



Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(Thermal Projects)



**Minutes of 40TH Expert Appraisal Committee meeting Thermal Projects held from
 25/04/2023 to 25/04/2023**

Date: 11/05/2023

MoM ID: EC/MOM/EAC/910522/4/2023

Agenda ID: EC/AGENDA/EAC/910522/4/2023

Meeting Venue: MOEF&CC, INDIRA PARYAVARAN BHAWAN, JOR BAGH ROAD, NEW DELHI.

Meeting Mode: Physical

Date & Time:

25/04/2023	03:00 PM	05:30 PM
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1. Opening remarks

The 40th 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 25th April, 2023 through physical mode under the Chairmanship of Shri Gururaj P. Kundargi.

2. Confirmation of the minutes of previous meeting

The Minutes of the 39th EAC (Thermal Power) meeting held on 31.03.2023 were confirmed in the meeting.

3. Details of proposals considered by the committee

Day 1 -25/04/2023

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

2 x 525 MW Coal Based Thermal Power Plant at village Malibrahamani in Chhendipada Block, Dist. Angul, Odisha by Jindal Steel & Power Ltd. located at ANUGUL,ODISHA			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/OR/THE/425646/2023	J-13011/79/2007-IA.II(T)	13/04/2023	Thermal Power Plants (1(d))

3.1.2. Project Salient Features

The Project Proponent and the accredited Consultant M/s. Enviro Infra Solution Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

1. The proposal is for ToR to the project for Setting up Coal Based Thermal Power Plant of capacity 2 x 525 MW in an area of 400 acres at village Malibrahmani, Block Chhendipada, District Angul (Odisha) by M/s Jindal Steel & Power Ltd.
1. All units are listed at S.N. 1(d) of the Schedule to the Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).
1. Ministry had issued EC earlier vide letter no. J-13011/79/2007-IA.II(T) dated 29.06.2010 and its validity had been extended vide letter dated 27.05.2015 and 10.07.2017 to the existing project in favour of M/s. Monnet Power Company Limited (MPCL) (previous promotor of the project). They had started construction in 2010 and stopped by March 2015, without the plant becoming operational. M/s Jindal Steel & Power Limited (JSPL) has recently purchased this partially constructed & not yet operational 2X525 MW coal based thermal power plant at village Malibrahmani, District Angul, Odisha from the previous promoters of the project under the NCLT as per Insolvency and Bankruptcy Code, 2016.
1. The land area required for the project is 400 hectares. No additional land is envisaged for this proposal. Industry will develop greenbelt in an area of 33% i.e. 65 hectares out of plant area, township and R&R colony (195 ha).
1. The estimated project cost is Rs. 5755 crores including existing investment of Rs. 3947 crores carried out by previous promotor. Total Employment will be 400 persons as direct & indirect.
1. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc within 10 km distance from the project site. Kurdabhali Nala is flowing at a distance of 2.0 km in south west direction.
1. Total water requirement is 3050 m³/hr of fresh water requirement will be met from Samal Barrage existing on Brahamani River. Effluent of 10,800 KLD quantity will be treated through common monitoring basin. The plant will be based on Zero Effluent discharge system.
1. Power requirement of the project will be 7% of the production and will be met from own TG.
1. The proposed project will have two numbers of 1700 TPH coal-fired boiler will be installed. Electrostatic Precipitator with a stack of height of 275 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boilers.
1. Estimated fly ash generation will be 2.18 MTPA (@80% PLF) and 2.72 MTPA (@100% PLF). The ash generated will be utilised as per the Fly ash Utilization notification, 2021 of MoEF&CC. Further the Company has proposed to establish the ash dyke for disposal of unutilised ash in slurry form.

1. Status of Litigation Pending against the proposal, if any.- Nil

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

Name of the Proposal	2 x 525 MW Coal Based Thermal Power Plant	
Location (Including coordinates)	Village Malibrahamani in Chandipada Block, Distt. Angul, Orissa Plant area A. North most: 20°55'57.75"N, 84°59'13.78"E B. East most: 20°55'04.93"N, 84°59'59.75"E C. South most: 20°54'50.21N, 84°59'30.7"E D. West most: 20°55'09.48"N, 84°58'58.85"E Ash Disposal Area coordinates: A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E D. West most: 20°56'12.29"N, 85°00'08.50"E	
Inter- state issue involved	Nil	
Seismic zone	III	
Capacity / Cultural command area (CCA)	2 X 525 MW	
Attracts the General Conditions (Yes/No)	No, its already a category A project	
Powerhouse Installed Capacity	2 X 525 MW	
Generation of Electricity Annually	Yet to become operational	
No. of Units	2 Nos.	
Cost of project	Rs. 5755 crores. Out of this Rs. 3947 Crore has been spent till 31.03.2023. The balance works are expected to cost Rs. 1808 crores. Hence, the revised cost of the project as on 01.04.2023 is Rs. 5755 crores.	
Total area of Project	400 hectares	
Details of consultant and status of accreditation	Enviro Infra Solution Pvt. Ltd., Letter no. NABET/ EIA/2123/SA 0181/Rev.01 dt. 16.11.2022 & QCI/NABET/ENV/ACO/23/2702 dt. 09.03.2023 Validity: 07.06.2023	
Project Benefits	Employment (direct & indirect), tax to the state exchequer, benefits to the local population due to peripheral development measures that shall be undertaken by the company	
Status of other statutory clearances	The proposal is for TOR. Other Statutory clearances like CTE, water withdrawal permission, etc. were granted to the earlier promoter.	
R&R details	R&R has been completed. Nil pending as on date	
Any litigation/Court case pertaining to the project	Nil	
Any violation case pertaining to the project:	Nil	
Certified EC compliance report (if applicable)	Not applicable	
Status of Stage- I FC	Received vide letter dated No. 5-ORC175/2013-BHU dated 09 th April, 2014.	

Is FRA (2006) done for FC-I	FRA, if any, will be done as part of the compliance of Stage-I Conditions.
Fuel to be used:	Coal
Quantity of Fuel required per Annum:	5.45 MTPA coal at 80% PLF or 6.81 MTPA at 100% PLF
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Utkal B1/B2 and Utkal-C Coal Mines of Jindal Steel & Power in Odisha Status: Utkal B1, EC vide letter no. No.J-11015/309/2006-IA.II(M) dated 09.04.2007. Utkal B2, vide letter no. J-11015/108/2003-IA.II(M) dated 28 Jul 2006 Utkal C, EC vide letter no. J-11015/108/2003-IA.II(M) dated 28.07.2006 and transferred vide letter dated 28.02.2023
Details of mode of transportation of coal from coal source to the plant premises along with distances	Coal will be transported by conveyor. Till completion of Conveyor belt, coal transportation is proposed by road.
Fly Ash Disposal System Proposed	<ul style="list-style-type: none"> • Dry extraction for utilization • Lean Slurry form of unutilized ash for disposal in Ash pond
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Location : Village Malibrahmani, Nisha, Dist. Angul, Odisha Ash Disposal Area coordinates: A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E D. West most: 20°56'12.29"N, 85°00'08.50"E Elevation : 166 m to 210 m amsl
Quantity of Fly Ash to be generated Bottom Ash to be generated:	Fly ash - 1.744 MTPA at 80% PLF or 2.176 MTPA at 100% PLF. Bottom ash - 0.436 MTPA at 80% PLF or 0.544 MTPA at 100% PLF.
Fly Ash utilization (details)	The Ash utilization shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021. Fly ash collected from silo will be collected in dry form for commercial use for cement manufacturing, brick making, road embankment, filling in mines, etc. and balance stored in ash disposal area. Bottom ash would be disposed in slurry form to ash pond located on the east of the power plant.
Stack Height (m) & Type of Flue	Twin-flue common stack of 275 m height.

1.	Date of the ToR, extension of validity and amendment, if any.	This is an application for fresh TOR. Previous EC vide letter no. J-13011/79/2007-IA.II(T) dated 29.06.2010 and its validity had been extended vide letters dated 27.05.2015 and 10.07.2017.
2.	Date & place of Public Hearing	Public Hearing Exemption has been sought in line with the MoEF&CC Notification S.O. 1247(E) dt. 18.03.2021 as the project has been implemented more than 50% in Physical form.
3.	Issues raised during Public Hearing and assurance given along with the financial provisions, if any, by the project proponent.	Not applicable due to above
4.	If the proposal is for re-consideration, the dates of the earlier EAC meeting (s) and the information/documents sought.	Not applicable
5.	Location of TPP	

	<p>Village : Taluk : District : State :</p> <p>Co-ordinates of all four corners:</p> <p>Average height of (a) TPP site, (b) ash pond site etc above MSL (m)</p>	<p>Village Malibrahamani Chhendipada Block, Distt. Angul, Orissa</p> <p>Plant area A. North most: 20°55'57.75"N, 84°59'13.78"E B. East most: 20°55'04.93"N, 84°59'59.75"E C. South most: 20°54'50.21N, 84°59'30.7"E D. West most: 20°55'09.48"N, 84°58'58.85"E</p> <p>Ash Disposal Area coordinates: A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E D. West most: 20°56'12.29"N, 85°00'08.50"E</p> <p>TPP- 179 m to 210 m amsl Ash pond site - 166 m to 210 m amsl</p>													
6.	Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	<p>No.</p> <p>As per the report submitted by CPCB before NGT in OA 1038/2018, Angul-Talcher is numbered 94 in the list of areas of polluted areas based upon the CEPI Criterion, 2016 and does not fall under CPA or SPA</p>													
7.	Capacity & Unit Configurations:	2 X 525 MW													
8.	<p>Land requirement:</p> <p>1. TPP site 2. Ash Pond 3. Township 4. MGR etc.</p> <p>(if expansion state additional land requirement)</p>	<p>Hectares</p> <p>a) 175 b) 155 c) 20 d) others 50</p>													
9.	Status of Land acquisition:	<table> <tr> <th>Component</th><th>Acquired, ha</th><th>To be acquired, ha</th><th>Total, ha</th></tr> <tr> <td>Plant</td><td>166.265</td><td>8.735</td><td>175</td></tr> <tr> <td>Ash disposal</td><td>127.754</td><td>27.246</td><td></td></tr> </table>	Component	Acquired, ha	To be acquired, ha	Total, ha	Plant	166.265	8.735	175	Ash disposal	127.754	27.246		
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		<p>155</p> <p>Township (& RR colony)</p> <p>9.603</p> <p>10.397</p> <p>20</p> <p>Service Corridor & misc.</p> <p>0</p> <p>50</p> <p>50</p> <p>Total</p> <p>303.622</p> <p>96.378</p> <p>400</p>	
10.	<p>Status of the project:</p> <p>If under construction phase: please specify the reasons for delay, works completed till date and balance works along with expected date of completion.</p> <p>If under operation phase, date of commissioning (COD) of each unit. Whether the plant was under shutdown since commissioning, details and reasons.</p>	<p>66% complete as per the Final Due Diligence Report</p> <p>The construction was carried out from 2010 to March 2015. All major civil foundation works have been completed in 2014. Boiler construction of unit 1 was in advance stage in 2014 as its hydro test has been completed in that year. The hydro test will be repeated once again in 2023. Summary of progress:</p> <p>S No</p> <p>Facility</p> <p>Implementation status</p> <p>1.</p> <p>Intake Pump House</p> <p>Around 90 % of the civil works including equipment foundations for the Intake Pump House along with the associated buildings is completed</p> <p>2.</p> <p>Transmission System</p> <p>Out of the total 110 Towers required under the complete transmission package, 81 have been erected and foundations are complete for another 13 transmission towers</p> <p>3.</p> <p>Switchyard</p>	

		<p>Switchyard is almost completed in all aspects together with the control room</p> <p>4.</p> <p>Boilers & Aux</p> <p>Unit#1:</p> <ul style="list-style-type: none"> • Almost 70 % of the erection has been completed of Boiler 1 and all related auxiliaries. • Pressure Parts Joints required for the Non Drainable Hydro Test are almost 60 % complete. • Air Preheaters for the boiler have been erected • Civil Works for the Bottom Ash Hopper is complete • Almost 40 % of Air and Flue Gas Ducting and Duct Supports are completed • Almost 75 % of Refractory Insulation is also completed • Almost 90 % of ESP erection of all 4 passes is complete <p>4</p> <p>Boilers & Aux</p> <p>Unit#2:</p> <ul style="list-style-type: none"> • Almost 60 % of the erection has been completed for Unit 2 Boiler and all related auxiliaries • The erections works for the Air Preheaters for the boiler is almost complete • Civil Works for the PA and FD Fans almost complete. • Around 15 % of Air and Flue Gas Ducting and Duct Supports are completed • Foundation Civil Works for the Bunker and Mill for both Side Arrangements is completed • Refractory Insulation is at a very preliminary stage of erection • Almost 99% of the material for the erection of ESP and insulation has been received at site of which almost 77% has been further erected at site. <p>5.</p> <p>Turbine and Auxiliaries</p> <ul style="list-style-type: none"> • The erection work for the Unit 1 Turbine is almost 40 % completed. <p>For unit 2, almost 65 % of the material for the TG and Auxiliaries has been received at site and the erection was started for the condenser</p> <p>6.</p> <p>Power Transformers & BTG Electricals</p>
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		<ul style="list-style-type: none"> Erection was started for the Transformer Yard. <p>Civil works for the Transformer Yard of Unit 1 is almost complete. GT for Unit 1, Both the Unit Transformers for Unit 1 and 1 of the 2 Station Transformer has been placed on the respective foundations. Civil Works for the Unit 2 Transformer Yard is in not completed. However GT for Unit 2 is placed on the foundation.</p> <p>7.</p> <p>Chimney</p> <p>Chimney Outer shell was completed and the civil works for the chimney was almost complete. Flue Can erection for Unit 1 was completed upto the Flue Gas Duct Entry. Flue Cans Erection for Unit 2 was at very preliminary stage.</p>																																																									
11.	Break-Up of Land-Use of TPP site:	<p>Forests land (Type and density) : 18.281 Ha Agricultural land : 34.18 Ha Waste/Barren land : 43.917 Ha Others (industrial) : 303.622 ha</p> <p>Status of land allotment/acquisition</p> <table> <thead> <tr> <th>Component</th> <th>Acquired, ha</th> <th>To be acquired, ha</th> <th>Total, ha</th> </tr> </thead> <tbody> <tr> <td>Plant</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>166.265</td> <td></td> </tr> <tr> <td></td> <td></td> <td>8.735</td> <td></td> </tr> <tr> <td></td> <td></td> <td>175</td> <td></td> </tr> <tr> <td>Ash disposal</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>127.754</td> <td></td> </tr> <tr> <td></td> <td></td> <td>27.246</td> <td></td> </tr> <tr> <td></td> <td></td> <td>155</td> <td></td> </tr> <tr> <td>Township (& RR colony)</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>9.603</td> <td></td> </tr> <tr> <td></td> <td></td> <td>10.397</td> <td></td> </tr> <tr> <td></td> <td></td> <td>20</td> <td></td> </tr> <tr> <td>Service Corridor & misc.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Component	Acquired, ha	To be acquired, ha	Total, ha	Plant						166.265				8.735				175		Ash disposal						127.754				27.246				155		Township (& RR colony)						9.603				10.397				20		Service Corridor & misc.				
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12.	Fuel to be used:	Coal	
13.	Quantity of Fuel Required per Annum:	5.45 MTPA coal at 80% PLF or 6.81 MTPA at 100% PLF	
14.	Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	<p>Quantity and details of Linkage available:</p> <ul style="list-style-type: none"> • Utkal B1, EC vide letter no. No.J-11015/309/2006-IA.II(M) dated 09.04.2007 for 5.5 MTPA and FC (Stage-II) granted Letter no.6688 dt 29/09/2010 • Utkal B2, vide letter no. J-11015/108/2003-IA.II(M) dated 28 Jul 2006 for 2.2 MTPA & FC granted vide letter dated 5-ORCO70/2008-BHU Dt.21.07.2011 • Utkal C, EC vide letter no. J-11015/108/2003-IA.II(M) dated 28.07.2006 for 3.37 MTPA and transferred to JSP vide letter dated 28.02.2023 and FC granted vide letter dated 8-25/2010-FC dated 07.10.2011, 23.05.2012 and 12.12.2022 <p>The method of obtaining remaining coal: Not applicable</p> <p>Ash content in coal- 42- 45% Sulphur in coal- 0.45-0.6 (%) Moisture -10-15% GCV in coal 3500 KCal/Kg</p>	
15.	Details of mode of transportation of coal from coal source to the plant premises along with distances.	<p>Total distance from the source to</p> <p>Rail: Not applicable as no rail is proposed</p> <p>Road: ~5 km (from Utkal B1/B2 To plant)</p> <p>Closed conveyor: ~2.5 km (from coal mine To plant)</p> <p>Sea: Not applicable</p>	
16.	Fly Ash Disposal System proposed:~	Lean concentration slurry.	
17.	Ash Pond / Dyke: (Area, Location & Co-ordinates) Average height of area above MSL (m)	<p>Location : Village malibrahmani, Nisha, Dist. Angul, Odisha</p> <p>Ash Disposal Area coordinates:</p> <p>A. North most: 20°56'16.30"N, 85°00'12.71"E</p> <p>B. East most: 20°55'03.43"N, 85°01'08.92"E</p> <p>C. South most: 20°55'03.43"N, 85°01'08.92"E</p> <p>D. West most: 20°56'12.29"N, 85°00'08.50"E</p> <p>Elevation : 166 m to 210 m amsl</p>	
18.	Quantity of Fly Ash to be Generated:	Fly ash - 1.744 MTPA at 80% PLF or 2.176 MTPA at 100% PLF	

19.	Quantity of Bottom Ash to be Generated:	Bottom ash - 0.436 MTPA at 80% PLF or 0.544 MTPA at 100% PLF.	
20.	Fly Ash utilisation percentage with details :	The Ash utilisation shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31.12.2021. Fly ash collected from silo will be collected in dry form for commercial use for cement manufacturing, brick making, road embankment, filling in mines, etc. and balance stored in ash disposal area. Bottom ash would be disposed in slurry form to ash pond located on the east of the power plant.	
21.	Stack Height (m) & Type of Flue	Twin-flue common stack of 275 m height. (existing)	
22.	Source of Water:	Barrage - Samal Barrage is existing on Brahmani River	
23.	Quantity of water requirement:	73,200 KLD	
24.	Distance of source of water from Plant:	22 km (from intake point)	
25.	Whether barrage/ weir/ intake well/ jack well/ others proposed:	Yes - Samal Barrage is existing on Brahmani River	
26.	Mode of conveyance of water:	Pipeline	
27.	Status of water linkage:	Previous PP had received approval from the Odisha Water Resource Department (OWRD) for drawing 37 cusecs of water from Brahmani valid upto 31.12.2015. Previous PP had further applied for the revalidation of the Water Agreement dt 05.11.2015. However considering the status of the project no further follow for the same was undertaken and the same will have to be revalidated.	
28.	(If source is Sea water) Desalination Plant Capacity	Not applicable	
29.	Mode / Management of Brine:	Not applicable	
30.	Cooling system	Induced draft	
31.	CRZ Clearance	Not applicable	
32.	Names & distance of National parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:		
33.	Any litigation/Court case pertaining to the project:	Nil	
32.	Is the proposal under any investigation? If so, details thereof.	No	
33.	Any violation case pertaining to the project:	Nil	
34.	Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Rs. 5755 crores. Out of this Rs. 3947 Crore has been spent till 31.03.2023. The balance works are expected to cost Rs. 1808 crores. Hence, the revised cost of the project as on 01.04.2023 is Rs. 5755 crores.	
35.	Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	400 persons	
36.	Benefits of the project (specify	Employment (direct & indirect), tax to the state exchequer,	

	quantitative information)	benefits to the local population due to peripheral development measures that shall be undertaken by the company	
37.	Any other declaration	Nil	

3.1.3. Deliberations by the EAC in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

<p>The proposal is for grant of Terms of Reference to the project for setting up Coal Based Thermal Power Plant of capacity 2 x 525 MW in an area of 400 acres at village Malibrahmani, Block Chhendipada, District Angul (Odisha) by M/s Jindal Steel & Power Ltd</p> <p>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.</p> <p>Ministry had issued EC earlier vide letter no. J-13011/79/2007-IA.II(T) dated 29.06.2010 and its validity was extended vide letter dated 27.05.2015 and 10.07.2017 to the existing project in favour of M/s. Monnet Power Company Limited (MPCL) (previous promotor of the project). They had started construction in 2010 and stopped by March 2015, without the plant becoming operational. M/s Jindal Steel & Power Limited (JSPL) has recently purchased this partially constructed & not yet operational 2X525 MW coal based thermal power plant at village Malibrahmani, District Angul, Odisha from the previous promoters of the project under the NCLT as per Insolvency and Bankruptcy Code, 2016.</p> <p>The project proponent has informed that construction work for the project as per earlier EC was completed more than 60 %. The same is mentioned in the report of NCLT. Project proponent has also shown the drone video of the project site which shows the construction status.</p>

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Terms of Reference

3.1.6.1. Specific

Disaster Management	
1.	1. Disaster Management Plan shall be prepared and incorporated in EIA/EMP report.
Environmental Management and Biodiversity Conservation	
1.	<p>1. Public Hearing is exempted in view of overall physical progress of the power plant more than 50% as per Ministry's Notification, however public consultation shall be carried out in which notice shall be issued through State Pollution Control Board and issues raised shall be addressed with allocation of fund and within certain timeline and shall be submitted during EIA/EMP submissions and appraisal.</p> <p>2. No construction shall be done on the waterbodies located around the project area. Submit an action plan for</p>

	<p>conservation of waterbodies located around the plant.</p> <ol style="list-style-type: none"> 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. The plan of ash management shall be as per the Ministry' Notification. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted. 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. 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. Baseline Study for Heavy metals in Ground water, Surface water and soil to be carried out and incorporated in EIA/EMP report. Details pertaining to water source, treatment and discharge should be provided. Revise water balance shall be submitted with Zero Liquid Discharge plan. 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. PP shall submit action plan for using treated Sewage/Domestic wastewater for its operations. Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report. An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution. Provision to left the space for installing SCR. Site specific wildlife conservation plan duly approved by DFO shall be submitted and no vehicle purchase to be done/ proposed in the said plan. Details of nos. of tree along with their density and nomenclature of the tree species required to be felled for project components and ash pond area and afforestation plan inside or outside the plant boundary shall be studied. Plan for transportation of coal through closed conveyor belt shall be prepared and be submitted. Site location map duly authenticated by the PCCF (wildlife) indicating distance of ESZ/boundary of protected area located in the vicinity. Permission from concerned regulatory authority for withdrawal of water. <p>Compliance status of previous EC conditions (for construction phase) and commitments made during previous Public hearing shall be submitted</p>
Miscellaneous:	
1.	<ol style="list-style-type: none"> PP shall submit details of court cases and its status for the project (if any). 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. Aerial view video of project site shall be recorded and to be submit. Submit the copy of report of M/s Tractebel Engineering. Financial progress of the project shall be submitted.

3.1.6.2. Standard

1(d)	Thermal Power Plants
Statutory compliance	
1.	The proposed project shall be given a unique name in consonance with the name submitted to other Government

	Departments etc. for its better identification and reference.
2.	Vision document specifying prospective long term plan of the project shall be formulated and submitted.
3.	Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.
Details of the Project and Site	
1.	The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.
2.	Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
3.	Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
4.	The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
5.	Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
6.	Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
7.	Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
8.	If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
9.	The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
10.	Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
11.	Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.
Ecology biodiversity and Environment	
1.	A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured

	that an equal area of grazing land be acquired and developed and detailed plan submitted.
2.	Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
3.	A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
4.	The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re- circulation of effluents.
5.	Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
6.	It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
7.	Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted
8.	Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
9.	Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
10.	Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished. In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.
11.	Feasibility of near zero discharge concept shall be critically examined and its details submitted.
12.	Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
13.	Plan for recirculation of ash pond water and its implementation shall be submitted.
14.	Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
15.	Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence

Environmental Baseline study and mitigation measures	
1.	One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysis and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10, PM2.5, SO2, NOx, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
2.	In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
3.	A list of industries existing and proposed in the study area shall be furnished.
4.	Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
5.	Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
6.	Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
7.	Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
8.	Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
9.	For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
10.	Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
Environmental Management Plan	
1.	EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
2.	A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.

3.	The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
4.	Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.
Green belt development	
1.	Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO2 and other gaseous pollutants and hence a stratified green belt should be developed.
2.	Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months
Socio-economic activities	
1.	Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
2.	Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
3.	If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
4.	A detailed CER plan along with activities wise break up of financial commitment shall be prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020. CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified.
5.	While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CER details done in the past should be clearly spelt out in case of expansion projects.
6.	R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
7.	Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
8.	Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational

	health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.
Corporate Environment Policy	
1.	Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
2.	Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
3.	What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
4.	Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.
Miscellaneous	
1.	All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.
2.	Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.
3.	In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.
Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs)	
1.	Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
2.	If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
3.	The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
4.	Additional soil required for levelling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
5.	Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
6.	No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation

	of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.
7.	Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
8.	A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
9.	Impact on fisheries at various socio economic level shall be assessed.
10.	An endowment Fishermen Welfare Fund should be created out of CER grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
11.	Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
12.	There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

2x600 MW Mahan Super Thermal Power Plant at Village Bandhaura Nagwa Karsualal and Khairahi Tehsil Mada District Singrauli Madhya Pradesh by ESSAR POWER M P LIMITED located at SINGRAULI, MADHYA PRADESH			
Proposal For		Amendment in EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/MP/THE/425011/2023	J-13011/56/2006-IA.II(T)	05/04/2023	Thermal Power Plants (1(d))

3.2.2. Project Salient Features

The proposal is for amendment in Environmental Clearance (EC) granted by the Ministry vide letter dated 20.04.2007 for the 4x500 MW Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited. Further, the Ministry vide letter dated 10.02.2009 has changed the capacity from 4x500 MW to 3x600 MW, followed by amendment in EC dated 23.08.2013 and 8.04.2016. The Ministry has also transferred the EC vide letter dated 15.09.2022 from M/s Essar Power (M.P.) Ltd to M/s Mahan Energen Limited.

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

1. The Environmental Clearance (EC) granted by the Ministry vide letter dated 20.04.2007 for the 4x500 MW

Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited. Further, the Ministry vide letter dated 10.02.2009 has changed the capacity from 4x500 MW to 3x600 MW, followed by amendment in EC dated 23.08.2013 and 8.04.2016. The Ministry has also transferred the EC vide letter dated 15.09.2022 from M/s Essar Power (M.P.) Ltd to M/s Mahan Energen Limited.

2. PP submitted proposal for amendment in Environmental Clearance for amendment in Condition no. (xxxi) of mechanism for in-built continuous monitoring for radio activity and heavy metals in coal and fly ash.
3. The amendment has been sought with the details as under:

S. No.	Details as per EC	Amendment sought	Justification
1.	Amendment in Office Order dated 23.08.2013 Condition no. (xxxi) "A long-term study of radioactivity and heavy metals contents on coal to be used shall be carried out through a reputed institute once the power plant becomes operational. Thereafter mechanism for all in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place"	A long-term study of radioactivity and heavy metals contents on coal to be used shall be carried out through a reputed institute once the power plant becomes operational. Thereafter mechanism for all in-built periodical monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place"	For provision of In-built mechanism for continuous monitoring for radioactivity and heavy metals in coal and fly ash (including bottom ash), the technology and monitoring instrument is not available with the suppliers in the Country and is also technically not feasible to monitor in this mechanism.

3.2.3. Deliberations by the EAC in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

The proposal is for amendment in Office Order issued by the Ministry vide dated 23.08.2013.

Earlier, the Environmental Clearance (EC) granted by the Ministry vide letter dated 20.04.2007 for the 4x500 MW Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited. Further, the Ministry vide letter dated 10.02.2009 has changed the capacity from 4x500 MW to 3x600 MW, followed by amendment in EC dated 23.08.2013 and 8.04.2016. The Ministry has also transferred the EC vide letter dated 15.09.2022 from M/s Essar Power (M.P.) Ltd to M/s Mahan Energen Limited. Other EC conditions shall remain unchanged.

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Environment Conditions

3.2.6.1. Specific

N/A

3.2.6.2. Standard

1(d)	Thermal Power Plants
Air quality monitoring and Management	
1.	NA

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Shri Gururaj P Kundargi	Chairman, EC	gpkundargi@gmail.com	
2	Shri Suramya Dolarray Vora	Member (EAC)	suramya.vora@gmail.com	
3	Dr Narmada Prasad Shukla	Member (EAC)	shuklanp55@gmail.com	Absent
4	Dr Santoshkumar Hampannavar	Member (EAC)	santoshkumar777@yahoo.com	
5	Dr Umesh Jagannathrao Kahalekar	Member (EAC)	ukahalekar@rediffmail.com	
6	Shri K B Biswas	Member (EAC)	biswaskiriti@gmail.com	
7	Dr Nandini N	Member (EAC)	sai.nandinin@gmail.com	
8	Dr Unmesh Patnaik	Member (EAC)	unmesh.patnaik@tiss.edu	Absent
9	Dr Nazimuddin	Member (EAC)	nazim.cpcb@nic.in	Absent
10	Shri Mahi Pal Singh	Member (EAC)	mpsingh.cea@nic.in	
11	Dr R K Giri	Member (EAC)	rk.giriccs@gmail.com	Absent
12	Professor Sheo Shanker Rai	Member (EAC)	sheoshankar@iitism.ac.in	
13	Dr Yogendra Pal Singh	Scientist E	yogendra78@nic.in	

MINUTES OF THE 40TH MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 25th April, 2023.

The 40th 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 25th April, 2023 through physical mode under the Chairmanship of Shri Gururaj P. Kundargi. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No. 40.1: Confirmation of the Minutes of the 38th EAC meeting

The Minutes of the 39th EAC (Thermal Power) meeting held on 31.03.2023 were confirmed in the meeting.

Agenda Item No. 40.2

Expansion of Satpura Super-Critical Thermal Power Project by installing unit of capacity 1x660 MW at Sarni, Village Brahmanwada Ryt, Tehsil Ghoradongri, District Betul, (Madhya Pradesh) by M/s Madhya Pradesh Power Generating Co. Ltd. – Environmental Clearance – reg.

[Proposal No. IA/MP/THE/410823/2022; F. No. J-13012/12/2019-IA. II(T)]

40.2.1 The proposal is for grant of Environmental Clearance to the project for expansion of Satpura Super-Critical Thermal Power Project by installing unit of capacity 1x660 MW at Sarni, Village Brahmanwada Ryt, Tehsil Ghoradongri, District Betul, (Madhya Pradesh) by M/s Madhya Pradesh Power Generating Co. Ltd.

40.2.2 The Project Proponent and the accredited Consultant Greencindia Consulting Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

The proposal was earlier considered by the EAC in its meeting held on 28.12.2022, wherein the EAC deferred the proposal for want of certain additional information. The project proponent has submitted the point-wise reply and the observation of the EAC is under: -

S. No.	Additional information sought by the EAC in its meeting held on 28.12.2022	Reply submitted by the PP	Observation of the EAC
1.	Revised layout plan exercising the possibility for green plantation on 60% area of 111 ha ash pond area.	MPPGCL had a detailed deliberation on optimization of Ash Pond area with the possibility for green plantation on 60% area of 111 ha of ash pond area i.e. 66.6 Ha area, with this scenario balance area available for utilization would be 44.4 Ha. However in the light of MoEF&CC notification	The committee was not convinced with the reply of the PP. The committee suggested to submit revised layout plan exercising the possibility for green plantation on 40% area of 111 ha ash pond area.

		CG-DL-E-01012022-232336 dated 31.12.2021, at point number A(6) (Annexure 1.1), any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 Ha per Mega Watt (MW); with this consideration our proposed 1x660 MW unit is eligible for having 66 Ha land as emergency ash pond. It is pertinent to mention here that, this same 111 ha has also been acted as the ash pond for Phase II and III (830 MW) power houses and a significant part has already been utilized for ash storage.	
2.	Comparative analysis showing increase/decrease in green cover area within 5km radius of the project boundary.	Sentinel images with 10 m resolution were used to make a comparative analysis of increase/decrease in green cover area within 5 km radius of the project boundary. The total area that comes under 5 km radius of the project site is 15640 ha and the land use for this area in 2017 and 2022 are provided. It is evident that on one hand there has been an increase of 24.87 ha in scrub land from 1756.17 ha in 2017 to 1781.04 ha in 2022, on the other hand there was a decrease of 341.75 ha in green vegetation cover from 7898.13 ha in 2017 to 7556.38 ha in 2022.	The EAC found the reply to be satisfactory
3.	Comparative analysis showing changes in baseline data (including ground water) at sampling locations situated within 10 km radius of the project for 10 years.	The comparative analysis showing the changes in baseline data over the last decade, for ambient air parameters (PM ₁₀ , PM _{2.5} , NO ₂ , SO ₂ and CO), surface water, ground water, soil and noise are provided. Monitoring for ambient air quality at STPS	The EAC observed that the fluoride content is high. The EAC suggested to provide the proper justification for the same.

		<p>Sarni is being carried out at several locations at varying frequencies. At present, the following parameters are analysed viz: PM10, PM2.5, NO2, SO2, CO, NH3, Pb, Benzene, Benzo(a)pyrene, O3, As and Ni. The parameters analysed for ground water samples in and around STPS Sarni are pH, EC, TDS, Turbidity, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Sulphate, Chloride, Nitrate, Phosphate, Fluoride, Aluminium, Arsenic, Cadmium, Chromium, Copper, Iron, Manganese, Nickel, Lead, Zinc and Mercury. The parameters analysed for surface water samples in and around STPS, Sarni are pH, TDS, TSS, Oil & Grease, DO, Fluoride, Sulphate, Chloride, Cyanide, Phenolic compounds, BOD, Mineral Oil, Boron, Cadmium, Lead, Arsenic, Mercury, Zinc, Aluminium, Manganese, COD, Chromium and Titanium.</p>	
4.	<p>Details of coal linkage along with the plan for transportation shall be submitted.</p>	<p>Coal India Limited has recommended coal linkage from NCL & SECL coal mines for 1x660 MW STPS, Sarni. Coal linkage has been allotted in 34th CLOA meeting held on 20.12.2019. The coal will be transported through the Indian Railway System. A Dedicated railway link from Ghoradongari Railway siding (in Nagpur Division of Central Rail Zone) to Project Site is available for the transportation of coal. The coal will be unloaded at project site by Wagon tippers and Track hoppers.</p>	<p>The EAC found the reply to be satisfactory</p>

5.	The monitoring data for parameters Ozone, benzene and Mercury shall be incorporated in the EIA report.	Monitoring for ambient air quality at STPS Sarni is carried out at several locations at varying frequencies. The following parameters are analysed viz: PM ₁₀ , PM _{2.5} , NO ₂ , SO ₂ , CO, NH ₃ , Pb, Benzene, Benzo(a)pyrene, O ₃ , As and Ni. After the suggestion given by the honourable EAC during the EAC meeting held on 28-12-2022, Mercury was added to the list of parameters to be analysed. The average of the parameters for a period of three months, as mentioned in the query i.e. O ₃ , Benzene and Mercury had been provided.	The EAC found the reply to be satisfactory
6.	Certified Compliance report of existing EC duly certified from the concerned IRO, MoEF&CC shall be submitted	Certification of Compliance for Environmental Clearances of units 10 & 11 and 111-hectare ash pond of STPS, MPPGCL, Sarni was issued by the MoEF&CC, IRO Bhopal in March 2023. It was directed in the monitoring report to furnish an action taken report with respect to non-compliances. Time bound action plan and Action Taken Report (ATR) for the non-complied and partially complied as well as general observations was submitted to MoEF&CC, IRO Bhopal vide STPS-MPPGCL's letter no. 08-004/G-194-A/67 dated 05.04.2023.	The EAC observed that as per the IRO certified compliance report there are many conditions which are partly complied and the project proponent has given some timelines for complying conditions. The committee suggested to comply the same and submit action taken report duly certified from Regional Office of the Ministry. The EAC also suggested to submit proposal for amendment in EC proposal for change in EC condition of earlier EC.
7.	Submit the proof of Wildlife Conservation plan submitted to warden.	The Wildlife Conservation Plan as submitted to the Chief Wildlife Warden, M.P. by CE: GEN-STPS, Sarni vide letter dated 29.12.2022 and a follow up for the same was done, both are provided	The EAC found the reply to be satisfactory
8.	PP shall submit time bound action plan for implementation of periphery green plantation with survival	Time bound Action Plan prepared by M.P. State Van Vikas Nigam (an M.P. Govt. Undertaking) Betul, for implementation of periphery	The EAC suggested to submit revised action plan for implementation of periphery green plantation with survival

	rate of more than 90% by adopting Scientific methodology.	green plantation with survival rate of more than 90% by adopting scientific methodology in respect of proposed unit 1x660 MW on 41 ha land is enclosed. Three tier plantation on an area of 41 ha, at the rate of 2500 trees per hectare is proposed. Therefore, a total of 1,02,500 plants will be planted in the three tiers, with shrubs as the 1st tier, medium height plants as 2nd tier and tall trees as the 3rd tier (at 2m x 2m distance).	rate of more than 90% by adopting Scientific methodology.
9.	PP shall submit the detailed plan of Piezometers installation/ installed.	As submitted in the Time bound action plan to IRO Bhopal, the proposal for procurement and installation of piezometers with telemetric measurements around ash dyke(s) is under tendering process and the work may be completed by Aug-2023	The EAC suggested to install Piezometers at earliest.
10.	PP shall submit report on slope stability of ash pond carried out by reputed institution.	A study for stability of ash ponds at STPS, Sarni has been carried out by IIT Indore (Letter dated 19.11.2019) and is attached. It was reported that the ash dykes are proper and scientifically designed and their present status is quite good for technical soundness, structural strength, stability, safety and are structurally safe and sustainable for adequacy of handling of fly ash generated in the thermal power plant.	The EAC noted that study conducted for stability of ash ponds by the IIT Indore was not made available for deliberation by the EAC.
11.	PP shall submit ash utilization status of last 5 years and future plan for use of legacy ash.	Ash generation and utilization report for last 5 years pertaining to STPS, Sarni is attached. The ash utilization in 2021-22 was 99.82% and in year 2022-23 is 100%.	Noted
12.	Resubmit the current GLC data.	In order to estimate the worst-case scenario, the ground level concentration was computed considering the plant emissions. 98 percentile of 24-	Noted

		hourly incremental ground level concentrations of PM ₁₀ , SO ₂ , NO _x has been computed for 24-hour mean meteorological data of post-monsoon season (September, 2022 to November, 2022). Also, pollution isopleths have been plotted for the entire study area. The details along with the isopleths is provided	
13.	Submit the plan for dust removal techniques such as fixed sprinkler around the siding of ash pond.	<p>The plan for dust removal techniques around the siding of ash pond is as under: Suppression of fugitive dust from ash pond is envisaged by spraying water using sprinklers mounted in banks at intervals along the ash pond. Water will be pumped from the ash water recovery system or ash water sump through dust suppression water header to the sprinkler nozzles.</p> <p>Water dust suppression system for control of fugitive ash dust around the ash pond shall be comprised of pumps, drives, piping, valves, electrical accessories, supports for piping, civil and structural works etc. all pumps in dust suppression system shall be designed for 100% capacity and with 100% standby. Fugitive dust system shall be controlled/ operated locally from local push button.</p> <p>Dust removal techniques shall be installed around the siding ash pond before the disposal of ash from 660 MW project extension unit.</p>	Revised plan for dust removal need to submit.
14.	PP shall submit the CER plan as per the points raised during public hearing along	No issue related to Environment was raised during the public hearing held on 08.09.2022 under the	Revised CER plan shall be prepared with proper justification and by conducting

	with the budget and timeline.	chairmanship of Shri Shivprasad Mandraha, Joint Collector, District Betul, Madhya Pradesh. The main issues raised were related to Health, Education. Further during EAC meeting dtd. 28.12.2022, it was suggested that activities related with Skill Development/Training and Supporting Women Self-Help Groups may be covered under CSR. Accordingly, a budget of Rs 2.40 Cr has been proposed to be spent over a period of three years, in order to address the issues raised in the public hearing as well as suggested by EAC.	epidemiological survey and submit as per the points raised during public hearing along with the budget and timeline.												
15.	Impact of activities done for Corporate Environment Responsibilities (CER) in the 10 km radius of the project along with formulation self- help group support mechanism.	<p>The details of CSR activities carried out at STPS Sarni is provided. However, the study of impact of the activities done under CER and CSR within 10 km radius of the project will be carried out subsequently and shared over a period of 12 months, as baseline for such kind of study is not available as such. CSR activities in the last three years are given in the following table:</p> <table> <tr> <th>S. No.</th> <th>Financial Year</th> <th>CSR Expenditure (INR)</th> </tr> <tr> <td>1</td> <td>FY 2019-20</td> <td>1.72 Cr</td> </tr> <tr> <td>2</td> <td>FY 2020-21</td> <td>2.47 Cr</td> </tr> <tr> <td>3</td> <td>FY 2021-22</td> <td>3.86 Cr</td> </tr> </table>	S. No.	Financial Year	CSR Expenditure (INR)	1	FY 2019-20	1.72 Cr	2	FY 2020-21	2.47 Cr	3	FY 2021-22	3.86 Cr	noted
S. No.	Financial Year	CSR Expenditure (INR)													
1	FY 2019-20	1.72 Cr													
2	FY 2020-21	2.47 Cr													
3	FY 2021-22	3.86 Cr													
16.	A statement on the decommissioning of existing unit and court matters against the project be submitted.	BoD of MPPGCL in its 87th meeting dtd 28.12.2016 (Annexure 15) has resolved to decommission/ retire 1x200 MW + 3x210 MW units (i.e. Unit numbers 6, 7, 8 & 9 of PH-II & PH-II) of STPS, Sarni and the proposal for retirement of	noted												

		<p>these units has been submitted to Energy Department, GoMP, which is under consideration. The Unit No. 8 & 9 (PH-III) have been stopped since 29.02.2020 & 22.02.2020 respectively and unit no. 6 & 7 (PH-II) have been stopped since 05.03.2021. With Regards. Recently, a letter dtd. 09.01.2023 regarding technical constraints for operation of these units of PH-II & III, STPS, Sarni has been submitted to Central Electrical Authority, MoP, Gol, New Delhi. Copy of the same is enclosed. It is to inform that there is no court matter registered against the subject project i.e. 1x660 MW STPS #12 so far. However, Statement on court matters against the existing Units of STPS, Sarni project is enclosed.</p>	
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40.2.4 The EAC after detailed deliberations deferred the proposal for want of following additional information: -

- (i) Submit revised layout plan exercising the possibility for green plantation on 40% area of 111 ha ash pond area.
- (ii) Reason with proper justification for high Fluoride content in the Ground Water samples shall be submitted.
- (iii) Submit action taken report duly certified from Regional Office of the Ministry on Partly complied points. Also, submit proposal for amendment in EC proposal for amendment in EC condition of earlier EC w.r.t. condition related to bi-flue stack.
- (iv) Submit revise action plan for implementation of periphery green plantation with survival rate of more than 90% by adopting Scientific methodology.
- (v) Submit study report on slope stability of ash pond carried out by reputed institution.
- (vi) Revised plan for dust removal shall be submitted.
- (vii) Revised CER plan shall be prepared with proper justification and by conducting epidemiological survey and submit as per the points raised during public hearing along with the budget and timeline.
- (viii) Some representations are received on certain issues for which PP shall submit point wise response for further deliberations.

The proposal was **deferred** on the above lines.

Agenda Item No. 40.3

Setting up Coal Based Thermal Power Plant of capacity 2 x 525 MW at village Malibrahamani, Block Chhendipada, District Angul (Odisha) by M/s Jindal Steel & Power Ltd. – Terms of References (TOR) – reg.

[Proposal No. IA/OR/THE/425646/2023; F. No. J-13011/79/2007-IA.II(T)]

40.3.1 The Project Proponent and the accredited Consultant M/s. Enviro Infra Solution Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

- (i) The proposal is for ToR to the project for Setting up Coal Based Thermal Power Plant of capacity 2 x 525 MW in an area of 400 acres at village Malibrahamani, Block Chhendipada, District Angul (Odisha) by M/s Jindal Steel & Power Ltd.
- (ii) All units are listed at S.N. 1(d) of the Schedule to the Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).
- (iii) Ministry had issued EC earlier vide letter no. J-13011/79/2007-IA.II(T) dated 29.06.2010 and its validity had been extended vide letter dated 27.05.2015 and 10.07.2017 to the existing project in favour of M/s. Monnet Power Company Limited (MPCL) (previous promotor of the project). They had started construction in 2010 and stopped by March 2015, without the plant becoming operational. M/s Jindal Steel & Power Limited (JSPL) has recently purchased this partially constructed & not yet operational 2X525 MW coal based thermal power plant at village Malibrahamani, District Angul, Odisha from the previous promoters of the project under the NCLT as per Insolvency and Bankruptcy Code, 2016.
- (iv) The land area required for the project is 400 hectares. No additional land is envisaged for this proposal. Industry will develop greenbelt in an area of 33% i.e. 65 hectares out of plant area, township and R&R colony (195 ha).
- (v) The estimated project cost is Rs. 5755 crores including existing investment of Rs. 3947 crores carried out by previous promotor. Total Employment will be 400 persons as direct & indirect.
- (vi) There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc within 10 km distance from the project site. Kurdabhali Nala is flowing at a distance of 2.0 km in south west direction.
- (vii) Total water requirement is 3050 m³/hr of fresh water requirement will be met from Samal Barrage existing on Brahamani River. Effluent of 10,800 KLD quantity will be treated through common monitoring basin. The plant will be based on Zero Effluent discharge system.

- (viii) Power requirement of the project will be 7% of the production and will be met from own TG.
- (ix) The proposed project will have two numbers of 1700 TPH coal-fired boiler will be installed. Electrostatic Precipitator with a stack of height of 275 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boilers.
- (x) Estimated fly ash generation will be 2.18 MTPA (@80% PLF) and 2.72 MTPA (@100% PLF). The ash generated will be utilised as per the Fly ash Utilization notification, 2021 of MoEF&CC. Further the Company has proposed to establish the ash dyke for disposal of unutilised ash in slurry form.
- (xi) Status of Litigation Pending against the proposal, if any.- Nil
- (xii) The salient features of the project are as under:-

Name of the Proposal	2 x 525 MW Coal Based Thermal Power Plant
Location (Including coordinates)	Village Malibrahamani in Chandipada Block, Distt. Angul, Orissa Plant area A. North most: 20°55'57.75"N, 84°59'13.78"E B. East most: 20°55'04.93"N, 84°59'59.75"E C. South most: 20°54'50.21"N, 84°59'30.7"E D. West most: 20°55'09.48"N, 84°58'58.85"E Ash Disposal Area coordinates: A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E D. West most: 20°56'12.29"N, 85°00'08.50"E
Inter- state issue involved	Nil
Seismic zone	III
Capacity / Cultural command area (CCA)	2 X 525 MW
Attracts the General Conditions (Yes/No)	No, its already a category A project
Powerhouse Installed Capacity	2 X 525 MW
Generation of Electricity Annually	Yet to become operational
No. of Units	2 Nos.
Cost of project	Rs. 5755 crores. Out of this Rs. 3947 Crore has been spent till 31.03.2023. The balance works are expected to cost Rs. 1808 crores. Hence, the revised cost of the project as on 01.04.2023 is Rs. 5755 crores.

Total area of Project	400 hectares
Details of consultant and status of accreditation	Enviro Infra Solution Pvt. Ltd., Letter no. NABET/ EIA/2123/SA 0181/Rev.01 dt. 16.11.2022 & QCI/NABET/ENV/ACO/23/2702 dt. 09.03.2023 Validity: 07.06.2023
Project Benefits	Employment (direct & indirect), tax to the state exchequer, benefits to the local population due to peripheral development measures that shall be undertaken by the company
Status of other statutory clearances	The proposal is for TOR. Other Statutory clearances like CTE, water withdrawal permission, etc. were granted to the earlier promoter.
R&R details	R&R has been completed. Nil pending as on date
Any litigation/Court case pertaining to the project	Nil
Any violation case pertaining to the project:	Nil
Certified EC compliance report (if applicable)	Not applicable
Status of Stage- I FC	Received vide letter dated No. 5-ORC175/2013-BHU dated 09 th April, 2014.
Is FRA (2006) done for FC-I	FRA, if any, will be done as part of the compliance of Stage-I Conditions.
Fuel to be used:	Coal
Quantity of Fuel required per Annum:	5.45 MTPA coal at 80% PLF or 6.81 MTPA at 100% PLF
Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	Utkal B1/B2 and Utkal-C Coal Mines of Jindal Steel & Power in Odisha Status: Utkal B1, EC vide letter no. No.J-11015/309/2006-IA.II(M) dated 09.04.2007. Utkal B2, vide letter no. J-11015/108/2003-IA.II(M) dated 28 Jul 2006 Utkal C, EC vide letter no. J-11015/108/2003-IA.II(M) dated 28.07.2006 and transferred vide letter dated 28.02.2023
Details of mode of transportation of coal from coal source to the plant premises along with distances	Coal will be transported by conveyor. Till completion of Conveyor belt, coal transportation is proposed by road.
Fly Ash Disposal System Proposed	<ul style="list-style-type: none"> • Dry extraction for utilization • Lean Slurry form of unutilized ash for disposal in Ash pond
Ash Pond/ Dyke (Area, Location & Co-ordinates) Average height of area above MSL (m)	Location : Village Malibrahmani, Nisha, Dist. Angul, Odisha Ash Disposal Area coordinates: A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E

	D. West most: 20°56'12.29"N, 85°00'08.50"E Elevation : 166 m to 210 m amsl
Quantity of Fly Ash to be generated Bottom Ash to be generated:	Fly ash - 1.744 MTPA at 80% PLF or 2.176 MTPA at 100% PLF. Bottom ash - 0.436 MTPA at 80% PLF or 0.544 MTPA at 100% PLF.
Fly Ash utilization (details)	The Ash utilization shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31-12-2021. Fly ash collected from silo will be collected in dry form for commercial use for cement manufacturing, brick making, road embankment, filling in mines, etc. and balance stored in ash disposal area. Bottom ash would be disposed in slurry form to ash pond located on the east of the power plant.
Stack Height (m) & Type of Flue	Twin-flue common stack of 275 m height.

1.	Date of the ToR, extension of validity and amendment, if any.	This is an application for fresh TOR. Previous EC vide letter no. J-13011/79/2007-IA.II(T) dated 29.06.2010 and its validity had been extended vide letters dated 27.05.2015 and 10.07.2017.
2.	Date & place of Public Hearing	Public Hearing Exemption has been sought in line with the MoEF&CC Notification S.O. 1247(E) dt. 18.03.2021 as the project has been implemented more than 50% in Physical form.
3.	Issues raised during Public Hearing and assurance given along with the financial provisions, if any, by the project proponent.	Not applicable due to above
4.	If the proposal is for re-consideration, the dates of the earlier EAC meeting (s) and the information/documents sought.	Not applicable
5.	Location of TPP Village : Taluk : District : State : Co-ordinates of all four corners:	Village Malibrahamani Chhendipada Block, Distt. Angul, Orissa Plant area A. North most: 20°55'57.75"N, 84°59'13.78"E B. East most: 20°55'04.93"N, 84°59'59.75"E C. South most: 20°54'50.21N, 84°59'30.7"E D. West most: 20°55'09.48"N, 84°58'58.85"E Ash Disposal Area coordinates:

	Average height of (a) TPP site, (b) ash pond site etc above MSL (m)	A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E D. West most: 20°56'12.29"N, 85°00'08.50"E TPP- 179 m to 210 m amsl Ash pond site - 166 m to 210 m amsl																											
6.	Whether the project is in the Critically Polluted Area (CPA) or within 10 km of CPA. If so, the details thereof:	No. As per the report submitted by CPCB before NGT in OA 1038/2018, Angul-Talcher is numbered 94 in the list of areas of polluted areas based upon the CEPI Criterion, 2016 and does not fall under CPA or SPA																											
7.	Capacity & Unit Configurations:	2 X 525 MW																											
8.	Land requirement: a) TPP site b) Ash Pond c) Township d) MGR etc. (if expansion state additional land requirement)	Hectares a) 175 b) 155 c) 20 d) others 50																											
9.	Status of Land acquisition:	<table><tr><th>Component</th><th>Acquired, ha</th><th>To be acquired, ha</th><th>Total, ha</th></tr><tr><td>Plant</td><td>166.265</td><td>8.735</td><td>175</td></tr><tr><td>Ash disposal</td><td>127.754</td><td>27.246</td><td>155</td></tr><tr><td>Township (& RR colony)</td><td>9.603</td><td>10.397</td><td>20</td></tr><tr><td>Service Corridor & misc.</td><td>0</td><td>50</td><td>50</td></tr><tr><td>Total</td><td>303.622</td><td>96.378</td><td>400</td></tr></table>				Component	Acquired, ha	To be acquired, ha	Total, ha	Plant	166.265	8.735	175	Ash disposal	127.754	27.246	155	Township (& RR colony)	9.603	10.397	20	Service Corridor & misc.	0	50	50	Total	303.622	96.378	400
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10.	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.	66% complete as per the Final Due Diligence Report The construction was carried out from 2010 to March 2015. All major civil foundation works have been completed in 2014. Boiler construction of unit 1 was in advance stage in 2014 as its hydro test has been completed in that year. The hydro test will be repeated once again in 2023. Summary of progress: <table><tr><th>S No</th><th>Facility</th><th>Implementation status</th></tr></table>				S No	Facility	Implementation status																					
S No	Facility	Implementation status																											

	1.	Intake Pump House	Around 90 % of the civil works including equipment foundations for the Intake Pump House along with the associated buildings is completed
	2.	Transmission System	Out of the total 110 Towers required under the complete transmission package, 81 have been erected and foundations are complete for another 13 transmission towers
	3.	Switchyard	Switchyard is almost completed in all aspects together with the control room
	4.	Boilers & Aux	Unit#1: <ul style="list-style-type: none"> • Almost 70 % of the erection has been completed of Boiler 1 and all related auxiliaries. • Pressure Parts Joints required for the Non Drainable Hydro Test are almost 60 % complete. • Air Preheaters for the boiler have been erected • Civil Works for the Bottom Ash Hopper is complete • Almost 40 % of Air and Flue Gas Ducting and Duct Supports are completed • Almost 75 % of Refractory Insulation is also completed

				<ul style="list-style-type: none"> Almost 90 % of ESP erection of all 4 passes is complete
		4	Boilers & Aux	Unit#2: <ul style="list-style-type: none"> Almost 60 % of the erection has been completed for Unit 2 Boiler and all related auxiliaries The erections works for the Air Preheaters for the boiler is almost complete Civil Works for the PA and FD Fans almost complete. Around 15 % of Air and Flue Gas Ducting and Duct Supports are completed Foundation Civil Works for the Bunker and Mill for both Side Arrangements is completed Refractory Insulation is at a very preliminary stage of erection Almost 99% of the material for the erection of ESP and insulation has been received at site of which almost 77% has

				been further erected at site.
		5.	Turbine and Auxiliaries	<ul style="list-style-type: none"> The erection work for the Unit 1 Turbine is almost 40 % completed. <p>For unit 2, almost 65 % of the material for the TG and Auxiliaries has been received at site and the erection was started for the condenser</p>
		6.	Power Transformers & BTG Electricals	<ul style="list-style-type: none"> Erection was started for the Transformer Yard. <p>Civil works for the Transformer Yard of Unit 1 is almost complete. GT for Unit 1, Both the Unit Transformers for Unit 1 and 1 of the 2 Station Transformer has been placed on the respective foundations. Civil Works for the Unit 2 Transformer Yard is in not completed. However GT for Unit 2 is placed on the foundation.</p>
		7.	Chimney	Chimney Outer shell was completed and the civil works for the chimney was almost complete. Flue Can erection for Unit 1 was completed upto the Flue Gas Duct Entry. Flue Cans Erection for Unit 2 was at very preliminary stage.
11.	Break-Up of Land-Use of TPP site:	<p>Forests land (Type and density) : 18.281 Ha</p> <p>Agricultural land : 34.18 Ha</p> <p>Waste/Barren land : 43.917 Ha</p> <p>Others (industrial) : 303.622 ha</p>		

		Status of land allotment/acquisition			
		Component	Acquired, ha	To be acquired, ha	Total, ha
		Plant	166.265	8.735	175
		Ash disposal	127.754	27.246	155
		Township (& RR colony)	9.603	10.397	20
		Service Corridor & misc.	0	50	50
		Total	303.622	96.378	400
12.	Fuel to be used:	Coal			
13.	Quantity of Fuel Required per Annum:	5.45 MTPA coal at 80% PLF or 6.81 MTPA at 100% PLF			
14.	Coal Linkage / Coal Block: (If Block allotted, status of EC & FC of the Block)	<p>Quantity and details of Linkage available:</p> <ul style="list-style-type: none"> ● Utkal B1, EC vide letter no. No.J-11015/309/2006-IA.II(M) dated 09.04.2007 for 5.5 MTPA and FC (Stage-II) granted Letter no.6688 dt 29/09/2010 ● Utkal B2, vide letter no. J-11015/108/2003-IA.II(M) dated 28 Jul 2006 for 2.2 MTPA & FC granted vide letter dated 5-ORCO70/2008-BHU Dt.21.07.2011 ● Utkal C, EC vide letter no. J-11015/108/2003-IA.II(M) dated 28.07.2006 for 3.37 MTPA and transferred to JSP vide letter dated 28.02.2023 and FC granted vide letter dated 8-25/2010-FC dated 07.10.2011, 23.05.2012 and 12.12.2022 <p>The method of obtaining remaining coal: Not applicable</p> <p>Ash content in coal- 42- 45% Sulphur in coal- 0.45-0.6 (%) Moisture -10-15% GCV in coal 3500 KCal/Kg</p>			
15.	Details of mode of transportation of coal from coal source to the plant premises along with distances.	<p>Total distance from the source to Rail: Not applicable as no rail is proposed</p> <p>Road: ~5 km (from Utkal B1/B2 To plant)</p> <p>Closed conveyor: ~2.5 km (from coal mine To plant)</p> <p>Sea: Not applicable</p>			
16.	Fly Ash Disposal System proposed:	Lean concentration slurry.			
17.	Ash Pond / Dyke:	Location : Village malibrahmani, Nisha, Dist.			

	(Area, Location & Co-ordinates) Average height of area above MSL (m)	Angul, Odisha Ash Disposal Area coordinates: A. North most: 20°56'16.30"N, 85°00'12.71"E B. East most: 20°55'03.43"N, 85°01'08.92"E C. South most: 20°55'03.43"N, 85°01'08.92"E D. West most: 20°56'12.29"N, 85°00'08.50"E Elevation : 166 m to 210 m amsl
18.	Quantity of Fly Ash to be Generated:	Fly ash - 1.744 MTPA at 80% PLF or 2.176 MTPA at 100% PLF
19.	Quantity of Bottom Ash to be Generated:	Bottom ash - 0.436 MTPA at 80% PLF or 0.544 MTPA at 100% PLF.
20.	Fly Ash utilisation percentage with details :	The Ash utilisation shall be done as per Ministry of Environment, Forests and Climate Change Notification dated 31.12.2021. Fly ash collected from silo will be collected in dry form for commercial use for cement manufacturing, brick making, road embankment, filling in mines, etc. and balance stored in ash disposal area. Bottom ash would be disposed in slurry form to ash pond located on the east of the power plant.
21.	Stack Height (m) & Type of Flue	Twin-flue common stack of 275 m height. (existing)
22.	Source of Water:	Barrage - Samal Barrage is existing on Brahamani River
23.	Quantity of water requirement:	73,200 KLD
24.	Distance of source of water from Plant:	22 km (from intake point)
25.	Whether barrage/ weir/ intake well/ jack well/ others proposed:	Yes - Samal Barrage is existing on Brahamani River
26.	Mode of conveyance of water:	Pipeline
27.	Status of water linkage:	Previous PP had received approval from the Odisha Water Resource Department (OWRD) for drawing 37 cusecs of water from Brahamani valid upto 31.12.2015. Previous PP had further applied for the revalidation of the Water Agreement dt 05.11.2015. However considering the status of the project no further follow for the same was undertaken and the same will have to be revalidated.
28.	(If source is Sea water) Desalination Plant Capacity	Not applicable
29.	Mode / Management of Brine:	Not applicable
30.	Cooling system	Induced draft
31.	CRZ Clearance	Not applicable
32.	Names & distance of National	

	parks, Wildlife sanctuaries, Biosphere reserves, Heritage sites Rivers, Tanks, Reserve Forests etc. Located within 10 Km from the plant boundary:	
33.	Any litigation/Court case pertaining to the project:	Nil
32.	Is the proposal under any investigation? If so, details thereof.	No
33.	Any violation case pertaining to the project:	Nil
34.	Cost of the Project (As per EC and revised): Cost of the proposed activity in the amendment:	Rs. 5755 crores. Out of this Rs. 3947 Crore has been spent till 31.03.2023. The balance works are expected to cost Rs. 1808 crores. Hence, the revised cost of the project as on 01.04.2023 is Rs. 5755 crores.
35.	Employment Potential for entire project/plant and employment potential for the proposed amendment (specify number of persons and quantitative information).	400 persons
36.	Benefits of the project (specify quantitative information)	Employment (direct & indirect), tax to the state exchequer, benefits to the local population due to peripheral development measures that shall be undertaken by the company
37.	Any other declaration	Nil

40.3.3 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for setting up Coal Based Thermal Power Plant of capacity 2 x 525 MW in an area of 400 acres at village Malibrahamani, Block Chhendipada, District Angul (Odisha) by M/s Jindal Steel & Power 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.

Ministry had issued EC earlier vide letter no. J-13011/79/2007-IA.II(T) dated 29.06.2010 and its validity was extended vide letter dated 27.05.2015 and 10.07.2017 to the existing project in favour of M/s. Monnet Power Company Limited (MPCL) (previous promotor of the project). They had started construction in 2010 and stopped by March 2015, without the plant becoming operational. M/s Jindal Steel & Power Limited (JSPL) has recently purchased this partially constructed & not yet operational 2X525 MW coal based thermal power plant at village

Malibrahmani, District Angul, Odisha from the previous promoters of the project under the NCLT as per Insolvency and Bankruptcy Code, 2016.

The project proponent has informed that construction work for the project as per earlier EC was completed more than 60 %. The same is mentioned in the report of NCLT. Project proponent has also shown the drone video of the project site which shows the construction status.

40.3.4 The EAC after detailed deliberation on the information submitted **recommended** the proposal for grant of Standard ToR with exemption from public hearing for conducting EIA study to the project for setting up Coal Based Thermal Power Plant of capacity 2 x 525 MW in an area of 400 acres at village Malibrahmani, Block Chhendipada, District Angul (Odisha) by M/s Jindal Steel & Power Ltd, under the provisions of EIA Notification, 2006 and as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation

- i. Public Hearing is exempted in view of overall physical progress of the power plant more than 50% as per Ministry's Notification, however public consultation shall be carried out in which notice shall be issued through State Pollution Control Board and issues raised shall be addressed with allocation of fund and within certain timeline and shall be submitted during EIA/EMP submissions and appraisal.
- ii. No construction shall be done on the waterbodies located around the project area. Submit an action plan for conservation of waterbodies located around the plant.
- iii. 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. The plan of ash management shall be as per the Ministry' Notification.
- iv. Details of Dry Ash handling system along with supplementary coal handling system shall be submitted.
- v. 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.
- 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 2 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. Revise water balance shall be submitted with Zero Liquid Discharge plan.
- x. 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.
- 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.

- xiv. Provision to left the space for installing SCR.
- xv. Site specific wildlife conservation plan duly approved by DFO shall be submitted and no vehicle purchase to be done/ proposed in the said plan.
- xvi. Details of nos. of tree along with their density and nomenclature of the tree species required to be felled for project components and ash pond area and afforestation plan inside or outside the plant boundary shall be studied.
- xvii. Plan for transportation of coal through closed conveyor belt shall be prepared and be submitted.
- xviii. Site location map duly authenticated by the PCCF (wildlife) indicating distance of ESZ/boundary of protected area located in the vicinity.
- xix. Permission from concerned regulatory authority for withdrawal of water.
- xx. Compliance status of previous EC conditions (for construction phase) and commitments made during previous Public hearing shall be submitted.

[B] Disaster Management

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

[C] Miscellaneous

- xxii. PP shall submit details of court cases and its status for the project (if any).
- xxiii. The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.
- xxiv. Arial view video of project site shall be recorded and to be submit.
- xxv. Submit the copy of report of M/s Tractebel Engineering.
- xxvi. Financial progress of the project shall be submitted.

Agenda Item No. 40.4

2x800 MW (Stage-III) Coal based Singrauli Super-Critical Thermal Power Project at Village Shaktinagar, Tehsil Dudhi, District Sonbhadra, Uttar Pradesh by M/s NTPC Limited – Amendment in Environmental Clearance (EC) – reg.

[Proposal No. IA/UP/THE/299019/2023; F. No. J-13012/01/2019-IA.I (T)]

40.4.1 The proposal is for amendment in Environmental Clearance (EC) granted by the Ministry vide letter dated 13.07.2020 for the project 2x800 MW (Stage-III) Coal based Singrauli Super-Critical Thermal Power Project at Village Shaktinagar, Tehsil Dudhi, District Sonbhadra, Uttar Pradesh by M/s NTPC Limited.

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

- i. The Environment Clearance (EC) for 2x800 MW (Stage-III) Coal based Singrauli Super-Critical Thermal Power Project at Village Shaktinagar, Tehsil Dudhi, District Sonbhadra, Uttar Pradesh by M/s NTPC Limited was accorded by MoEF&CC vide letter dated 13.07.2020.
- ii. PP submitted proposal dated 27.03.2023 for amendment in Environmental Clearance

for change in technology from Ultra Super Critical with Air Cooled Condenser System to Ultra Super Critical with Water Cooled Condenser System.

iii. The amendment has been sought with the details as under:

Date of EC & condition No.	Stipulation in EC	Amendment Requested	Justification for Amendment
<i>EC letter dtd 13.07.2020 Condition no. (i)</i>	<i>“As the Khadiya Ash Dyke (600 acres) exhausted its capacity, the time bound reclamation plan (along with financial allocation) for developing the land into greenbelt with adequate biological and engineering measures shall be submitted within six months. The land shall not used for any other purpose other than greenbelt development. The said area shall be demarcated and progress of implementation shall be submitted as part of compliance report”.</i>	<i>The condition may kindly be deleted for Revival of Khadia Ash Dyke which is essential for Stage-III.</i>	<p>At the time of appraisal, Khadiya ash dyke was exhausted and covered with natural vegetation. Further, 160 m wide green belt is already provided around Khadia dyke. As per MOEF&CC Notification dated 30.12.2022, Para 1(iii)(6), it is proposed to revive and use of Khadia Ash Dyke for emergency ash disposal from Stage-III using Lean Slurry Disposal System.</p> <p>Recently, the project is getting intermittent demand for huge quantities of pond ash for major projects (e.g current demand of ash for construction of NHAI Varanasi- Hanumana highway), which will not only help in utilisation of legacy ash, but also help in conservation of soil required for construction of highway.</p> <p>Further, the space created by ash evacuation from Khadia dyke may be used for emergency disposal of ash from Stage-III units. Hence Revival of Khadia Ash Dyke is essential for Stage-III.</p>
<i>EC letter</i>	<i>“No additional ash</i>	<i>The condition may</i>	<i>Since the operation of</i>

dtd 13.07.2020 Condition no. (ii)	pond is permitted for the proposed Unit. Existing ash ponds (S1: 400 acres & S2: 400 acres) are to be used only in case of emergency. High Concentrated Slurry Disposal system shall be followed. Ash Water Recycling System (AWRS) shall be set up to reuse the decanted water."	kindly be amended with "Existing ash ponds (S1: 400 acres & S2: 400 acres) are to be used only in case of emergency. Lean Slurry Ash Disposal System shall be followed. Ash Water Recycling System (AWRS) shall be set up to reuse the decanted water".	existing S1 and S2 Dykes are based on Lean Slurry Ash Disposal System, Implementation of High Concentrated Slurry Disposal system is not feasible.
EC letter dtd 13.07.2020 Condition no. (viii)	"Air Cooled Condenser System shall be established as cooling system for the Project. Accordingly, water requirement shall not exceed 1620 m ³ /hr (39,000 m ³ /day), Specific water consumption: 1m ³ /MWhr"	The condition may kindly be amended with "Water Cooled Condenser System shall be established as cooling system for the project". Accordingly, water requirement shall not exceed 4800 m ³ /hr. (115200 m ³ /day), specific water consumption : 3 m ³ /MWhr	Implementation issues faced in ACC Systems at its ongoing power projects. A comparative study of ACC vs WCC System is presented in Annexure-III Though WCC consume more water, it is beneficial in term of lesser coal consumption & lesser CO ₂ emission.
EC letter dtd 13.07.2020 Condition no. (xiii)	"The greenbelt of 40% of the total project area shall be developed. At present, 65 acres (12%) out of 562 acres shall be augmented to 40% by acquiring or annexing additional area. A layout map showing greenbelt around the project area along with total project area & co-ordinates shall be submitted in a month."	The condition may kindly be amended with "The greenbelt of 40% of the 262 acres of project area shall be developed."	MOEF&CC has already been informed that the total area of the project is 262 acres after deletion of 300 acres of proposed ash dyke area. A layout map showing greenbelt (104 acres) around the project area along with total project area (262 acres) & co-ordinates has already submitted to MOEF&CC vide letter dated 12.02.2020.
Standard EC	"Ash pond shall be lined with impervious	The condition may kindly be amended	NTPC has already confirmed to MOEF&CC

condition dated 19.11.2018 Condition no. I-(3)	liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached”.	with “Ash Pond shall be lined with impervious liner as per the soil conditions, if any additional ash pond constructed in future.”	that no additional ash dyke is proposed to be constructed for Stage-III. Further, it is not possible to provide impervious lining in the existing ash ponds at this stage.
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40.4.3 The EAC during deliberations noted the following:

The proposal is for amendment in Environmental Clearance (EC) granted by the Ministry vide letter dated 13.07.2020 for the project 2x800 MW (Stage-III) Coal based Singrauli Super-Critical Thermal Power Project at Village Shaktinagar, Tehsil Dudhi, District Sonbhadra, Uttar Pradesh by M/s NTPC Limited.

Earlier, the environment clearance was granted by the Ministry for 2x800 MW (Stage-III) Coal based Singrauli Super-Critical Thermal Power Project at Village Shaktinagar, Tehsil Dudhi, District Sonbhadra, Uttar Pradesh by M/s NTPC Limited vide letters dated 13.07.2020.

The Committee suggested to submit a brief report on performance and techno-feasibility of Ultra Super Critical technology with Air Cooled Condenser System. The committee also suggested to reclaim 50 % area of top area of existing ash dyke i.e. half of 372 ha. The EAC was of the view that performance shall be reviewed after six months.

40.4.4 The EAC after detailed deliberation on the information submitted **recommended** the proposal for proposed amendment subject to compliance of following additional conditions:

- (i) Submit a brief review report on techno-economical performance of both the technologies i.e. ACC and WCC after six months.
- (ii) 50% reclaimed area of Khardiya ash dyke shall be used for green plantation; however, 50% area to be used for power plant purposes will be compensated thorough green plantation outside the plant boundary within 10km radius of the project.
- (iii) A time bound reclamation plan (along with financial allocation) for developing the land (50% top area of ash dyke) into greenbelt with adequate biological and engineering measures shall be submitted within six months. The land shall not used for any other purpose other than greenbelt development. The said area shall be demarcated and progress of implementation shall be submitted as part of compliance report”.

Agenda Item No. 40.5

2x600 MW Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited - Amendment in Environmental Clearance (EC) – reg.

[Proposal No. IA/MP/THE/425011/2023; F. No. J-13011/56/2006-IA.II(T)]

40.5.1 The proposal is for amendment in Environmental Clearance (EC) granted by the Ministry vide letter dated 20.04.2007 for the 4x500 MW Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited. Further, the Ministry vide letter dated 10.02.2009 has changed the capacity from 4x500 MW to 3x600 MW, followed by amendment in EC dated 23.08.2013 and 8.04.2016. The Ministry has also transferred the EC vide letter dated 15.09.2022 from M/s Essar Power (M.P.) Ltd to M/s Mahan Energen Limited.

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

- i. The Environmental Clearance (EC) granted by the Ministry vide letter dated 20.04.2007 for the 4x500 MW Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited. Further, the Ministry vide letter dated 10.02.2009 has changed the capacity from 4x500 MW to 3x600 MW, followed by amendment in EC dated 23.08.2013 and 8.04.2016. The Ministry has also transferred the EC vide letter dated 15.09.2022 from M/s Essar Power (M.P.) Ltd to M/s Mahan Energen Limited.
- ii. PP submitted proposal for amendment in Environmental Clearance for amendment in Condition no. (xxxi) of mechanism for in-built continuous monitoring for radio activity and heavy metals in coal and fly ash.
- iii. The amendment has been sought with the details as under:

S. No.	Details as per EC	Amendment sought	Justification
1.	Amendment in Office Order dated 23.08.2013 Condition no. (xxxi) "A long-term study of radioactivity and heavy metals contents on coal to be used shall be carried out through a reputed institute once the power plant becomes operational. Thereafter mechanism for all in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place"	A long-term study of radioactivity and heavy metals contents on coal to be used shall be carried out through a reputed institute once the power plant becomes operational. Thereafter mechanism for all in-built periodical monitoring for radio activity and heavy metals in coal and fly	For provision of In-built mechanism for continuous monitoring for radioactivity and heavy metals in coal and fly ash (including bottom ash), the technology and monitoring instrument is not available with the suppliers in the Country and is also technically not feasible to monitor in

		ash (including bottom ash) shall be put in place”	this mechanism.
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40.5.3 The EAC during deliberations noted the following:

The proposal is for amendment in Office Order issued by the Ministry vide dated 23.08.2013.

Earlier, the Environmental Clearance (EC) granted by the Ministry vide letter dated 20.04.2007 for the 4x500 MW Mahan Super Thermal Power Plant at village Bandhaura, Tehsil Mada, District Singrauli, Madhya Pradesh by Mahan Energen Limited. Further, the Ministry vide letter dated 10.02.2009 has changed the capacity from 4x500 MW to 3x600 MW, followed by amendment in EC dated 23.08.2013 and 8.04.2016. The Ministry has also transferred the EC vide letter dated 15.09.2022 from M/s Essar Power (M.P.) Ltd to M/s Mahan Energen Limited. Other EC conditions shall remain unchanged.

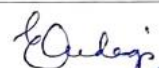
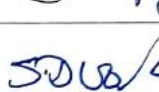

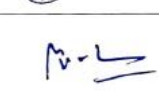
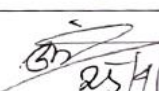
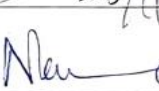
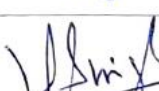

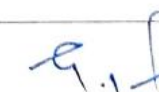
40.4.4 The EAC after detailed deliberation on the information submitted **recommended** the proposal for proposed amendment.

The meeting ended with vote of thanks to the Chair.

ATTENDANCE

**40th MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC)
THERMAL POWER PROJECTS**

DATE : 25th April 2023
TIME : 11:00 am onwards
VENUE : Sutlej Hall, Jal Block, Indira Paryavaran Bhawan, New Delhi.

Sl. No.	Name of Member	Role	Signature
1.	Shri Gururaj P. Kundargi	Chairman	
2.	Shri Suramya Dolarray Vora	Member	
3.	Dr. Narmada Prasad Shukla	Member	- Ab -
4.	Dr. Santoshkumar Hampannavar	Member	
5.	Dr. Umesh Jagannathrao Kahalekar	Member	
6.	Shri K. B. Biswas	Member	
7.	Dr. Nandini.N	Member	
8.	Dr. Unmesh Patnaik	Member	- Ab -
9.	Dr. Nazimuddin	Member (Representative of CPCB)	- Ab -
10.	Sh. Mahi Pal Singh	Member (Representative of CEA)	
11.	Dr. R.K. Giri	Member (Representative of IMD)	- Ab -
12.	Professor Sheo Shanker Rai	Member (Representative of ISM)	
13.	Shri Yogendra Pal Singh	Member Secretary, MoEF&CC	

APPROVAL OF THE CHAIRMAN

Fwd: Draft MOM of 40th EAC meeting held on 25.04.2023-reg

From: gpkundargi@gmail.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Thursday, May 11, 2023 12:20:05 PM
Subject: Re: Draft MOM of 40th EAC meeting held on 25.04.2023-reg

Dear Dr Yogendra ji,
I have gone through the draft minutes of 40th EAC meeting.
Draft minutes are fine with me, However, In case of 40.2 You may seek the following information in addition to existing information sought.
"Some representations are received on certain issues for which PP shall submit point wise response for further deliberations."
Draft minutes are approved with above corrections for needful action.
Thank you
G P Kundargi

On Tue, 9 May, 2023, 3:10 pm Yogendra Pal Singh, <yogendra78@nic.in> wrote:

Dear Sir,

Please find attached herewith the draft MOM of 40th EAC meeting held on 25.04.2023 for perusal and comments, if any.

With Regards,

Yogendra Pal Singh
Scientist 'E'
M/o Environment, Forest and Climate Change
Room No. 236, 2nd Floor, Vayu Wing
Indira Paryavaran Bhawan
Jor Bagh, New Delhi-110003
Tele-fax: 011-20819364



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