Certified EC compliance report (if	Not Applicable	
applicable)		
Status of Stage- I FC	Not Applicable	
Is FRA (2006) done for FC-I	Not Applicable	
Fuel to be used:	Natural Gas	
Quantity of Fuel required per Annum:	0.58 MMSCMD	
Stack Height (m) & Type of Flue	Bypass stack height – 30 m, HRSG stack height – 60 m, Type of Flue – Single flue	
Source of Water:	Groundwater (permission for the same is acquired from Agartala Water Resource Dept. as well as CGWA) Alternate source: Water Tankers (Agreement with local vendors is drafted)	
Quantity of water requirement:	 During Construction phase about 80 KLD water will be required (including Domestic and Construction uses) In Operation phase, overall water requirement for the plant will be around 480 KLD (all inclusive) Additionally, about 96 KLD water will be required for greenbelt development / landscaping which will be taken from Treated water from the ETP. 	
Distance of source of water from Plant:	500 m approximately	
Whether barrage/ weir/ intake well/ jack well/ others proposed:	Two bore wells will be drilled for the purpose. Necessary permissions (CGWA) are being sought)	
Mode of conveyance of water:	Underground pipelines and Water Tankers	
Cooling system	Plant will use Air cooled condenser for condensing turbine exhaust steam and DM CCW system with Fin Fan coolers will be	

	used for cooling of GT, STG, GBC and BOP Auxiliaries			
CRZ Clearance	Not Required			
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			
Any litigation/Court case pertaining to the project:	None/ Not A	pplicable		
Is the proposal under any investigation? If so, details thereof.	None/ Not A	Applicable		
Any violat <mark>ion ca</mark> se pertaini <mark>ng to the p</mark> roject:	None/ Not Applicable			
Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Rs 845.36 (0	Crores)		
Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	Phase	Temporary	Perma- nent	Total
	Cons- truction	350 (EPC Contractor)	3 <mark>0</mark> (TSEC L)	380
	Ope- ration	20 Vendor	78 (TSEC L)	98
	Total	370	108	478
Benefits of the project (specify quantitative information)	Provide elec	ctricity to Tripu	ra State	

3.3.3 The EAC during deliberations noted the following:

The proposal is for grant of terms of reference to the project for Setting up 120 MW of Combined Cycle Gas Turbine (CCGT) Power Plant in an area of 4.5 ha located at village Manikyanagar (Rokhia), Tehsil Valuarchar, District Sepahijala (Tripura) by M/s Tripura State Electricity Corporation Limited.

The project/activity is covered under category B of item 1(d) 'Thermal Power Plants', however, due to applicability of general condition as the project location lies around 3.25 Km from the India - Bangladesh International Border, the proposal needs to be appraised as a Category A project as Central level.

Earlier the proposal was considered by the EAC in its 17th meeting held on 30th November, 2021. The observations of the EAC was as follows:

The EAC after detailed deliberations observed that the proposed project lies within the area of existing 3x21 MW Gas based Thermal Power Station, which has violated the provisions of the EIA Notification, 2006 and presently the same is under consideration for grant of TOR for regularization of Environmental Clearances under violation category. So, it need to be examined that whether, the present proposal can be considered as an independent/fresh proposal. Therefore, EAC recommended to seek comments of EIA policy sector of the Ministry in this regard.

The MoEF&CC vide its letter dated 06.11.2023 granted Environmental Clearance to the existing 3x21 MW Gas based Thermal Power Station under violation category.

The EAC noted that PP during the meeting has informed that existing 3x21 MW plant will be decommissioned before the start of operation of proposed units. Both plants units will not be operational together. So, the present proposal for grant of TOR may be considered.

3.3.4 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 with Public Hearing to the project for setting up 120 MW of Combined Cycle Gas Turbine (CCGT) Power Plant in an area of 4.5 ha located at village Manikyanagar (Rokhia), Tehsil Valuarchar, District Sepahijala (Tripura) by M/s Tripura State Electricity Corporation Limited, under the provisions of the EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

- i. Cumulative Environmental Impact Assessment study of all the existing and proposed projects in the 15-km radius of the proposed project shall be conducted.
- ii. PCCF letter shall be obtained stating that no wildlife corridor is passing through the project boundary.
- iii. Wildlife conservation plan shall be prepared, in consultation with State forest and wildlife department, with adequate fund for wildlife habitat management, preserving wildlife and its corridors and be submitted along with EIA/EMP report. Human-Wildlife Conflict issue shall be studied and such incidences reported in the study area during last 10 years shall be submitted. No provision for purchasing the vehicle shall be made in the wildlife conservation plan.
- iv. Existing green plantation carried out by the project proponent along with its survival rate shall be submitted with a video clip of existing green belt and a plan shall be made to maintain survival rate upto 90%.
- v. Detailed action plan shall be prepared for maintenance of air pollution control equipment.

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- vi. 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 5 km radius of the plant boundary be submitted.
- vii. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report.
- viii. Details pertaining to water source, treatment and discharge should be provided.
- ix. Zero Liquid Discharge plan shall be submitted.
- x. Action plan for development of green belt (40% of total project cover area) along the periphery of the project boundary shall be provided. Plan shall be dully approved by the DFO.
- xi. Enumeration of trees to be felled in the project areas in the forest land and non-forest land shall be submitted. Compensatory afforestation shall be planned to offset the carbon foot print.
- xii. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations.
- xiii. Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
- xiv. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution.
- xv. A detailed plan need to be submitted for undertaking extensive green plantation within 10 km radius of the plant focusing on water reservoir, school, hospital and other institutional area and same need to be incorporated in EIA/EMP report.

[B] Disaster Management

- xvi. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report w.r.t. to high sensitivity of seismic zone of the proposed location.
- xvii. Detailed plan for decommission the existing unit shall be submitted along with environment protection measures shall be submitted.

[C] Socio-economic Study

- xxiv. Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the need of the labour force and local populace.
- xxv. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/ EMP report in the relevant chapter.
- xxvi. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F. No. 22- 65/2017-IA.III dated 30th September, 2020 shall be submitted. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.
- xxvii. Details of settlement in 10 km area shall be submitted.

[D] Miscellaneous

- xviii. Certified compliance report of previous EC to be submitted certified by Regional office of the MoEF&CC. IRO shall provide specific observations on the status of OCMS, ash utilization, green cover and emission control equipment of all units of the plant.
- xix. The EIA report shall also include the proposed pipeline route from the terminal.
- xx. PP shall submit details of court cases and its status for the project.
- xxi. 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.
- xxii. Aerial view video of project site shall be recorded through drone and be submitted.
- xxiii. Time period for baseline data collection shall not be more than three years old.

The meeting ended with vote of thanks to the Chair.



<u>Annexure</u>

S.	Name & Address	Role	Attendance
No.			
1.	Dr. Sharad Singh Negi (I.F.S.	Chairman	Р
	Retd.)		
3.	Shri Inder Pal Singh Matharu,	Member	Р
	IFS (Retd.)		
3.	Shri Lalit Kapur	Member	Р
4.	Dr. Umesh Jagannathrao	Member	Р
	Kahalekar		
5.	Dr. Santosh Kumar	Member	Р
	Ham <mark>pan</mark> navar		
6.	Shr <mark>i Sava</mark> lge Chandrasekhar	Member	A
7.	Shri K. B. Biswas	Member	A
8.	Prof. Shyam Shanker Singh	Member	Р
9.	Dr. Vinod Agrawal	Member	Р
10.	Dr Nazimuddin, Scientist - F	Representative of Central	A
		Pollution Control Board	
11.	<mark>Shri Mah</mark> i Pal Singh, Chief	Representative of Central	Р
	Engineer	Electricity Authority (CEA)	
1 <mark>3</mark> .	Shri Harmeet Sahaney	Representative of Indian	Р
		Meteorological Department	
		(IMD)	
1 <mark>3</mark> .	Prof. R M Bhattacharjee	Representative of IIT/ISM	Р
	- Alexandre	Dhanbad	
14.	Shri Yogendra Pal Singh	Member Secretary	Р
	and the second		

ATTENDANCE

^e-Payments

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APPROVAL OF THE CHAIRMAN

----- Forwarded Message -----From: <u>sharadnegi1957@gmail.com</u> To: Yogendra Pal Singh <<u>yogendra78@nic.in</u>> Sent: Wed, 20 Dec 2023 13:45:28 +0530 (IST) Subject: Re: draft MOM of the EAC (Thermal Power projects) meeting held on 30.11.2023 -REG.

Ok, approved. Dr S S Negi *Vice Chairman, Rural Development and Migration Commission, Uttarakhand* former Director General Forest and Special Secretary Govt of India Address: 178 Subhash Road Dehradun Mob 09411173194

On Tue, Dec 19, 2023 at 7:01 PM Yogendra Pal Singh <<u>yogendra78@nic.in</u>> wrote:

- > Dear Sir.
- >
- > The corrections as suggested by you have been incorporated. The corrected
- > Draft Minutes of 3rd EAC (Thermal) meeting held on 30.11.2023 is attached
- herewith for approval please.

^e-Payments

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