



सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(River Valley and Hydroelectric Projects)



Minutes of 49TH MEETING OF THE EXPERT APPRAISAL COMMITTEE meeting
g River Valley and Hydroelectric Projects held from 26/02/2026 to 26/02/2026 Date: 10/03/2026
026

MoM ID: EC/MOM/EAC/211427/2/2026
Agenda ID: EC/AGENDA/EAC/211427/2/2026
Meeting Venue: MoEF&CC
Meeting Mode: Physical
Date & Time:

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| 26/02/2026 | 10:30 AM | 05:30 PM |
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1. Opening remarks

The 49th meeting of the EAC for River Valley & Hydroelectric Projects organized by the Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi, was held on 26th February, 2026 through Physical Mode, under the Chairmanship of Prof. G. J. Chakrapani.

2. Confirmation of the minutes of previous meeting

The Minutes of the 48th EAC meeting held on 12th February, 2026 were confirmed.

3. Details of proposals considered by the committee

Day 1 -26/02/2026

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Cherue Pumped Storage Project (1200 MW) by ADANI HYDRO ENERGY SIX LIMITED located at SONBHAD

| | | | |
|---------------------------------------|-------------------------|-----------------|--|
| RA,UTTAR PRADESH | | | |
| Proposal For | | Fresh ToR | |
| Proposal No | File No | Submission Date | Activity Sub-Activity (Schedule Item) |
| IA/UP/RIV/566922/2026 | J-12011/09/2026-IA.I(R) | 10/02/2026 | River Valley/Irrigation projects Standalone Pump Storage Projects (1(c)) |

3.1.2. Project Salient Features

The proposal is for grant of Terms of Reference (ToR) to the project Cherue Close loop Pumped Storage Project (1200 MW) in an area of 569 Ha located at Village Dighia, Bahera, Dharan and etc., Sub District Robertsganj, District Sonbhadra, Uttar Pradesh by M/s Adani Hydro Energy Six Limited.

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

- i. The proposed Cherue Pumped Storage Project (1200MW), a self-identified off stream closed loop project, is being developed by M/s Adani Hydro Energy Six Ltd. near Village Cherue, Taluka Robertsganj, District Sonbhadra, Uttar Pradesh.
- ii. The project involves the development of two artificial reservoirs-the Upper Reservoir near Cherue Village and the Lower Reservoir near Laua Village -both situated on non-perennial nallahs with negligible natural inflow.
- iii. The project envisages construction of upper dam (Geomembrane Faced Rockfill Dam; Length:1694m; Height: 41m) ; lower dam (GFRD; Length: 715m; Height: 36m). The water conductor system shall consist of 1118m long approach channel from upper reservoir culminating into 4Nos., diffuser intake leading to 808m long 6.5m diameter three steel lined pressure shaft and one 733m long 6.5m diameter steel lined pressure shaft bifurcating into 2 smaller pressure shaft of 4.60 m diameter and 75 m long feeding 3 reversible units of 300 MW and 2 reversible units of 150 MW all housed in a deep pit type 189m (L) x 30m (W) x 69m (H) powerhouse, discharging through draft tube to 4 nos., 315m long and 8.5 m dia. concrete TRT connected at end to 4 Nos. of lower reservoir intake diffuser. A transformer cum GIS building of size 165 (L) x 16.45 (W) x 24 (H) is proposed to be located on surface on the upstream side of powerhouse building to accommodate transformers and GIS equipment.
- iv. The annual energy generation in turbine mode for daily 6.00 hours shall be 2496.6 MU whereas annual energy consumption in pump mode for 7.40 hours is 3173.6 MU. The estimated project cost is Rs 5690.85 crores (December 2025PL). The Levelized tariff with no pumping cost shall be INR 4.70/kWh. Levelized tariff with Rs 3.00 pumping cost shall be INR 8.43/kWh.

v. The geographical co-ordinate are :

Upper Reservoir Coordinates: 24°32'56.15" N; 83°09'38.16"E

Lower Reservoir Coordinates: 24°34'17.09" N; 83°09'9.56"E

As per the Census of India 2011, the total population of the block comprising of total 17263 households are 94327 composed of 48615 males and 45712 females with sex ratio of 940. The cast wise composition of the total population of the project affected villages is made up of scheduled cast population of 17738 (18.8%) and Scheduled Tribe population of 32432 (34.4%). The literate population is 42535(56.7%) of which the male and female population is 26755(69.3%) and 15780 (43.3%) respectively. The gender gap for literacy rate is 26 %. The total working population is 41436 (43.9%) which comprises of main

workers 20343(21.6%) and marginal workers 21093(22.3%).

- ix. **Project Cost:** The estimated project cost is Rs 5690.85 crores including existing investment. Total capital cost and recurring annual cost (operation & maintenance) towards EMP shall be earmarked after evaluating cost of EMPs.
- x. **Project Benefit:** The benefits inter alia shall include the benefits like (i) Average annual generation of 2496.6 MU of energy; (ii) Increased vegetal cover due to implementation of CAT Plan and Green Belt Development Plans (iii) Employment Potential during construction (600 labour); (iv) Overall development of area by implementing CSR initiatives and Watershed Development Plans.
- xi. **Environmental Sensitive area:** Kaimur WLS (UP) and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. Sone River flows 7.5km south of project.
- xii. **MOU/ any other clearance/ permission signed with State government:** MoU was signed between M/s Adani Green Energy Limited and Govt. of Uttar Pradesh on 01st day of July 2025, for establishment of PSP.

xiii. **Alternative Studies:**

The location of upper reservoir and lower reservoir is fixed as per the topography and storage requirement. Primarily three alternatives have been studied considering type of powerhouse i.e. underground and surface and approach channel or surge shaft fixing the locations of upper and lower reservoirs.

Alternate-1: This alternative comprises of 1400 m long approach channel feeding four intakes and four pressure shaft which includes 3 nos. of 6.50m dia. & 570 m long feeding three units of 300 MW and one pressure shaft 6.50 m dia. 460 m long bifurcating into two 4.6m dia. & 110 m long unit pressure shaft feeding two units of 150MW respectively. The powerhouse is underground housing 3 units of 300MW & 2 units of 150MW reversible Francis turbine. The steel lined unit TRT of 8.5 m dia. proposed for each unit of 300 MW and 6 m unit TRT for 150 MW units. 4 nos. TRT are proposed 8.5 m dia. concrete lined and 315 m long. Four outlet structures are proposed at lower reservoir. The L/H ratio would be 7.82. The tentative cost would be Rs 5900 crores, the highest of all alternatives. This alternate is riddled with the disadvantage of maximum WCS cost besides more forest land requirement (450ha).

Alternate-2: This alternative comprises of 1118 m long approach channel feeding four intakes and four pressure shaft which includes 4 nos. of 6.5m dia. & 808 m long feeding three units of 300 MW and one bifurcating into 2 nos. 4.6m dia. pressure shaft feeding 2 units of 150 MW. The powerhouse is surface pit housing 3 units of 300MW & 2 units of 150MW reversible Francis turbine. The steel lined unit TRT of 8.5m dia. 50 m length proposed for each unit of 300 MW and 6.0 m unit TRT for 150 MW units. 4 nos. TRT are proposed 8.5 m dia. concrete lined and 315 m long. Four outlet structures are proposed at lower reservoir. The L/H ratio would be 6.27. The tentative cost would be Rs 5690.85 crores, the least of all alternatives. It has the advantage of second least forest land requirement (438.60 ha).

Alternate-3: This alternative comprises four intakes and four 660m long concrete duct and 467m tunnel connecting with two no. of 20m dia. surge shaft. Four intakes and four pressure shafts which includes 4 nos. of 6.50 m dia. & 855 m long feeding three units of 300 MW and one bifurcating into 2 nos. 4.6m dia. pressure shaft feeding 2 units of 150 MW. The powerhouse is surface pit housing 3 units of 300MW & 2 units of 150MW reversible Francis turbine. The steel lined unit TRT of 8.5m dia. 50 m length proposed for each unit of 300 MW and 6.0 m unit TRT for 150 MW units. 4 nos. TRT are proposed 8.5 m dia. concrete lined and 315 m long. Four outlet structures are proposed at lower reservoir. The L/H ratio would be 7.71. The tentative cost would be Rs 5780 crores. It has the disadvantage of the second highest WCS cost and second highest L/H ratio but has the advantage of lesser forest land requirement due to underground pressure shaft. This alternate has the disadvantage of the dense habitation near Upper Reservoir and R&R Issues.

Based on the below comparison, Alternate-2 is found to be most feasible and hence considered for further studies. The selected Upper Reservoir site lies on a nearly flat land near Cherue with favourable topography for storage creation. The Lower Reservoir is located on the minor nallah, near Laua, in a naturally enclosed valley suitable for dam construction with some excavation on sides.

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

· Project details:

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| Name of the Proposal | Cherue PSP (1200 MW), District Sonbhadra Uttar Pradesh Proposal No.: IA/UP/RIV/566922/2026 File No. J-12011/09/2026-IA. I(R) |
| Location (Including coordinates) | Upper Dam: Village Cherue, Tehsil- Robertsganj, District Sonbhadra, Uttar Pradesh Lower Dam: Village Laua, Tehsil- Robertsganj, District Sonbhadra, Uttar Pradesh Coordinates: Upper Reservoir: 24°32'56.15" N; 83°09'38.16"E Lower Reservoir: 24°34'17.09" N; 83°09'9.56"E |
| Inter- state issue involved | NO |
| Seismic zone | Zone -IV |

· Category details:

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| Category of the project | A |
| Provisions | Project activity covered at S.N.1(c)(i)(c) Standalone Pumped Storage Project |
| Capacity / Cultural command area (CCA) | 1200 MW/7200 MWH pumped storage component with 6.00 hours storage capacity for peak power generation and 7.40 hours pumping operation for backfilling of upper reservoir of PSP. |
| Attracts the General Conditions (Yes/No) | Yes. Kaimur WLS(UP) and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. |
| Additional information (if any) | Yes. Kaimur WLS(UP) and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. |

· Electricity generation capacity:

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| Powerhouse Installed Capacity | 1200 MW |
| Generation of Electricity Annually | 2496.6 MU |
| No. of Units | 3x300MW+2x150MW |

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| Additional information (if any) | The project with installed capacity of 1200 MW (3x300MW+2x150MW) by utilizing a design discharge of 785.44 cumec rated net head of 174m for 6.00-hour daily peaking cycle will annually generate 2496.6 MU. The PSP will utilize 1368 MW to pump 636.27 cumec from lower reservoir to the upper reservoir in 7.40 hours. The annual pumping energy required shall be 3173.60 MU. The cycle efficiency of the PSP works out to be about 78%. |
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· ToR/EC Details:

| Cost of project | Rs 5690.85 Crores. | | | | | | | | | | | | | | | | | | | | | |
|---|---|--------------------|--------------------|-----------------|-----|----|----|---------|-----|------|---------|-----|-----|-----------|------|------|-----------|-----|------|-------------|-----|-----|
| Total area of Project | 569.00 ha | | | | | | | | | | | | | | | | | | | | | |
| Height of Dam from River Bed (EL) | Upper Dam-41.00 m; Lower Dam-36 m | | | | | | | | | | | | | | | | | | | | | |
| Length of Tunnel/Channel | Length: 4567 m comprising of following components: (i) Main Pressure shaft: 3157m; Unit: 150m (ii) Main TRT: 1260m (4X315m) | | | | | | | | | | | | | | | | | | | | | |
| Details of Submergence area | Total Submergence area- 290 ha (Forest land: 225 ha, Non-Forest land :65ha) | | | | | | | | | | | | | | | | | | | | | |
| Types of Waste and quantity of generation during construction/ Operation | <table border="1"> <thead> <tr> <th>Waste Type</th> <th>Construction (TPA)</th> <th>Operation (TPA)</th> </tr> </thead> <tbody> <tr> <td>MSW</td> <td>20</td> <td>11</td> </tr> <tr> <td>Plastic</td> <td>5.0</td> <td>0.50</td> </tr> <tr> <td>E-waste</td> <td>1.0</td> <td>0.1</td> </tr> <tr> <td>Burnt oil</td> <td>10.0</td> <td>1.00</td> </tr> <tr> <td>Batteries</td> <td>3.0</td> <td>0.50</td> </tr> <tr> <td>Bio-medical</td> <td>2.0</td> <td>0.0</td> </tr> </tbody> </table> | Waste Type | Construction (TPA) | Operation (TPA) | MSW | 20 | 11 | Plastic | 5.0 | 0.50 | E-waste | 1.0 | 0.1 | Burnt oil | 10.0 | 1.00 | Batteries | 3.0 | 0.50 | Bio-medical | 2.0 | 0.0 |
| | Waste Type | Construction (TPA) | Operation (TPA) | | | | | | | | | | | | | | | | | | | |
| | MSW | 20 | 11 | | | | | | | | | | | | | | | | | | | |
| | Plastic | 5.0 | 0.50 | | | | | | | | | | | | | | | | | | | |
| | E-waste | 1.0 | 0.1 | | | | | | | | | | | | | | | | | | | |
| | Burnt oil | 10.0 | 1.00 | | | | | | | | | | | | | | | | | | | |
| | Batteries | 3.0 | 0.50 | | | | | | | | | | | | | | | | | | | |
| Bio-medical | 2.0 | 0.0 | | | | | | | | | | | | | | | | | | | | |
| E-Flows for the Project | | | | | | | | | | | | | | | | | | | | | | |
| Is Projects earlier studies in Cumulative Impact assessment & Carrying Capacity studies (CIA&CC) for River in which project located. If yes, then a) E-flow with TOR /Recommendation by EAC as per CIA&CC study of River Basin. b) If not the E-Flows maintain criteria for sustaining river ecosystem. | No Not applicable Not applicable in case of PSP | | | | | | | | | | | | | | | | | | | | | |
| No. of trees/saplings proposed in view | 200 | | | | | | | | | | | | | | | | | | | | | |

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| of 'Ek Ped Maa Ke Naam' campaign | | |
| · Muck Management Details: | | |
| No. of proposed disposal area/ (type of land-Forest/Pvt. land) | Muck Disposal Sites-2 Nos Area and Type of land -31 ha(non-forest) | |
| Muck Management Plan | The muck shall be laid with vertical angle not exceeding 280 in such a manner that rock mass is properly stacked behind the gabion wall/revetment with minimum of voids. The muck pile shall be later covered with geo-Geocoir textile and rehabilitated by afforestation of herbs and shrubs. Detailed Muck Management Plan shall be formulated during EIA study. | |
| Monitoring mechanism for Muck Disposal | The project authorities shall erect a barrier to regulate the traffic flow to and from the muck piles site. Proper e-challan shall be issued. | |
| · Land Area Breakup: | | |
| Private Land | 35.00 ha | |
| Government land/Forest Land | 95.40ha | |
| Patta Land | 438.60 ha | |
| Total Land | 569.00 ha | |
| Submergence area/Reservoir area | 290.00 ha | |
| Additional information (if any) | Land for transmission line for power evacuation (RoW) is not included. | |
| · Presence of Environmentally Sensitive areas in the study area: | | |
| Forest Land/ Protected Area/ Environmental Sensitivity Zone | Yes/No | Details of Certificate / letter/Remarks |
| Reserve Forest/Protected Forest Land | Yes | Open mixed Jungle in the project area |
| National Park | No | None within 10km |
| Wildlife Sanctuary | Yes | Kaimur WLS and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. ESZ notified vide S.O, 891(E), dated 20.3.2017. |
| · Court case details: Nil | | |
| · Status of other statutory clearances: | | |
| Particulars | Letter no. and date | |

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| Certified EC compliance report (if applicable) | It's newly proposed PSP |
| Status of Stage-I FC Additional detail (If any) | Application for diversion of forest land shall be moved |
| Is FRA (2006) done for FC-I | |
| Miscellaneous: | |
| Particulars | Details |
| Details of consultant | EQMS India Private Limited 305, 3rd Floor, Plot No. 16, Rishabh Corporate Tower, Community Centre, Karkardooma, Delhi - 110092 Phone: 011-43062757; NABET/EIA/25-28/RA0465, v alid up to 23.11.2028.) |
| Project Benefits | The benefits inter alia shall include the benefits like (i) Average annual generation of 2496.6 MU of energy; (ii) Increased vegetal cover due to implementing of CAT Plan and Green Belt Development Plans (iii) Employment Potential during construction (600 labour); (i v) Overall development of area by implementing CSR initiatives and Watershed Development Plans. |
| Status of other statutory clearances | The mandatory statutory clearance like approval of power potential studies from CEA, site specific earthquake design parameters to be approved by NCSDP, Geological report approval from GSI, DPR approval from CWC and CEA; Forest clearance for diversion of forest land, are yet to be sought. |
| R&R details | R&R details shall be finalised later. |
| Additional detail (If any) | None |

3.1.3. Deliberations by the committee in previous meetings

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| N/A |
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3.1.4. Deliberations by the EAC in current meetings

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| <p>The EAC during deliberations noted the following:</p> <ul style="list-style-type: none"> The Expert Appraisal Committee (EAC) deliberated on the information submitted (Form 1, PFR, kml file, etc.) and as presented in the meeting and observed that the proposal is for grant of TOR for conducting EIA/EMP and Public hearing for Cherue Close loop Pumped Storage Project (1200 MW) in an area of 569 Ha located at Village Dighia, Bahera, Dharan and etc., Sub District Robertsganj, District Sonbhadra, Uttar Pradesh by M/s Adani Hydro Energy Six Limited. |
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- The project/activity falls under Category A of item 1(c), 'River Valley Projects,' as per the Schedule of the Environmental Impact Assessment Notification, 2006, and requires appraisal at the Central level by the sectoral EAC in the Ministry.
- During the deliberations the committee noted that the proposed Upper Reservoir and Lower Reservoir, both located on non-perennial nallah, with negligible natural inflow as informed by the PP during the meeting. Since both the reservoirs are located on non-perennial nallah, the committee opined that the project shall be categorized as an open-loop project rather than a closed-loop PSP.
- The EAC further observed that non-perennial streams/nallahs are important for maintaining local ecological balance, as they support unique biological communities and provide habitat during dry periods. They are hotspots for biodiversity and vital for maintaining ecosystem services. Accordingly, the EAC advised PP to prepare suitable action plan for sustenance of the natural nallahs/streams after having detailed analysis of catchment yield and requirement of water for maintaining ecosystem services.
- The EAC noted that the total land requirement for the proposed PSP is estimated to be around 569 ha, out of which 130.40 ha is non-forest land and 438.60 ha is forest land. Diversion of forest land for non-forest purpose will be involved for construction of project components. However, it was observed that the application for Stage-I Forest Clearance (FC) has not yet been submitted, which necessitates further action from the Project Proponent. Water requirement for initial filling of two newly proposed reservoirs works to be about 900kld (Construction-845 kld; Domestic-55kld) and during operation shall be 25kld, which shall be drawn from Sone River.
- The EAC during the meeting observed that the proposed project is located at a distance of approximately 1.41 km from Kaimur WLS (UP) and its ESZ is located about 0.57 km from the nearest project boundary.
- The EAC observed that Memorandum of Understanding was signed between M/s Adani Green Energy Limited and Govt. of Uttar Pradesh on 01st day of July 2025, for establishment of proposed Cherue Pumped Storage Project (1200 MW).

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Terms of Reference

3.1.6.1. Specific

| Miscellaneous: | |
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| 1. | Both capital and recurring expenditure under EMP shall be submitted. |
| 2. | Pre-DPR Chapters viz., Hydrology, Layout Map and Power Potential Studies duly appraised by CWC/CEA shall be submitted. |
| 3. | 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. |

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| 4. | Drone video of project site shall be recorded and to be submitted. |
| 5. | Detailed plan to restore wider roads and convert them into narrow up to 10m after construction of the project. |
| 6. | Specific Terms of Reference (ToRs) issued by the Ministry vide Office Memorandum No. F. No. IA3-22/33/2022-IA.III dated 14.08.2023 for Pumped storage projects shall be used for preparation of EIA/ EMP reports. |
| 7. | As per Ministry's OM dated 1 st August, 2013, PP shall submit application to obtain prior approval of Central Government under the Forest Conservation Act, 1980 for diversion of forest land required for such projects will be submitted as soon as the actual extent of forest land required for the project is known to the project proponent, and in any case, within 6 months of issuance of ToR. However, no proposal will be put up before EAC without submission of application for forest clearance, wherever applicable. |
| Disaster Management: | |
| 1. | Impact of Project activities (specially blasting and drilling) on the aquatic and terrestrial ecosystem, within study area to be studied and be incorporated in EIA/EMP report. |
| 2. | The muck dumping sites shall be located with a distance of 100 mts from HFL. The PP shall submit the detailed action plan for transportation of muck along with monitoring mechanism of movement of muck carrying trucks. |
| Muck Management: | |
| 1. | Details of quantity of muck generation component wise, types of muck (Excavation in tunnels, pressure shaft and powerhouse etc.) and disposal site/ transportation to be provided. |
| 2. | Details of muck management such as dumping sites and its locations, transportation plan along with monitoring mechanism for muck transportation, detailing the road map of project construction site/ indicating the distances from HFL, river, project construction site along with types of road etc. |
| 3. | Safety measures for avoiding spill over muck into the riverbed/streams and its flow into the river during the high discharge/ flood or monsoon period. Prepare plan for stabilization of muck disposal sites using biological and engineering measures to ensure that muck does not roll down the slopes and shall be disposed safely and that it does not pollute the natural streams and water bodies in surrounding area. |
| 4. | Restoration plan for construction area including dumping site of excavated materials by levelling, filling up of burrow pits, landscaping etc. |
| Socio-economic Study: | |
| 1. | Declaration by the project proponent by way of affidavit that "No" Inter-state issue/ policy issue is involved with any State in the project. |
| 2. | All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. A comparative chart of issues raised |

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| | by General Public during Public Hearing and commitments made by the Project Proponent will be prepared and submitted in the relevant chapter of EIA/EMP report. |
| 3. | The EIA/EMP shall include a detailed socio-economic assessment of the tribal population in the project-affected area based on primary data and community consultations. A Tribal Development Plan, prepared in consultation with the District Administration and Tribal Welfare Department, shall be submitted along with the EIA report. |
| 4. | PP shall submit the credible documents to show the status of land acquisition w.r.t project site from/through the concerned State Government as required under Ministry's OM dated 7 th October, 2014 for the project land to be acquired. |
| 5. | Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land (if any) shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. Budget earmarked for R&R, CSR shall not be included in the cost of EMP. |
| Environmental Management and Biodiversity Conservation: | |
| 1. | PP shall obtain amendment in MoU signed between State Government and PP in view name change of PP from M/s Adani Green Energy Limited to M/s Adani Hydro Energy Six Limited of proposed PSP. |
| 2. | A detailed action plan for large scale plantation of native species of plant sapling within 10 km radius of the project shall be prepared in consultation with State Forest Department. The monitoring mechanism to ensure the survival of saplings shall be finalized in consultation with ICFRE. |
| 3. | The PP will submit 10 years water availability data certified by the CWC/State Water Resource Department for quantity of water that is received annually by the small stream on which lower reservoir is proposed to be constructed. |
| 4. | The PP will submit a detailed plan and monitoring mechanism for releasing the self - catchment water of small stream draining in to river along with action plan for conservation and protection of other streams/rivulets draining in to upper and lower reservoirs. |
| 5. | Explore the possibilities for reducing the Forest land requirement. The application for obtaining Stage I FC for 438.60 ha of forest land involved in the project shall be submitted within stipulated time. |
| 6. | Muck disposal site and other components such as Township, site office, Stacking area and batching plant shall be located outside the forest area. |
| 7. | Certificate and certified map from Chief Wildlife Warden shall be submitted mentioning that project boundary is not falling in any Ecological Sensitive Area, Wildlife Sanctuary/Tiger/elephant corridor/Critically polluted area within 10 km of Project site. |
| 8. | Transportation Plan for transporting construction materials shall be submitted. Separate chapter for risk assessment of such transportation through/within proposed the Wildlife Sanctuary shall be included in the EIA report, if any. |

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| 9. | Environmental Cost Benefit Analysis shall be done in terms of loss of Forest ecosystem due to diversion of Forest land/loss of biodiversity, water availability, water uses for generation of hydro power and Ecological flows. |
| 1 0. | The baseline data collection will cover the changes in biological and ecological profile of the region after monsoon with worst-case scenario study and critical mineral assessment. |
| 1 1. | Calculation and values of GHGs (CO ₂ , CH ₄ etc.) emissions during construction and during operation till the life of the project shall be estimated and submitted. |
| 1 2. | The longitudinal connectivity/Free flowing sketch be provided in the EIA/EMP report. |
| 1 3. | Quantitative values of Impact modelling of environmental parameters shall be submitted for during construction and operation. Also, mitigation measures shall be submitted in terms of construction and operation phase. |
| 1 4. | Conducting site-specific ecological study emphasizing on riverine ecology viz. fishes diversity, fish migration, habitat and aquatic biota due to construction PSP. Impact assessment on the fish diversity based on the hydrological alteration at the water drawing sources shall be studied. |
| 1 5. | Action plan for survival or diversion of the rivulets/stream, if any, leading to join river shall be submitted. |
| 1 6. | Impact zone decided prior to base line data generation and accordingly, sampling location shall be finalized. Baseline data as mentioned in Specific ToR shall be collected for preparation of EIA/ EMP report along with soil characteristics which shall be studied at minimum 10 locations. The ground water level at 10 locations shall be measured in project area in all three seasons. |
| 1 7. | A study shall be carried out on impact of project activity on the aquatic and terrestrial ecosystem, within project area classifying the impact zones (highly impact/low impact zone) based on seasonal variations and covering the aspects related to impacts on aquatic ecosystem/ primary productivity due to quantity of water to be lifted for power generation and thermal stratification. Accordingly, Environment Management plan shall be prepared. |
| 1 8. | Reservoir/ River banks protection plan all along the submergence need to be prepared and incorporated in EIA/ EMP. |
| 1 9. | Scope of watershed development in the 10 km radius of the project shall be studied in consultation with Indian Council of Agriculture Research (ICAR) Institutes/ Expert Govt. institutions and accordingly a detailed Water Shed Development Plan shall be prepared and incorporated in EIA/ EMP report. |
| 2 0. | Details of mineral zone, if any, in the study area, certified by Geological Survey of India or any other concerned Government Organization shall be submitted. The project area should not come up on any critical mineral zone, the same shall to be verified by GSI/NMDC. |
| 2 1. | Any archaeological sites in the vicinity of the project, if any, then it shall be certified by ASI. |
| 2 2. | Combined Impact of projects proposed in the basin on carrying capacity and sustainability of Reservoir/ River /nala of catchment area due to tapping of water for filling reservoir shall be studied. |

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| 2 | The EAC site visit shall be conducted before considering the proposal for grant of Environmental Clearance. |
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3.1.6.2. Standard

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| 1(c) | River Valley/Irrigation projects |
| Scope of EIA Study | |
| 1. | The EIA Report should identify the relevant environmental concerns and focus on potential impacts that may change due to the construction of proposed project. Based on the baseline data collected for three (3) seasons (Pre-monsoon, Monsoon and Winter seasons), the status of the existing environment in the area and capacity to bear the impact on this should be analysed. Based on this analysis, the mitigation measures for minimizing the impact shall be suggested in the EIA/EMP study. |
| Details of the Project and Site | |
| 1. | General introduction about the proposed project. |
| 2. | Details of Project and site giving L-Sections of all U/S and D/S Projects with all relevant maps and figures. Connect such information as to establish the total length of interference of Natural River and the committed unrestricted release from the site of Dam/Barrage into the main river. |
| 3. | A map of boundary of the project site giving details of protected areas in the vicinity of 25 km of project location. |
| 4. | Location details on a map of the project area with contours indicating main project features. The project layout shall be superimposed on a contour map of ground elevation showing main project features (viz. location of dam, Head works, main canal, branch canals, quarrying etc.) shall be depicted in a scaled map. |
| 5. | Layout details and map of the project along with contours with project components clearly marked with proper scale maps of at least 1:50,000 scale and printed at least on A3 scale for clarity. |
| 6. | Existence of National Park, Sanctuary, Biosphere Reserve etc. in the study area, if any, should be detailed and presented on a map with distinct distances from the project components. |
| 7. | Drainage pattern and map of the river catchment up to the proposed project site. |
| 8. | Delineation of critically degraded areas in the directly draining catchment on the basis of Silt Yield Index as per the methodology of Soil and Land use Survey of India. |
| 9. | Soil characteristics and map of the project area. |
| 10. | Geological and Seismo-tectonic details and maps of the area surrounding the proposed project site showing location of dam site and canal sites. |
| 11. | Remote Sensing studies, interpretation of satellite imagery, topographic sheets along with ground verification shall be used to develop the land use/land cover pattern of the study using overlaying mapping techniques viz. Geographic Information System (GIS), False Color Composite (FCC) generated from satellite data of project area. |

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| 1 2. | Land details including forests, private and other land. |
| 1 3. | Demarcation of snow fed and rain fed areas for a realistic estimate of the water availability. |
| 1 4. | Different riverine habitats like rapids, pools, side pools and variations in the river substratum bedrocks, rocks, boulders, sand/silt or clay etc. need to be covered under the study |
| Description of Environment and Baseline Data | |
| 1. | To know the present status of environment in the area, baseline data with respect to environmental components air, water, noise, soil, land and biology & biodiversity (flora & fauna), wildlife, socioeconomic status etc. should be collected within 10 km radius of the main components of the project/site i.e. dam site and power house site. The air quality and noise are to be monitored at such locations which are environmentally & ecologically more sensitive in the study area. The baseline studies should be collected for 1 season (Preferably Monsoon season). Flora-Fauna in the catchment and command area should be documented. The study area should comprise of the following: |
| 2. | (i) Catchment area up to the dam/barrage site. |
| 3. | (ii) Submergence Area. |
| 4. | (iii) Project area or the direct impact area should comprise of area within 10 km radius of the main project components like dam, canals etc. |
| 5. | (iv) Downstream upto 10 km from the tip of the reservoir. |
| Details of the Methology | |
| 1. | The methodology followed for collection of base line data along with details of number of samples and their locations in the map should be included. Study area should be demarcated properly on the appropriate scale map. Sampling sites should be depicted on map for each parameter with proper legends. For Forest Classification, Champion and Seth (1968) methodology should be followed. |
| Methodology for Collection of Biodiversity Data | |
| 1. | The number of sampling locations should be adequate to get a reasonable idea of the diversity and other attributes of flora and fauna. The guiding principles should be the size of the study area (larger area should have larger number of sampling locations) and inherent diversity at the location, as known from secondary sources (e.g. eastern Himalayan and low altitude sites should have a larger number of sampling locations owing to higher diversity). |
| 2. | The entire area should be divided in grids of 5kmX5km preferably on a GIS domain. There after 25% of the grids should be randomly selected for sampling of which half should be in the directly affected area (grids including project components such as reservoir, dam, powerhouse, tunnel, canal etc.) and the remaining in the rest of the area (areas of influence in 10 km radius form project components). At such chosen location, the size and number of sampling units (e.g. quadrates in case of flora/transects in case of fauna) must be decided by species area curves and the details of the same (graphs and cumulative number of species in a tabulated form) should be provided in the EIA report. Some of the grids on the edges may not be completely overlapping with the study area boundaries. However, these should be counted and considered for selecting 25% of the grids. The number of grids to be surveyed may come out as a decimal number (i.e. it has an integral and a fractional part) which should be rounded to the next whole number. |

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| 3. | <p>The conventional sampling is likely to miss the presence of rare, endangered and threatened (r.e.t.) species since they often occur in low densities and in case of faunal species are usually secretive in behaviour. Reaching the conclusion about the absence of such species in the study area based on such methodology is misleading. It is very important to document the status of such species owing to their high conservation value. Hence likely presence of such species should be ascertained from secondary sources by a proper literature survey for the said area including referring to field guides which are now available for many taxonomic groups in India. Even literature from studies/surveys in the larger landscapes which include the study area for the concerned project must be referred to, since most species from adjoining catchments is likely to be present in the catchments in question. In fact such literature form the entire state can be referred to. Once a listing of possible r.e.t. species form the said area is developed, species specific methodologies should be adopted to ascertain their presence in the study area which would be far more conclusive as compared to the conventional sampling. If the need be, modern methods like camera trapping can be resorted to, particularly for areas in the eastern Himalayas and for secretive/nocturnal species. A detailed listing of the literature referred to, for developing lists of r.e.t. species should be provided in the EIA reports.</p> |
| 4. | <p>The R.E.T. species referred to in this point should include species listed in Schedule I and II of Wildlife (Protection) Act, 1972 and those listed in the red data books (BSI, ZSI and IUCN).</p> |
| <p>Components of the EIA Study: Various aspects to be studied and provided in the EIA/EMP report are as follows:</p> | |
| 1. | null |
| 2. | null |
| 3. | Physical geography, Topography, Regional Geological aspects and structure of the Catchment. |
| 4. | Tectonics, seismicity and history of past earthquakes in the area. A site specific study of the earthquake parameters will be done. The results of the site specific earthquake design shall be sent for approval of the NCSDP (National Committee of Seismic Design Parameters, Central water Commission, New Delhi for large dams. |
| 5. | Landslide zone or area prone to landslide existing in the study area should be examined. |
| 6. | Presence of important economic mineral deposit, if any. |
| 7. | Justification for location & execution of the project in relation to structural components (dam /barrage height). |

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| 8. | Impact of project on geological environment. |
| 9. | null |
| 10. | Meteorology (viz. Temperature, Relative humidity, wind speed/direction etc.) to be collected from nearest IMD station. |
| 11. | Ambient Air Quality with parameters viz. Suspended Particulate Matter (SPM), Respirable Suspended Particulate Matter (RSPM) i.e. suspended particulate materials < 10 microns, Sulphur dioxide (SO ₂) and Oxides of Nitrogen (NO _x) in the study area at 5-6 Locations. |
| 12. | Existing Noise Levels and traffic density in the study area at 5-6 Locations. |
| 13. | null |
| 14. | Soil classification, physical parameters (viz., texture, Porosity, Bulk Density and water holding capacity) and chemical parameters (viz. pH, electrical conductivity, magnesium, calcium, total alkalinity, chlorides, sodium, potassium, organic carbon, available potassium, available phosphorus, SAR, nitrogen and salinity, etc.) at @ one sample/ha of command area. |
| 15. | null |
| 16. | (i) Generation of thematic maps viz. slope map, drainage map, soil map, land use and land cover map, etc. Based on these, thematic maps, an erosion intensity map should be prepared. |
| 17. | null |
| 18. | History of the ground water table fluctuation in the study area. |
| 19. | Water quality for both surface water and ground water for (i) Physical parameters (pH, temperature, electrical conductivity, TSS); (ii) Chemical parameters (Alkalinity, Hardness, BOD, COD, NO ₂ , PO ₄ , Cl, SO ₄ , Na, K, Ca, Mg, Silica, Oil & Grease, phenolic compounds, residual sodium carbonate); (iii) Bacteriological parameter (MPN, Total coliform) and (iv) Heavy Metals (Pb, As, Hg, Cd, Cr-6, total Cr, Cu, Zn, Fe) (6 locations). |
| 20. | Delineation of sub and micro-watersheds, their locations and extent based on the All India Soil and Land Use Survey of India (AISLUS), Department of Agriculture, Government of India. Erosion levels in each micro-watershed and prioritization of micro-watershed through silt yield index (SYI) method of AISLUS |
| 21. | Hydro-Meteorology of the project viz. precipitation (snowfall, rainfall), temperature, relative humidity, etc. Hydro-meteorological studies in the catchment area should be established along-with real time telemetry and data acquisition system for inflows monitoring. |
| 22. | Run off, discharge, water availability for the project, sedimentation rate, etc. |
| 23. | Basin characteristics |

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| 2 4. | Catastrophic events like cloud bursts and flash floods, if any, should be documented. |
| 2 5. | For estimation of Sedimentation Rate, direct sampling of river flow is to be done during the EIA study. The study should be conducted for minimum one year. Actual silt flow rate to be expressed in ha-m km ² year ⁻¹ . |
| 2 6. | Set up a G&D monitoring station and a few rain gauge stations in the catchment area for collecting data during the investigation. |
| 2 7. | Flow series, 10 daily with 90%, 75% and 50% dependable years discharges. |
| 2 8. | Information on the 10-daily flow basis for the 90 per cent dependable year the flow intercepted at the dam, the flow diverted to the power house and the spill comprising the environmental flow and additional flow towards downstream of the dam for the project may be given. |
| 2 9. | The minimum environmental flow shall be 20% of the flow of four consecutive lean months of 90% dependable year, 30% of the average monsoon flow. The flow for remaining months shall be in between 20-30%, depending on the site specific requirements. A site specific study shall be carried out by an expert organization. |
| 3 0. | Sedimentation data available with CWC may be used to find out the loss in storage over the years. |
| 3 1. | Hydrological studies/data as approved by CWC shall be utilized in the preparation of EIA/EMP report. Actual hydrological annual yield may also be given in the report. Sedimentation data available with CWC may be used to find out the loss in storage over the years. |
| 3 2. | A minimum of 1 km distance from the tip of the reservoir to the tail race tunnel should be maintained between upstream and downstream projects. |
| 3 3. | Besides primary studies, review of secondary data/literature published for project area on flora & fauna including RET species shall be reported in EIA/EMP report. |
| 3 4. | null |
| 3 5. | Characterization of forest types (as per Champion and Seth method) in the study area and extent of each forest type as per the Forest Working Plan. |
| 3 6. | Documentation of all plant species i.e. Angiosperm, Gymnosperm, Pteridophytes, Bryophytes (all groups). |
| 3 7. | General vegetation profile and floral diversity covering all groups of flora including lichens and orchids. A species wise list may be provided. |
| 3 8. | Assessment of plant species with respect to dominance, density, frequency, abundance, diversity index, similarity index, importance value index (IVI) , Shannon Weiner index etc. of the species to be provided. Methodology used for calculating various diversity indices along with details of locations of quadrates, size of quadrates etc. to be reported within the study area in different ecosystems. |
| 3 9. | Existence of National park, Sanctuary, Biosphere Reserve etc in the study area, if any, should be detailed. |

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| 4 0. | Economically important species like medicinal plants, timber, fuel wood etc. |
| 4 1. | Details of endemic species found in the project area. |
| 4 2. | Flora under RET categories should be documented using International Union for the Conservation of Nature and Natural Resources (IUCN) criteria and Botanical Survey of India's Red Data list along-with economic significance. Species diversity curve for RET species should be given. |
| 4 3. | Cropping pattern and Horticultural Practices in the study area. |
| 4 4. | null |
| 4 5. | Fauna study and inventorisation should be carried out for all groups of animals in the study area. Their present status alongwith Schedule of the species. |
| 4 6. | Documentation of fauna plankton (phyto and zooplankton), periphyton, benthos and fish should be done and analysed. |
| 4 7. | Information (authenticated) on Avi-fauna and wildlife in the study area. |
| 4 8. | Status of avifauna their resident/ migratory/ passage migrants etc. |
| 4 9. | Documentation of butterflies, if any, found in the area. |
| 5 0. | Details of endemic species found in the project area. |
| 5 1. | RET species-voucher specimens should be collected along-with GPS readings to facilitate rehabilitation. RET faunal species to be classified as per IUCN Red Data list and as per different schedule of Indian Wildlife (Protection) Act, 1972. |
| 5 2. | Existence of barriers and corridors, if any, for wild animals. |
| 5 3. | Compensatory afforestation to compensate the green belt area that will be removed, if any, as part of the proposed project development and loss of biodiversity. |
| 5 4. | Collection of primary data on agricultural activity, crop and their productivity and irrigation facilities components. |
| 5 5. | For categorization of sub-catchment into various erosion classes and for the consequent CAT plan, the entire catchment (Indian Portion) is to be considered and not only the directly the draining catchment. |
| 5 6. | Documentation of aquatic fauna like macro-invertebrates, zooplankton, phytoplanktons, benthos etc. |

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| 5 7. | Fish and fisheries, their migration and breeding grounds. |
| 5 8. | Fish diversity composition and maximum length & weight of the measured populations to be studied for estimation of environmental flow. |
| 5 9. | Conservation status of aquatic fauna. |
| 6 0. | Sampling for aquatic ecology and fisheries and fisheries must be conducted during three seasons Pre-monsoon (summer), monsoon and winter. Sizes (length & weight) of important fish species need to be collected and breeding and feeding grounds should also be identified along the project site or in vicinity. |
| 6 1. | Collection of baseline data on human settlements, health status of the community and existing infrastructure facilities for social welfare including sources of livelihood, job opportunities and safety and security of workers and surroundings population. |
| 6 2. | Collection of information with respect to social awareness about the developmental activity in the area and social welfare measures existing and proposed by project proponent. |
| 6 3. | Collection of information on sensitive habitat of historical, cultural and religious and ecological importance. |
| 6 4. | The socio-economic survey/ profile within 10 km of the study area for demographic profile; Economic Structure; Developmental Profile; Agricultural Practices; Infrastructure, education facilities; health and sanitation facilities; available communication network etc. |
| 6 5. | Documentation of demographic, Ethnographic, Economic Structure and development profile of the area. |
| 6 6. | Information on Agricultural Practices, Cultural and aesthetic sites, Infrastructure facilities etc. |
| 6 7. | Information on the dependence of the local people on minor forest produce and their cattle grazing rights in the forest land. |
| 6 8. | List of all the Project Affected Families with their name, age, educational qualification, family size, sex, religion, caste, sources of income, land & house holdings, other properties, occupation, source of income, house/land to be acquired for the project and house/land left with the family, any other property, possession of cattle, type of house etc. |
| 6 9. | Special attention has to be given to vulnerable groups like women, aged persons etc. and to any ethnic/indigenous groups that are getting affected by the project. |

Impact Prediction and Mitigation Measures

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| 1. | The adverse impact due to the proposed project should be assessed and effective mitigation steps to abate these impacts should be described. |
| 2. | Changes in ambient and ground level concentrations due to total emissions from point, line and area sources. |
| 3. | Effect on soil, material, vegetation and human health. |

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| 4. | Impact of emissions from DG set used for power during the construction, if any, on air environment. |
| 5. | Pollution due to fuel combustion in equipments and vehicles |
| 6. | Fugitive emissions from various sources |
| 7. | Changes in surface and ground water quality |
| 8. | Steps to develop pisci-culture and recreational facilities |
| 9. | Changes in hydraulic regime and downstream flow. |
| 10. | Water pollution due to disposal of sewage |
| 11. | Water pollution from labour colonies/ camps and washing equipment. |
| 12. | Adverse impact on land stability, catchment of soil erosion, reservoir sedimentation and spring flow (if any) (a) due to considerable road construction / widening activity (b) interference of reservoir with the inflowing stream (c) blasting for commissioning of HRT, TRT and some other structures. |
| 13. | Changes in land use / land cover and drainage pattern |
| 14. | Immigration of labour population |
| 15. | Quarrying operation and muck disposal |
| 16. | Changes in land quality including effects of waste disposal |
| 17. | River bank and their stability |
| 18. | Impact due to submergence. |
| 19. | Impact on forests, flora, fauna including wildlife, migratory avi-fauna, rare and endangered species, medicinal plants etc. |
| 20. | Pressure on existing natural resources |
| 21. | Deforestation and disturbance to wildlife, habitat fragmentation and wild animal's migratory corridors |
| 22. | Compensatory afforestation-identification of suitable native tree species for compensatory afforestation and green belt. |
| 2 | Impact on fish migration and habitat degradation due to decreased flow of water |

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| 3. | |
| 2 4. | Impact on breeding and nesting grounds of animals and fish. |
| 2 5. | Impact on local community including demographic profile. |
| 2 6. | Impact on socio-economic status |
| 2 7. | Impact on economic status. |
| 2 8. | Impact on human health due to water / vector borne disease |
| 2 9. | Impact on increase traffic |
| 3 0. | Impact on Holy Places and Tourism |
| 3 1. | Impacts of blasting activity during project construction which generally destabilize the land mass and leads to landslides, damage to properties and drying up of natural springs and cause noise population will be studies. Proper record shall be maintained of the baseline information in the post project period. |
| 3 2. | Positive and negative impacts likely to be accrued due to the project are listed. |
| Environmental Management Plan | |
| 1. | null |
| 2. | Biodiversity and Wildlife Conservation and Management Plan for the conservation and preservation of rare, endangered or endemic floral/faunal species or some National Park/Sanctuary/ Biosphere Reserve or other protected area is going to get affected directly or indirectly by construction of the project, then suitable conservation measures should be prepared in consultation with the State Forest Department and with the physical and financial details. Suitable conservation techniques (in-situ/ ex-situ) will be proposed under the plan and the areas where such conservation is proposed will be marked on a project layout map. |
| 3. | Compensatory Afforestation shall be prepared by the State Forest Department in lieu of the forest land proposed to be diverted for construction of the project as per the Forest (Conservation) Act, 1980. Choice of plants for afforestation should include native and RET species, if any. This will be a part of the forest clearance proposal. |
| 4. | Fisheries Conservation and Management Plan - a specific fisheries management measures should be prepared for river and reservoir. If the construction of fish ladder/ fish-way etc. is not feasible then measures for reservoir fisheries will be proposed. The plan will detail out the number of hatcheries, nurseries, rearing ponds etc. proposed under the plan with proper drawings. If any migratory fish species is getting affected then the migratory routes, time/season of upstream and downstream migration, spawning grounds etc will be discussed in details. |

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| 5. | Green Belt Development Plan along the periphery of the reservoir, approach roads around the colonies and other project components, local plant species must be suggested with physical and financial details. A layout map showing the proposed sites for developing the green belt should be prepared. |
| 6. | Environmental Monitoring Programme to monitor the mitigatory measures implemented at the project site is required will be prepared. Provision for Environment Management Cell should be made. The plan will spell out the aspects required to be monitored, monitoring indicators/parameters with respect to each aspect and the agency responsible for the monitoring of that particular aspect throughout the project implementation. |
| 7. | Catchment Area Treatment (CAT) Plan should be prepared micro-watershed wise. Identification of free draining/ directly draining catchment based upon Remote Sensing and Geographical Information System (GIS) methodology and Sediment Yield Index (SYI) method of AISLUS, Deptt. of Agriculture, Govt. of India coupled with ground survey. Areas or watersheds falling under 'very severe' and 'severe' erosion categories should be provided and required to be treated. Both biological as well as engineering measures should be proposed in consultation with State Forest Department for areas requiring treatment. Year-wise schedule of work and monetary allocation should be provided. Mitigation measures to check shifting cultivation in the catchment area with provision for alternative and better agricultural practices should be included. |
| 8. | Study of Design Earthquake Parameters: A site specific study of earthquake parameters should be done. Results of the site specific earthquake design parameters should be approved by National Committee of Seismic Design Parameters, Central Water Commission (NCSDP), New Delhi. |
| 9. | Dam Break Analysis and Disaster Management Plan The outputs of dam break model should be illustrated with appropriate graphs and maps clearly bringing out the impact of Dam Break scenario. To identify inundation areas, population and structures likely to be affected due to catastrophic floods in the event of dam failure. DMP will be prepared with the help of Dam Break Analysis. Maximum water level that would be attained at various points on the downstream in case of dam break will be marked on a detailed contour map of the downstream area, to show the extent of inundation. The action plan will include Emergency Action and Management plan including measures like preventive action notification, warning procedure and action plan for co-ordination with various authorities. |
| 10. | Reservoir Rim Treatment Plan for stabilization of land slide / land slip zones, if any, around the reservoir periphery is to be prepared based on detailed survey of geology of the reservoir rim area. Suitable engineering and biological measures for treatment of identified slip zones to be suggested with physical and financial schedule. Layout map showing the landslide/landslip zones shall be prepared and appended in the chapter. |
| 11. | Muck Disposal Plan- suitable sites for dumping of excavated material should be identified in consultation with the State Pollution Control Board and Forest Department. All Muck disposal sites should be minimum 30 m away from the HFL of river. Plan for rehabilitation of muck disposal sites should also be given. The L- section/ cross section of muck disposal sites and approach roads to be given. Financial out lay for this may be given separately. Detailed muck transportation plan delineating the path ways, number of trucks, quantity of muck to be transported along with monitoring mechanism using latest technology, shall be prepared. |
| 12. | Restoration Plan for Quarry Sites and landscaping of colony areas, working areas, roads etc. Details of the coarse/fine aggregate/clay etc. required for construction of the project and the rock/clay quarries/river shoal sites identified for the project should be discussed along-with the Engineering and Biological measures proposed for their restoration with physical and financial details. Layout map showing quarry sites vis-à-vis other project components, should be prepared. |
| 13. | Resettlement and Rehabilitation Plan needed to be prepared on the basis of findings of the socio-economic survey coupled with the outcome of public consultation held. The R&R package shall be |

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| | prepared after consultation with the representatives of the project affected families and the State Government. Detailed budgetary estimates are to be provided. Resettlements site should be identified. The plan will also incorporate community development strategies. |
| 1 4. | Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the need of the labour force and local populace. |
| 1 5. | Local Area Development Plan to be formulated in consultation with the Revenue Officials and Village Panchayats. Appropriate schemes shall be prepared under EMP for the Local Area Development Plan with sufficient financial provisions. |
| 1 6. | Labour Management Plan for their Health and Safety. |
| 1 7. | Sanitation and Solid waste management plan for domestic waste from colonies and labour camps etc. |
| 1 8. | Energy Conservation Measures for the work force during construction with physical and financial details. Alternatives will be proposed for the labour force so that the exploitation of the natural resource (wood) for the domestic and commercial use is curbed. |
| 1 9. | Environmental safeguards during construction activities including Road Construction. |
| 2 0. | A summary of Cost Estimates for all the plans, cost for implementing all the Environmental Management Plans. |
| 2 1. | Water, Air and Noise Management Plans to be implemented during construction and post-construction periods. |

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

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| Proposed Project for Kurha-Vadhoda Islampur Lift Irrigation Scheme, UPSC Sinchan Yojna with CCA 323 72 Ha by M/S TAPI IRRIGATION DEVELOPMENT CORPORATION, JALGAON located at JALGAON, MAHARASHTRA | | | |
| Proposal For | | Fresh EC | |
| Proposal No | File No | Submission Date | Activity Sub-Activity (Schedule Item) |
| IA/MH/RIV/423561/2023 | J-1201 1/05/2021-IA. I(R) | 27/03/2023 | River Valley/Irrigation projects Irrigation Projects involving interstate issues (1(c)) |

3.2.2. Project Salient Features

The proposal is for grant of Environmental Clearance (EC) to the proposed construction of Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 ha. at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra.

49.2.2 The Project Proponent and the Consultant M/s Mantec Consultants Pvt. Ltd, made a detailed presentation on the salient features of the project and informed that:

- i. Kurha Vadhoda Islampur lift Irrigation Scheme is in jurisdiction of Tapi Irrigation Development Corporation, Jalgaon. The project is located near Village Rigaon, Taluka Muktainagar, District Jalgaon.
- ii. The scheme envisages lifting of flood water in rainy season from Purna river by constructing Intake channel, Intake structure, Jack well overhead Pump house near village Rigaon Taluka Muktainagar, District- Jalgaon and a dam near village Islampur for a length of 6845m.
- iii. The proposal for grant of ToR was considered and recommended by the EAC in its meeting held on 25th, 31st and 32nd EAC meetings held on 14th March, 2022, 29th July, 2022 and 12th August, 2022 respectively. The terms of reference was granted by the Ministry vide letter dated 26th September, 2022.
- iv. The lifting point i.e. Jack well from Purna river falls in Village Rigaon, Tehsil- Muktainagar, District- Jalgaon & Dam site falls in Village-Islampur, Tehsil -Jalgaon (Jamod) & DistrictBuldhana, Maharashtra. Project Coordinates are as follows:

Lifting Point: Latitude: 20°57'30.00"N **Longitude:** 76°20'00"E

Dam Site at Islampur: Latitude: 21°02'14.99"N **Longitude:** 76°24'44.99"E

- v. The total command area under this scheme comprises for all 104 villages lies in Muktainagar Taluka of Jalgaon district and Jalgaon-Jamod & Sangrampur Talukas in Buldhana District. The Irrigable command area of Jalgaon District is 8445 ha (32%) and 17453 ha (68%) in Buldhana District, thus total command (ICA) under this scheme is 25898 Ha. Irrigation is proposed from dam by Gravity pipe line. Gross Command Area under this scheme is 40465 Ha Culturable Command Area is 32372 Ha & Irrigable Command Area is 25898 Ha. Thus, the project will benefit 25898 ha irrigable area.

| Benefitted Taluka | Benefit Area | | | Benefitted Villages |
|-----------------------|--------------|-------|-------|---------------------|
| | G.C.A | C.C.A | I.C.A | |
| Jalgaon District | | | | |
| Muktainagar Taluka | 12889 | 10311 | 8249 | 21 |
| Buldhana District | | | | |
| Jalgaon- Jamod Taluka | 15815 | 12652 | 10122 | 53 |
| Sangrampur Taluka | 11761 | 9409 | 7527 | 30 |
| Total | 40465 | 32372 | 25898 | 104 |

- vi. Purna river is a tributary of the River Tapti (also called Tapi). The Tapi River flows in a deep bed which historically has made it difficult to use for irrigation. This project contemplates to

provide irrigation facilities annually to a culturable command area of 32372 Ha thus providing immense growth in agricultural produce of the area and will improve overall economy of the local population. Since there is scope for lifting water from Purna river, the scheme Kurha Vadhoda Islampur Ursa Sinchan Yojana is planned to lift flood water, store & then utilize it.

- vii. The total storage capacity of reservoir is 77.60 Mcum, and it will benefit 25898 Ha irrigable area (8249 Ha of Muktainagar Taluka & 17649 Ha of Jalgaon-Jamod Taluka) of Jalgaon & Buldhana Districts respectively of Maharashtra state.
- viii. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times).
- ix. Catchment Area- The catchment area of Islampur Dam is saucer shaped and classified as good. The total catchment area up to dam site is 8.50 sqkm (3.32 sq miles).
- x. The details of the project is as under:

| Particulars | Details | xi. |
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| Name of Project | Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372Ha at Village Rigaon, Tehsil-Muktainagar District Jalgaon, Maharashtra | |
| Project Proponent | Tapi Irrigation Development Corporation, Sinchan Bhawan , Akash Wani Chowk, Jalgaon, Maharashtra-425001 | |
| Location of the project | Village- Rigaon, Taluk-Muktainagar, Dist. Jalgaon, Maharashtra a. Dam Site at Islampur: Latitude: 21°02'14.99"N, Longitude: 76°24'44.99"E Lifting Point: Latitude: 20°57'30.00"N, Longitude: 76°20'00"E | |
| Land Requirement and Use | The total area required for the project is 572 Ha out of which 562 Ha is private land, 7.57 Ha is Government Land and remaining 1.98 Ha is Forest land for which Forest Clearance have been obtained on 23.11.2012 vide letter no. No. 6- MHB - 030/2012 - BHO/1853. | |
| Total Water utilization | 3.564 TCM | |
| Total Storage capacity of reservoir under the scheme | 77.60 Mcum | |
| Average Annual Rainfall | 670 mm | |
| Reserved Forest/ Protected Forest | <ul style="list-style-type: none"> ● Machhandar Nath Mandir RF~ 2.6 kms in West from Dam site. ● Raipur Reserved Forest~ 2.14kms in NW from dam site. ● RF ~ 3.25kms in SE. | |
| Seismic Zone | Zone-III (As per 1893:2002) | |

Chronology of EC at MoEF&CC: The proposal was earlier submitted to MoEF&CC for grant

| | |
|---------------------|---|
| Category of Project | “A” (Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW from Dam site) |
| Type of Project | River Valley Projects (Schedule 1(c)) |

of TOR in January 2009, TOR was approved in April 2009. Draft EIA was submitted to SPCB in January, 2010 for conducting Public Hearing. The Public Hearing was held in April, 2010 and January, 2011. The Final EIA was submitted to MoEF&CC for grant of EC. EC was not granted to the project as the case was not pursued further with MoEF&CC, after submission of Final EIA.

xii. However, it may also be noted that almost more than 50% work has been completed but no operation has been started.

xiii. Progress of Lift Irrigation Project % wise is tabulated below:

| Sr. No. | Project Components | Construction done | Construction to be done |
|---------|------------------------|-------------------|-------------------------|
| 1 | Earthen Dam | 60% | 40% |
| 2 | HR and Spillway | 0% | 100% |
| 3 | Pump House No.1 | 95% | 5% |
| 4 | Intake structure | 0% | 100% |
| 5 | Pump House No.2 | 0% | 100% |
| 6 | Pump House No.3 | 85% | 15% |
| 7 | Machinery Installation | At PH 1&2 -0% | At PH 1&2 -100% |
| | | At PH 3-60% | At PH 3-40% |
| 8 | Rising Main | 10.784 km | 2.356 km |
| 9 | Electric Supply Works | 85% | 15% |
| 10 | Distribution Network | 0% | 100% |

xiv. **Land requirement:** The total area required for the project is 572 ha out of which 562 ha is private land and 7.57 Ha is government land and remaining 1.98 Ha is forest land for which Forest Clearance has already been obtained.

xv. Demographic details in 10 km radius of project area : Total population of the study area has been worked out to 160587 in which 82620 (51.4 per cent) are males and remaining 77967 (48.6 per cent) are females.

xvi. **State/National boundaries:** Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW from Dam site.

xvii. **Reserved Forest/Protected Forest:** Machhandar Nath Mandir RF~ 2.6 kms is located in West direction from Dam site and Raipur Reserved Forest~ 2.14kms is located in NW direction from dam site and another RF ~ 3.25kms is also located in SE direction.

xviii. **Water requirement:** The quantity of water required during construction is estimated as 1177.60 KLD which shall be drawn from the Purna River for Pump House -I and Jack Well

and tanker supply for construction of Pump House –II, pump House – III and Dam. It should also include the requirement balanced Work.

xix. **Power Requirement:** Electricity supply to lift water is taken from Malkapur Sub Station of Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL). 132 KV transmission line is erected from Malkapur to Bhota substation, installed at Bhota. From Bhota sub Station 33 KV transmission lines are erected for electric supply to each pump house.

xx. **Project Benefit:**

a. Establishment of large developmental projects improve the availability of the physical infrastructures like approach roads, communication and electricity facilities etc.

b. The project will benefits 25898 ha irrigable area. out of this 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon –Jamod & Sangrampur Taluka of Buldhana District.

c. The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic condition of the region.

d. The assured irrigation would also lead to increased soil moisture regime.

e. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times)

f. Greenbelt is also proposed around the project site and along the project roads which would improve the local ecology and provide barrier to air and noise pollution.

g. Plantation done in the project sites would also help in carbon sequestration.

xxi. **Environmental Sensitive area:** There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River/ water body is flowing at a distance of in direction.

xxii. **Project Cost:** Proposed cost for sanctioning to Water Resources Department of Government of Maharashtra is Rs. 2226.53 Crore.

xxiii. The project construction has been started prior to grant of Environmental Clearance and completed almost more than 50% of the work therefore, PP applied the proposal for grant of EC under violation category.

xxiv. Details of Solid waste/ Hazardous waste generation/ Muck and its management Estimated Muck to be generated 4065022 cum and Monitoring for spillage of muck during transportation.

xxv. The salient features of the proposal is as under:

| | |
|-------------------------------------|--|
| Name of the Proposal | Kurha Vadhoda Islampur Lift Irrigation Scheme UP SA Sinchan Yojna With CCA 32372 Ha” At Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) (Schedule: 1 (C), Category: A (Due To Presence Of Maharashtra- Madhya Pradesh Interstate Boundary At 5.7 kms In NNW) |
| Location (Including coordinates) | Village- Rigaon, Taluk-Muktainagar, Dist. Jalgaon, Maharashtra. Dam Site at Islampur : Latitude: 21°02'14.99"N Longitude: 76°24'44.99"E Lifting Point: Latitude: 20°57'30.00"N Longitude: 76°20'00"E |
| Inter- state issue involved | Yes, Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7 kms in NNW from Dam site |

| | |
|---|--|
| Seismic zone | Zone-III (As per 1893:2002) |
| Category of the project | "A" (Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW from Dam site) |
| Capacity / Cultural command area (CCA) | 77.6 Mcum/CCA 32372 Ha |
| Attracts the General Conditions (Yes/No) | Yes, Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7 kms in NNW from dam site |
| Additional information (if any) | No |
| ToR Proposal No. | IA/MH/RIV/255427/2022 |
| EAC meeting date | 1) 25th EAC meetings held on 14th March, 2) 31st EAC meetings held on 29th July, 2022, 3) 32nd EAC meetings held on 12th August, 2022, 4) 45th EAC meetings held on 26th April, 2023, 5) 51st EAC meetings held on 03th October, 2023. |
| ToR Letter No. | F. No. J- 1201 1/05/2021-IA. I (R) |
| ToR grant Date | 26th September, 2022 |
| Cost of project | Rs. 2226.53 Crore |
| Total area of Project | 32372 Ha. |
| Height of Dam from River Bed (EL) | 42.4 mts |
| Details of submergence area | 536 ha |
| District to provide irrigation facility (if applicable) | Jalgaon District & Buldhana District |
| Details of tunnels on upper level & lower level and length of canal (if appl) | Not Applicable |

| | |
|---|---|
| icable) | |
| No. of affected Village. | Islampur, Hashampur, Navkhurd, Gorada |
| No. of Affected Families | Not Applicable |
| Project Benefits | <p>The drought prone area will get immensely benefitted due to availability of water for irrigation. The project will benefit 25898 ha irrigable area out of which 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon —Jamod & Sangrampur Taluka of Buldhana District. The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic prosperity of the region. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times). Thus there will be immense financial benefits accruing to the population. This increase in agricultural production will also boost the industrial activity especially agro based process industries. These will in turn provide employment opportunities to the locals and benefit the people socially as well as financially. The employment generation potential of the project is approx. 83.84 Lakhs man-days.</p> |
| R&R details | Not applicable |
| Catchment area/ Command area | 8.5 sq km/25898 Ha |
| Types of Waste and quantity of generation during construction/Operation | <p>Construction Phase: Apart from the municipal solid waste generated from the labor camps and project colony, other wastes that will be generated during construction will include materials such as scraps, inert concrete waste, plastic waste, packaging material, paint containers etc.</p> <p>Operation Phase: solid waste generation from project colonies</p> |
| Material used for blasting and its composition as per DGMS standards. | Not Applicable |
| E-Flows for the Project | Not applicable |
| Is Projects earlier studied in Cumulative Impact assessment | Not Applicable |

| | |
|--|---|
| <p>t & Carrying Capacity studies (CIA&CC) for River in which project located. If yes then</p> <p>a) E-flow with TOR/Recommendation by EAC as per CIA&CC study of River Basin.</p> <p>b) If not the E-Flows maintain criteria for sustaining river ecosystem.</p> | |
| <p>Details on provision of fish passes</p> | <p>Not applicable</p> |
| <p>Project benefit including employment details (no of employees)</p> | <p>The total storage capacity of reservoir is 77.60 Mcum, and it will benefit 25898 Ha irrigable area (8249 Ha of Muktainagar Taluka & 17649 Ha of Jalgaon-Jamod Taluka) of Jalgaon & Buldhana Districts respectively of Maharashtra state.</p> <p>The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic condition of the region.</p> <p>Total 104 of CCA villages will be benefitted by this proposed scheme. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times).</p> <p>The employment generation potential of the project is approx. 83.84 Lakhs man days.</p> |
| <p>Area of Compensatory Afforestation (CA) with tentative no of plantation.</p> | <p>30.69 ha and tentative number of plantation 46035</p> |
| <p>Previous EC details</p> | <p>Fresh EC</p> |
| <p>EC Compliance Report by R.O,</p> | <p>Not applicable</p> |

| | | |
|--|---|---|
| MOEF&CC | | |
| No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Nam' campaign | -- | |
| No. of proposed disposal area/ (type of land- Forest/Pvt land) | The location of the muck dumping site is inside the storage area in the range of 0.5 hectare to 4 hectares. | |
| Cross section of proposed muck area, Height of muck with slope. | The maximum height of the dump will be restricted to 1.5 mts. The unused material will be piled at an angle of repose not exceeding 26 degree at the proposed dumping sites | |
| Distance of muck disposal area(location), from muck generation sources (project area)/River, HFL of proposed muck disposal area. | The location of the muck dumping site is inside the storage area in the range of 0.5 hectare to 4 hectares. | |
| Total Muck Disposal Area | 2.25 ha | |
| Estimate Muck to be generated | 4065022 | |
| Transportation | By Truck/Tipper | |
| Monitoring mechanism for Muck Disposal Transportation | Monitoring for spillage of muck during transportation. | |
| Private Land | 562.45 ha | |
| Government land/Forest Land | 7.57 ha | |
| Patta Land | 1.98 ha | |
| Total Land | 572 ha | |
| Submergence area/Reservoir area | 419 ha/87.0 ha | |
| Additional information (if any) | - | |
| Forest Land/ Protected Area/ Environmental Sensitivity Zone | Yes/No | Details of Certificate/ letter/Remarks |
| Reserve Forest/Protected Forest Land | Yes | 6-MHB 030/2012-BHO/1853 DATED 23/11/2012 |
| National Park | No | |

| | | |
|---|----|--|
| Wildlife Sanctuary | No | |
| Archaeological sites monuments/historical temples etc | No | |
| Additional information (if any) | - | |

Public Hearing (PH) Details

| | |
|--------------------------------|---|
| Advertisement for PH with date | For Jalgaon district 24.10.2023 (in English newspaper) and 21.10.2023 (in Marathi newspaper) and For Buldhana district 26.10.2023 in both English and Marathi newspaper |
| Date of PH | 22/11/2023 and 30.11.2023 in Jalgaon and Buldhana district respectively |
| Venue | Shri. Shivaji High School, Vadhoda, Tal. Muktainagar, Dist. Jalgaon & Construction Camp, Near Islampur Dam, At. Islampur, Tal. Jalgaon (jamod) Dist: Buldhana. |
| Chaired by | Sub Divisional Magistrate authorized by District Magistrate |
| Main issues raised during PH | <ol style="list-style-type: none"> 1. Delay in project despite administrative approval of ₹2226 crore; farmers suffering due to lack of irrigation 2. Concern over cost escalation due to delay and administrative approvals 3. Timeline for completion and employment opportunities 4. Suggestion to expedite approvals and complete project quickly 5. Method and timeline for water distribution to farms 6. Compensation and land requirement for farm ponds Incomplete pipeline work 7. Benefits to tribal villages and affected communities 8. Electricity requirement and cost for water lifting 9. Employment priority for project-affected persons 10. Land acquisition compensation and grievances 11. Access issues due to land acquisition (road connectivity) 12. Demand for early completion of dam and irrigation benefits 13. Demand for solar facilities and village infrastructure |

| | |
|------------------------|---|
| No. of people attended | Around 100 Peoples attended Jalgaon public Hearing and Buldhana public hearing each approximately |
|------------------------|---|

Brief of base line Environment:

| Particulars | Details |
|--|--|
| Period of baseline data collection/Sampling period. | BASELINE STUDY PERIOD: Winter Season (December 2020- February 2021), Pre-Monsoon Season (March- May 2022) and Monsoon Season (June 2022- September 2022) |
| (Air, noise, water, land) flora and fauna of the project area, aquatic ecology, etc. | 8 locations monitoring locations for Air, noise and soil and 6 for ground water and 3 for surface water further detailed in EIA/EMP report |
| | 7 monitoring locations for Flora and Fauna further detailed in EIA/EMP report |
| | Detailed in EIA/EMP report |
| Brief description on hydrology and water assessment as per the approved Pre-DPR: | Detailed in EIA/EMP report |

| Particulars | Letter no. and date |
|--|---|
| Certified EC compliance report (if applicable) | NA |
| Status of Stage-I FC | 1.98 Ha is Forest land for which Forest Clearance have been obtained on 23.11.2012 vide letter no. No. 6-MHB - 030/2012 - BHO/1853. |
| Additional detail (If any) | |
| Is FRA (2006) done for FC-I | Stage-II FC granted |

| Particulars | Details |
|-----------------------|---|
| Details of consultant | Mantec Consultants Pvt. Ltd. and NABET/EIA/23-26/RA 0305_Rev.01 |
| Project Benefits | The drought prone area will get immensely benefited due to availability of water for irrigation. The project will benefit 25898 ha irrigable area out of which 8249 ha of Muktanagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon —Jamod & Sangrampur Taluka of Buldhana District. The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic prosperity of |

the region. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times). Thus there will be immense financial benefits accruing to the population. This increase in agricultural production will also boost the industrial activity especially agro based process industries. These will in turn provide employment opportunities to the locals and benefit the people socially as well as financially. The employment generation potential of the project is approx. 83.84 Lakhs man-days.

3.2.3. Deliberations by the committee in previous meetings

Date of EAC 1 :26/04/2023



Deliberations of EAC 1 :

The proposal is for grant of Environmental Clearance (EC) to the project for Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra.

The project/activity is covered under category 'B' of item 1 (c) 'River Valley projects' of the Schedule to the Environmental Impact Assessment Notification, 2006, as amended, however, due to applicability of general condition i.e. Inter-state boundaries (5.7 km), the proposal appraised at Central level by the sectoral EAC in the Ministry as category A.

The scheme envisages lifting of flood water in rainy season from Purna river by constructing Intake channel, Intake structure, Jack well overhead Pump house near village Rigaon Taluka Muktainagar, District- Jalgaon and a dam near village Islampur for a length of 6845m.

The total command area under this scheme comprises for all 104 villages lies in Muktainagar Taluka of Jalgaon district and Jalgaon-Jamod & Sangrampur Talukas in Buldhana District. The Irrigable command area of Jalgaon District is 8445 ha (32%) and 17453 ha (68%) in Buldhana District, thus total command (ICA) under this scheme is 25898 Ha. Irrigation is proposed from dam by Gravity pipe line. Gross Command Area under this scheme is 40465 Ha Culturable Command Area is 32372 Ha & Irrigable Command Area is 25898 Ha.

The project proponent has informed that the proposal was earlier submitted to MoEF&CC for grant of ToR in January 2009, TOR was approved in April 2009. Draft EIA was submitted to SPCB in January, 2010 for conducting Public Hearing. The Public Hearing was held in 16th April, 2010 and 12th January, 2011. The Final EIA was submitted to MoEF&CC for grant of EC. EC was not granted to the project as the case was not pursued further with MoEF&CC, after submission of Final EIA.

Thereafter, the project proponent submitted proposal for ToR afresh under 'violation category' and the Ministry granted ToR vide letter dated 26.09.2022. The Ministry has granted ToR to the project with public consultation (without public hearing) for conducting EIA study and given additional/specific ToR that Public Consultation shall be carried out as per the provision contained in EIA Notification, 2006. In which public 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. However, in the public consultation process, the public notice has not been issued by the State Pollution Control Board. The consultant M/s Mantec Consultants Pvt. Ltd has informed that they have carried out the public consultation process by themselves through interaction with local people. The project proponent then presented the complete public consultation carried out in the project area along with the minutes of earlier Public hearing to the EAC members and submitted tabular chart of issues raised and compliance of the same with statement on the commitments (activity-wise) made during public hearing. The EAC also suggested to incorporate the same in the Final EIA report and submit request to the Ministry to for uploading on PARIVESH portal.

It was also observed that the project proponent has not submitted the Wildlife Conservation Plan for Schedule-I species reported in the study area to state forest and wildlife department for approval.

The committee deliberated on ecological damage assessment report and observed that it needs revision with respect to procedure followed and restoration cost calculation in various components viz. remediation plan, Cost of natural resource augmentation plan and Cost of Community Resources Augmentation in terms of Ministry's OM dated 7.07.2021 for Standard Operating Procedure (SoP) for Identification and handling of violation cases under EIA Notification 2006.

The Committee also observed certain shortfalls in information provided in the EIA/ EMP report prepared by the consultant specially in the TOR compliance. The EAC showed displeasure about the performance of the consultant and suggested the Ministry to take appropriate action against the consultant and report to NABET to review their accreditation.

The EAC was of the opinion that the present project is being constructed in drought prone area of Jalgaon District of Maharashtra and is of emmence importance of local public, and to scrutinize the EIA/EMP report

along with the ecological damage assessment report. The summary of amounts mode of spending each, as calculated by the EAC, is presented below,

Table 17 COST SUMMARY

| Sl. No. | Description | Estimated cost (Rs. Crores) |
|---|---|-----------------------------|
| 1 | Remediation Plan | 2.50 |
| 2 | Natural Resources Augmentation Plan | 2.00 |
| 3 | Community Resources Augmentation Plan | 1.54 |
| Total Damage Amount to be given under bank guarantee | | 6.04 |
| 4 | Penalty as per OM dated 07/07/2021 to be paid to State Pollution Control Board | 3.45 |
| 5 | 0.5% Contribution from Capital Cost (Rs.690 Crores) against Commitment via affidavit as per OM dated 30/09/2020 | 3.45 |

3.2.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted that the proposal was earlier considered by the EAC in its meeting held on 26.04.2023.

Observations of the EAC in its meetings held on 26.04.2023:

Table: COST SUMMARY

| Sl. No. | Description | Estimated cost (Rs. Crores) |
|---|---|-----------------------------|
| 1 | Remediation Plan | 2.50 |
| 2 | Natural Resources Augmentation Plan | 2.00 |
| 3 | Community Resources Augmentation Plan | 1.54 |
| Total Damage Amount to be given under bank guarantee | | 6.04 |
| 4 | Penalty as per OM dated 07/07/2021 to be paid to State Pollution Control Board | 3.45 |
| 5 | 0.5% Contribution from Capital Cost (Rs.690 Crores) against Commitment via affidavit as per OM dated 30/09/2020 | 3.45 |

49.2.4 However, during the processing of the file in the Ministry, it was emerged that the due

process has not been followed by the project proponent during Public Consultation as prescribed under the EIA Notification, 2006, as amended and the public consultation process carried out by the consultant themselves, and not as per EIA, Notification. 2006, as amended. Accordingly, the Ministry referred back the proposal to the EAC. The EAC in view of the observations of the Ministry reconsidered the proposal in its meeting held on 12.09.2023 and suggested the PP to conduct 'Public Consultation' as per procedure prescribed.

As per recommendations of the EAC the PP carried out 'Public Consultation' process as per provisions of the EIA Notification, 2006, as amended and submitted the report in the Ministry on 12.01.2024.

The Ministry vide ADS dated 25.01.2024 informed the PP that the Hon'ble Supreme Court vide its order dated 2.01.2024 in Writ Petition(s) (Civil) No(s). 1394/2023 in the matter of Vanashakti versus Union of India has stayed the operation of the Office Memoranda dated 7th July, 2021 and 28th January, 2022 issued by the Ministry for handling the violation cases.

The PP on 12.02.2026 replied the ADS stating that stay on the operation of the Office Memorandum dated 07.07.2021 and 28.01.2022 has since been vacated/removed by the Hon'ble Supreme Court. Accordingly, the restriction on processing of proposals under the said SOP is no longer in force. The PP further requested to consider the proposal in terms of the directions of the Hon'ble Supreme Court in the aforesaid matter.

Accordingly, the Ministry, has referred the Public Consultation report for further examination and deliberation by the EAC in terms of the provisions of the MoEF&CC Office Memorandum dated 20.01.2026 issued for handling the pending violation cases.

Observation of EAC in the current meeting:

- The EAC noted that as per recommendations of the EAC made during its meeting held on 12.09.2023 the PP was informed by the Ministry to complete the Public Consultation process as per prescribed procedure. Accordingly, the Public Hearing Notice was advertised in local newspaper and English newspaper on 26.10.2023 and the Public hearing was conducted by the State Pollution Control Board on 30/11/2023 in Jalgaon District under Chairmanship of Shri Jitendra Patil, Sub-Divisional Officer and Sub-divisional magistrate, Bhusawal Division. Further, the Public Hearing Notice was advertised in local newspaper on 26.10.2023 and English newspaper on 24.10.2023 and the Public hearing was conducted by the State Pollution Control Board on 22/11/2023 in Buldhana District under chairmanship of Shri Shailesh Kale, Sub-Divisional Magistrate, Jalgaon Jamod.
- The main issues raised during the public hearing are related to:
- The EAC observed that Public Hearing was chaired by SDM level officer in the both Jalgaon District and Buldhana District. As per the Ministry Notification S.O.2163(E), dated the 9th May, 2022, it was provisioned that
"...Provided that in case the project or activity is confined to the territorial jurisdiction of one sub-division, the District Magistrate/District Collector/Deputy Commissioner, as the case may be, may alternatively authorise any officer not below the rank of Sub-Divisional Magistrate to supervise and preside over the entire public hearing process assisted by a representative of SPCB or UTPCC, as the case may be."....
- In view of the above, the EAC asked PP to submit authorization letter from competent authority for presiding the Public hearing. Accordingly, PP vide letter dated 27.02.2026 submitted the requisite information.
- The EAC discussed the concerns raised during the Public Hearing (PH) and reviewed the action plan submitted by the PP to address these issues. After detailed deliberation, the

Committee found the action plan satisfactory, recognizing that the proposed mitigation measures adequately respond to stakeholders' concerns.

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Environment Conditions

3.2.6.1. Specific

| Additional | |
|------------|---|
| 1. | The EAC after detailed deliberation on the information submitted and as presented during the meeting recommended the proposal for grant of Environmental Clearance (EC) for Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra under the provisions of EIA Notification, 2006, as amended under violation category, subject to compliance of standard conditions and specific conditions as recommended by the EAC in its earlier meeting dated 26.04.2023. |

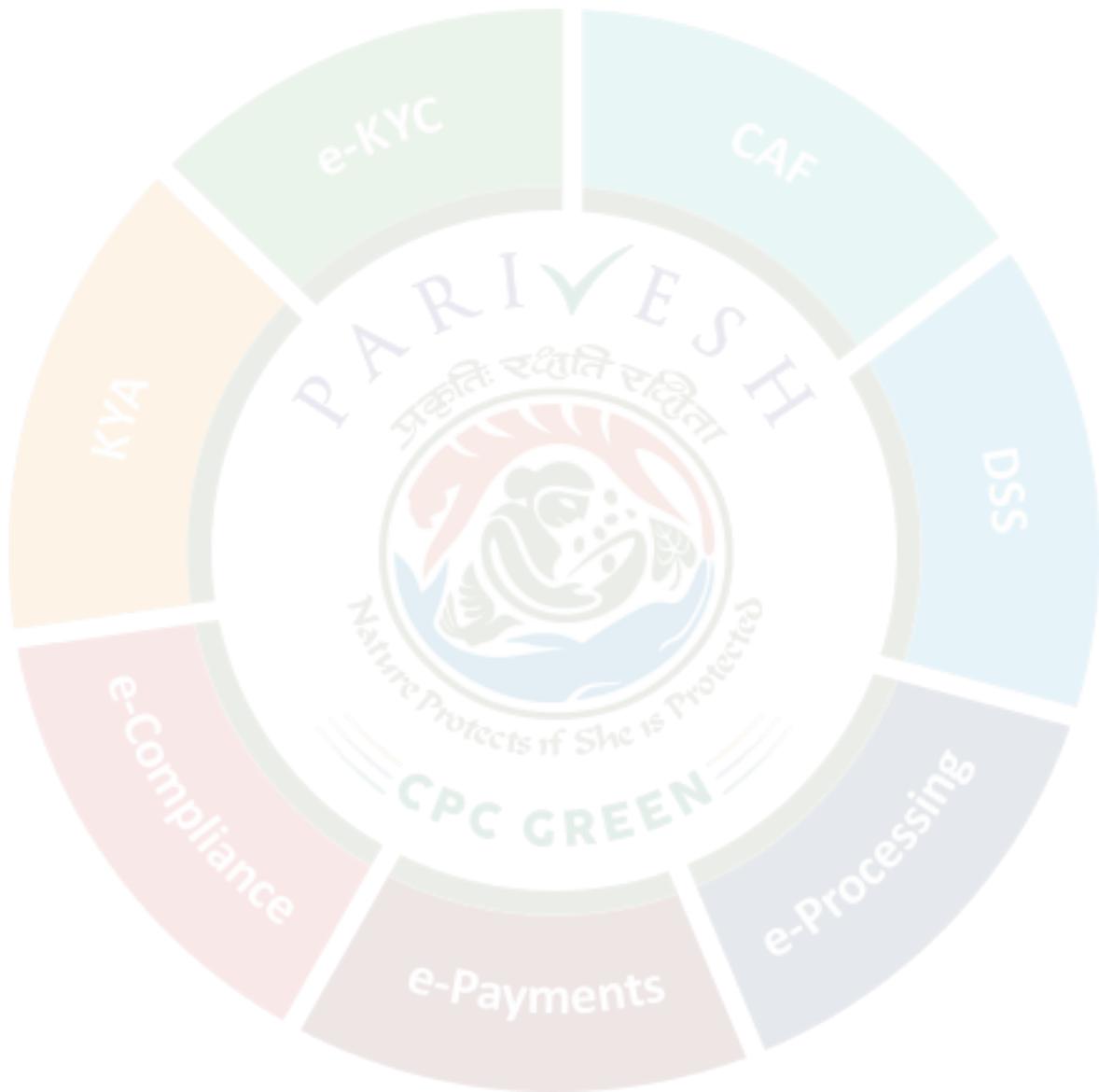
4. Any Other Item(s)

N/A

5. List of Attendees

| Sr. No. | Name | Designation | Email ID | Remarks |
|---------|---------------------|---------------|--------------------|---------|
| 1 | Prof G J Chakrapani | Chairman, EAC | cha*****@gmail.com | |
| 2 | Dr Mukesh Sharma | Member (EAC) | muk***@iitk.ac.in | Absent |
| 3 | Dr Uday Kumar R Y | Member (EAC) | uda*****@yahoo.com | |
| 4 | Dr J A Johnson | Member (EAC) | jaj@wii.gov.in | Absent |
| 5 | Dr J V Tyagi | Member (EAC) | jvt*****@gmail.com | |
| 6 | Shri Kartik Sapre | Member (EAC) | kar*****@gmail.com | |
| 7 | Shri Ajay Kumar Lal | Member (EAC) | akl****@gmail.com | |
| 8 | Dr A K Sahoo | Member (EAC) | ami***@gmail.com | Absent |
| 9 | Shri Balram Kumar | Member | emo***@nic.in | |
| 10 | Shri Rakesh Goyal | Member | goy*****@nic.in | |

| | | | | |
|----|--------------------|---------------|-----------------|--|
| 11 | Yogendra Pal Singh | Scientist - F | yog*****@nic.in | |
|----|--------------------|---------------|-----------------|--|



MINUTES OF THE 49TH MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR RIVER VALLEY AND HYDROELECTRIC PROJECTS HELD ON 26TH FEBRUARY, 2026 THROUGH PHYSICAL MODE.

The 49th meeting of the EAC for River Valley & Hydroelectric Projects organized by the Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi, was held on 26th February, 2026 through Physical Mode, under the Chairmanship of Prof. G. J. Chakrapani. The list of Members present in the meeting is at **Annexure.**

Confirmation of the Minutes of the 48th EAC meeting:

The Minutes of the 48th EAC meeting held on 12th February, 2026 were confirmed.

Agenda Item No. 49.1

Cherue Close loop Pumped Storage Project (1200 MW) in an area of 569 Ha located at Village Dighia, Bahera, Dharan and etc., Sub District Robertsganj, District Sonbhadra, Uttar Pradesh by M/s Adani Hydro Energy Six Limited – Terms of Reference (ToR) – reg.

[Proposal No. IA/UP/RIV/566922/2026; F. No. J-12011/11/2024-IA-I(R)]

49.1.1 The proposal is for grant of Terms of Reference (ToR) to the project Cherue Close loop Pumped Storage Project (1200 MW) in an area of 569 Ha located at Village Dighia, Bahera, Dharan and etc., Sub District Robertsganj, District Sonbhadra, Uttar Pradesh by M/s Adani Hydro Energy Six Limited.

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

- i. The proposed Cherue Pumped Storage Project (1200MW), a self-identified off stream closed loop project, is being developed by M/s Adani Hydro Energy Six Ltd. near Village Cherue, Taluka Robertsganj, District Sonbhadra, Uttar Pradesh.
- ii. The project involves the development of two artificial reservoirs-the Upper Reservoir near Cherue Village and the Lower Reservoir near Laua Village -both situated on non-perennial nallahs with negligible natural inflow.
- iii. The project envisages construction of upper dam (Geomembrane Faced Rockfill Dam; Length:1694m; Height: 41m) ; lower dam (GFRD; Length: 715m; Height: 36m). The water conductor system shall consist of 1118m long approach channel from upper reservoir culminating into 4Nos., diffuser intake leading to 808m long 6.5m diameter three steel lined pressure shaft and one 733m long 6.5m diameter steel lined pressure

shaft bifurcating into 2 smaller pressure shaft of 4.60 m diameter and 75 m long feeding 3 reversible units of 300 MW and 2 reversible units of 150 MW all housed in a deep pit type 189m (L) x 30m (W) x 69m (H) powerhouse, discharging through draft tube to 4 nos., 315m long and 8.5 m dia. concrete TRT connected at end to 4 Nos. of lower reservoir intake diffuser. A transformer cum GIS building of size 165 (L) x 16.45 (W) x 24 (H) is proposed to be located on surface on the upstream side of powerhouse building to accommodate transformers and GIS equipment.

iv. The annual energy generation in turbine mode for daily 6.00 hours shall be 2496.6 MU whereas annual energy consumption in pump mode for 7.40 hours is 3173.6 MU. The estimated project cost is Rs 5690.85 crores (December 2025PL). The Levelized tariff with no pumping cost shall be INR 4.70/kWh. Levelized tariff with Rs 3.00 pumping cost shall be INR 8.43/kWh.

v. The geographical co-ordinate are :

Upper Reservoir Coordinates: 24°32'56.15" N; 83°09'38.16" E

Lower Reservoir Coordinates: 24°34'17.09" N; 83°09'9.56" E

vi. **Land requirement:** 569 ha (Forest:438.60 ha; non-Forest: 130.40 ha)

vii. **Demographic details in 10 km radius of project area :**

As per the Census of India 2011, the total population of the block comprising of total 17263 households are 94327 composed of 48615 males and 45712 females with sex ratio of 940. The cast wise composition of the total population of the project affected villages is made up of scheduled cast population of 17738 (18.8%) and Scheduled Tribe population of 32432 (34.4%). The literate population is 42535(56.7%) of which the male and female population is 26755(69.3%) and 15780 (43.3%) respectively. The gender gap for literacy rate is 26 %. The total working population is 41436 (43.9%) which comprises of main workers 20343(21.6%) and marginal workers 21093(22.3%).

viii. **Water requirement:** The quantity of water required during construction is estimated as 900kld (Construction-845 kld; Domestic-55kld) and during operation shall be 25kld, which shall be drawn from Sone River.

ix. **Project Cost:** The estimated project cost is Rs 5690.85 crores including existing investment. Total capital cost and recurring annual cost (operation & maintenance) towards EMP shall be earmarked after evaluating cost of EMPs.

- x. **Project Benefit:** The benefits inter alia shall include the benefits like (i) Average annual generation of 2496.6 MU of energy; (ii) Increased vegetal cover due to implementation of CAT Plan and Green Belt Development Plans (iii) Employment Potential during construction (600 labour); (iv) Overall development of area by implementing CSR initiatives and Watershed Development Plans.
- xi. **Environmental Sensitive area:** Kaimur WLS (UP) and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. Sone River flows 7.5km south of project.
- xii. **MOU/ any other clearance/ permission signed with State government:** MoU was signed between M/s Adani Green Energy Limited and Govt. of Uttar Pradesh on 01st day of July 2025, for establishment of PSP.
- xiii. **Alternative Studies:**

The location of upper reservoir and lower reservoir is fixed as per the topography and storage requirement. Primarily three alternatives have been studied considering type of powerhouse i.e. underground and surface and approach channel or surge shaft fixing the locations of upper and lower reservoirs.

Alternate-I: This alternative comprises of 1400 m long approach channel feeding four intakes and four pressure shaft which includes 3 nos. of 6.50m dia. & 570 m long feeding three units of 300 MW and one pressure shaft 6.50 m dia. 460 m long bifurcating into two 4.6m dia. & 110 m long unit pressure shaft feeding two units of 150MW respectively. The powerhouse is underground housing 3 units of 300MW & 2 units of 150MW reversible Francis turbine. The steel lined unit TRT of 8.5 m dia. proposed for each unit of 300 MW and 6 m unit TRT for 150 MW units. 4 nos. TRT are proposed 8.5 m dia. concrete lined and 315 m long. Four outlet structures are proposed at lower reservoir. The L/H ratio would be 7.82. The tentative cost would be Rs 5900 crores, the highest of all alternatives. This alternate is riddled with the disadvantage of maximum WCS cost besides more forest land requirement (450ha).

Alternate-2: This alternative comprises of 1118 m long approach channel feeding four intakes and four pressure shaft which includes 4 nos. of 6.5m dia. & 808 m long feeding three units of 300 MW and one bifurcating into 2 nos. 4.6m dia. pressure shaft feeding 2 units of 150 MW. The powerhouse is surface pit housing 3 units of 300MW & 2 units of 150MW reversible Francis turbine. The steel lined unit TRT of 8.5m dia. 50 m length proposed for each unit of 300 MW and 6.0 m unit TRT for 150 MW units. 4 nos. TRT are proposed 8.5 m dia. concrete lined and 315 m long. Four outlet structures are proposed at lower reservoir. The L/H ratio would be 6.27. The tentative cost would be Rs 5690.85 crores, the least of all alternatives. It has the advantage of second least forest land

requirement (438.60 ha).

Alternate-3: This alternative comprises four intakes and four 660m long concrete duct and 467m tunnel connecting with two no. of 20m dia. surge shaft. Four intakes and four pressure shafts which includes 4 nos. of 6.50 m dia. & 855 m long feeding three units of 300 MW and one bifurcating into 2 nos. 4.6m dia. pressure shaft feeding 2 units of 150 MW. The powerhouse is surface pit housing 3 units of 300MW & 2 units of 150MW reversible Francis turbine. The steel lined unit TRT of 8.5m dia. 50 m length proposed for each unit of 300 MW and 6.0 m unit TRT for 150 MW units. 4 nos. TRT are proposed 8.5 m dia. concrete lined and 315 m long. Four outlet structures are proposed at lower reservoir. The L/H ratio would be 7.71. The tentative cost would be Rs 5780 crores. It has the disadvantage of the second highest WCS cost and second highest L/H ratio but has the advantage of lesser forest land requirement due to underground pressure shaft. This alternate has the disadvantage of the dense habitation near Upper Reservoir and R&R Issues.

Based on the below comparison, Alternate-2 is found to be most feasible and hence considered for further studies. The selected Upper Reservoir site lies on a nearly flat land near Cherue with favourable topography for storage creation. The Lower Reservoir is located on the minor nallah, near Laua, in a naturally enclosed valley suitable for dam construction with some excavation on sides.

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

- **Project details:**

| | |
|-------------------------------------|--|
| Name of the Proposal | Cherue PSP (1200 MW), District Sonbhadra Uttar Pradesh Proposal No.: IA/UP/RIV/566922/2026 File No. J-12011/09/2026-IA. I(R) |
| Location (Including coordinates) | Upper Dam: Village Cherue, Tehsil- Robertsganj, District Sonbhadra, Uttar Pradesh Lower Dam: Village Laua, Tehsil- Robertsganj, District Sonbhadra, Uttar Pradesh Coordinates: Upper Reservoir: 24°32'56.15" N; 83°09'38.16"E Lower Reservoir: 24°34'17.09" N; 83°09'9.56"E |
| Inter- state issue involved | NO |
| Seismic zone | Zone -IV |

- **Category details:**

| | |
|--|--|
| Category of the project | A |
| Provisions | Project activity covered at S.N.1(c)(i)(c) Standalone Pumped Storage Project |
| Capacity / Cultural command area (CCA) | 1200 MW/7200 MWH pumped storage component with 6.00 hours storage capacity for peak power generation and 7.40 hours pumping operation for backfilling of upper reservoir of PSP. |
| Attracts the General Conditions (Yes/No) | Yes. Kaimur WLS(UP) and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. |
| Additional information (if any) | Yes. Kaimur WLS(UP) and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. |

- **Electricity generation capacity:**

| | |
|------------------------------------|---|
| Powerhouse Installed Capacity | 1200 MW |
| Generation of Electricity Annually | 2496.6 MU |
| No. of Units | 3x300MW+2x150MW |
| Additional information (if any) | The project with installed capacity of 1200 MW (3x300MW+2x150MW) by utilizing a design discharge of 785.44 cumec rated net head of 174m for 6.00-hour daily peaking cycle will annually generate 2496.6 MU. The PSP will utilize 1368 MW to pump 636.27 cumec from lower reservoir to the upper reservoir in 7.40 hours. The annual pumping energy required shall be 3173.60 MU. The cycle efficiency of the PSP works out to be about 78%. |

- **ToR/EC Details:**

| | |
|-----------------------------------|-----------------------------------|
| Cost of project | Rs 5690.85 Crores. |
| Total area of Project | 569.00 ha |
| Height of Dam from River Bed (EL) | Upper Dam-41.00 m; Lower Dam-36 m |

| | | | |
|---|---|---------------------------|------------------------|
| Length of Tunnel/Channel | Length: 4567 m comprising of following components: (i)Main Pressure shaft:3157m; Unit: 150m (iii)Main TRT: 1260m (4X315m) | | |
| Details of Submergence area | Total Submergence area- 290 ha (Forest land: 225ha, Non-Forest land :65ha) | | |
| Types of Waste and quantity of generation during construction/ Operation | Waste Type | Construction (TPA) | Operation (TPA) |
| | MSW | 20 | 11 |
| | Plastic | 5.0 | 0.50 |
| | E-waste | 1.0 | 0.1 |
| | Burnt oil | 10.0 | 1.00 |
| | Batteries | 3.0 | 0.50 |
| Bio-medical | 2.0 | 0.0 | |
| E-Flows for the Project | | | |
| Is Projects earlier studies in Cumulative Impact assessment & Carrying Capacity studies (CIA&CC) for River in which project located. If yes, then a) E-flow with TOR /Recommendation by EAC as per CIA&CC study of River Basin. b) If not the E-Flows maintain criteria for sustaining river ecosystem. | No Not applicable Not applicable in case of PSP | | |
| No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Naam' campaign | 200 | | |

- **Muck Management Details:**

| | |
|--|---|
| No. of proposed disposal area/ (type of land-Forest/Pvt. land) | Muck Disposal Sites-2 Nos Area and Type of land -31 ha(non-forest) |
| Muck Management Plan | The muck shall be laid with vertical angle not exceeding 280 in such a manner that rock mass is properly stacked behind the gabion wall/revetment with minimum of voids. The muck pile shall be later covered with geo-Geo-coir textile and rehabilitated by afforestation of herbs and shrubs. Detailed Muck Management Plan shall be formulated during EIA study. |

| | |
|--|--|
| Monitoring mechanism for Muck Disposal | The project authorities shall erect a barrier to regulate the traffic flow to and fro the muck piles site. Proper e-challan shall be issued. |
|--|--|

- **Land Area Breakup:**

| | |
|---------------------------------|--|
| Private Land | 35.00 ha |
| Government land/Forest Land | 95.40ha |
| Patta Land | 438.60 ha |
| Total Land | 569.00 ha |
| Submergence area/Reservoir area | 290.00 ha |
| Additional information (if any) | Land for transmission line for power evacuation (RoW) is not included. |

- **Presence of Environmentally Sensitive areas in the study area:**

| Forest Land/ Protected Area/ Environmental Sensitivity Zone | Yes/No | Details of Certificate / letter/Remarks |
|---|--------|---|
| Reserve Forest/Protected Forest Land | Yes | Open mixed Jungle in the project area |
| National Park | No | None within 10km |
| Wildlife Sanctuary | Yes | Kaimur WLS and its ESZ are located about 1.41 km and 0.57 km from the nearest project boundary. ESZ notified vide S.O, 891(E), dated 20.3.2017. |

- **Court case details:** Nil

- **Status of other statutory clearances:**

| Particulars | Letter no. and date |
|--|---|
| Certified EC compliance report (if applicable) | It's newly proposed PSP |
| Status of Stage-I FC Additional detail (If any) | Application for diversion of forest land shall be moved |
| Is FRA (2006) done for FC-I | |

- **Miscellaneous:**

| Particulars | Details |
|--------------------------------------|--|
| Details of consultant | EQMS India Private Limited 305, 3rd Floor, Plot No. 16, Rishabh Corporate Tower, Community Centre, Karkardooma, Delhi – 110092 Phone: 011-43062757; NABET/EIA/25-28/RA0465, valid up to 23.11.2028.) |
| Project Benefits | The benefits inter alia shall include the benefits like (i) Average annual generation of 2496.6 MU of energy; (ii) Increased vegetal cover due to implementing of CAT Plan and Green Belt Development Plans (iii) Employment Potential during construction (600 labour); (iv) Overall development of area by implementing CSR initiatives and Watershed Development Plans. |
| Status of other statutory clearances | The mandatory statutory clearance like approval of power potential studies from CEA, site specific earthquake design parameters to be approved by NCSDP, Geological report approval from GSI, DPR approval from CWC and CEA; Forest clearance for diversion of forest land, are yet to be sought. |
| R&R details | R&R details shall be finalised later. |
| Additional detail (If any) | None |

49.1.3 The EAC during deliberations noted the following:

- The Expert Appraisal Committee (EAC) deliberated on the information submitted (Form 1, PFR, kml file, etc.) and as presented in the meeting and observed that the proposal is for grant of TOR for conducting EIA/EMP and Public hearing for Cherue Close loop Pumped Storage Project (1200 MW) in an area of 569 Ha located at Village Dighia, Bahera, Dharan and etc., Sub District Robertsganj, District Sonbhadra, Uttar Pradesh by M/s Adani Hydro Energy Six Limited.
- The project/activity falls under Category A of item 1(c), ‘River Valley Projects,’ as per the Schedule of the Environmental Impact Assessment Notification, 2006, and requires appraisal at the Central level by the sectoral EAC in the Ministry.
- During the deliberations the committee noted that the proposed Upper Reservoir and Lower Reservoir, both located on non-perennial nallah, with negligible natural inflow as informed by the PP during the meeting. Since both the reservoirs are located on non-perennial nallah, the committee opined that the project shall be categorized as an open-loop project rather than a closed-loop PSP.

- The EAC further observed that non-perennial streams/nallahs are important for maintaining local ecological balance, as they support unique biological communities and provide habitat during dry periods. They are hotspots for biodiversity and vital for maintaining ecosystem services. Accordingly, the EAC advised PP to prepare suitable action plan for sustenance of the natural nallahs/streams after having detailed analysis of catchment yield and requirement of water for maintaining ecosystem services.
- The EAC noted that the total land requirement for the proposed PSP is estimated to be around 569 ha, out of which 130.40 ha is non-forest land and 438.60 ha is forest land. Diversion of forest land for non-forest purpose will be involved for construction of project components. However, it was observed that the application for Stage-I Forest Clearance (FC) has not yet been submitted, which necessitates further action from the Project Proponent. Water requirement for initial filling of two newly proposed reservoirs works to be about 900kld (Construction-845 kld; Domestic-55kld) and during operation shall be 25kld, which shall be drawn from Sone River.
- The EAC during the meeting observed that the proposed project is located at a distance of approximately 1.41 km from Kaimur WLS (UP) and its ESZ is located about 0.57 km from the nearest project boundary.
- The EAC observed that Memorandum of Understanding was signed between M/s Adani Green Energy Limited and Govt. of Uttar Pradesh on 01st day of July 2025, for establishment of proposed Cherue Pumped Storage Project (1200 MW).

49.1.4 The EAC based on the information submitted and as presented during the meeting, recommended the proposal for grant of Specific ToR issued by the Ministry for Open Loop Pumped Storage Projects vide OM dated 14.08.2023 for conducting EIA study for proposed construction of the project for Cherue Open loop Pumped Storage Project (1200 MW) in an area of 569 Ha located at Village Dighia, Bahera, Dharan and etc., Sub District Robertsganj, District Sonbhadra, Uttar Pradesh by M/s Adani Hydro Energy Six Limited, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation:

- PP shall obtain amendment in MoU signed between State Government and PP in view name change of PP from M/s Adani Green Energy Limited to M/s Adani Hydro Energy Six Limited of proposed PSP.
- A detailed action plan for large scale plantation of native species of plant sapling within 10 km radius of the project shall be prepared in consultation with State Forest

Department. The monitoring mechanism to ensure the survival of saplings shall be finalized in consultation with ICFRE.

- iii. The PP will submit 10 years water availability data certified by the CWC/State Water Resource Department for quantity of water that is received annually by the small stream on which lower reservoir is proposed to be constructed.
- iv. The PP will submit a detailed plan and monitoring mechanism for releasing the self-catchment water of small stream draining in to river along with action plan for conservation and protection of other streams/rivulets draining in to upper and lower reservoirs.
- v. Explore the possibilities for reducing the Forest land requirement. The application for obtaining Stage I FC for 438.60 ha of forest land involved in the project shall be submitted within stipulated time.
- vi. Muck disposal site and other components such as Township, site office, Stacking area and batching plant shall be located outside the forest area.
- vii. Certificate and certified map from Chief Wildlife Warden shall be submitted mentioning that project boundary is not falling in any Ecological Sensitive Area, Wildlife Sanctuary/Tiger/elephant corridor/Critically polluted area within 10 km of Project site.
- viii. Transportation Plan for transporting construction materials shall be submitted. Separate chapter for risk assessment of such transportation through/within proposed the Wildlife Sanctuary shall be included in the EIA report, if any.
- ix. Environmental Cost Benefit Analysis shall be done in terms of loss of Forest ecosystem due to diversion of Forest land/loss of biodiversity, water availability, water uses for generation of hydro power and Ecological flows.
- x. The baseline data collection will cover the changes in biological and ecological profile of the region after monsoon with worst-case scenario study and critical mineral assessment.
- xi. Calculation and values of GHGs (CO₂, CH₄ etc.) emissions during construction and during operation till the life of the project shall be estimated and submitted.
- xii. The longitudinal connectivity/Free flowing sketch be provided in the EIA/EMP report.
- xiii. Quantitative values of Impact modelling of environmental parameters shall be submitted for during construction and operation. Also, mitigation measures shall be submitted in terms of construction and operation phase.

- xiv. Conducting site-specific ecological study emphasizing on riverine ecology viz. fishes diversity, fish migration, habitat and aquatic biota due to construction PSP. Impact assessment on the fish diversity based on the hydrological alteration at the water drawing sources shall be studied.
- xv. Action plan for survival or diversion of the rivulets/stream, if any, leading to join river shall be submitted.
- xvi. Impact zone decided prior to base line data generation and accordingly, sampling location shall be finalized. Baseline data as mentioned in Specific ToR shall be collected for preparation of EIA/ EMP report along with soil characteristics which shall be studied at minimum 10 locations. The ground water level at 10 locations shall be measured in project area in all three seasons.
- xvii. A study shall be carried out on impact of project activity on the aquatic and terrestrial ecosystem, within project area classifying the impact zones (highly impact/low impact zone) based on seasonal variations and covering the aspects related to impacts on aquatic ecosystem/ primary productivity due to quantity of water to be lifted for power generation and thermal stratification. Accordingly, Environment Management plan shall be prepared.
- xviii. Reservoir/ River banks protection plan all along the submergence need to be prepared and incorporated in EIA/ EMP.
- xix. Scope of watershed development in the 10 km radius of the project shall be studied in consultation with Indian Council of Agriculture Research (ICAR) Institutes/ Expert Govt. institutions and accordingly a detailed Water Shed Development Plan shall be prepared and incorporated in EIA/ EMP report.
- xx. Details of mineral zone, if any, in the study area, certified by Geological Survey of India or any other concerned Government Organization shall be submitted. The project area should not come up on any critical mineral zone, the same shall to be verified by GSI/NMDC.
- xxi. Any archaeological sites in the vicinity of the project, if any, then it shall be certified by ASI.
- xxii. Combined Impact of projects proposed in the basin on carrying capacity and sustainability of Reservoir/ River /nala of catchment area due to tapping of water for filling reservoir shall be studied.
- xxiii. The EAC site visit shall be conducted before considering the proposal for grant of

Environmental Clearance.

[B] Socio-economic Study:

- i. Declaration by the project proponent by way of affidavit that "No" Inter-state issue/ policy issue is involved with any State in the project.
- ii. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. A comparative chart of issues raised by General Public during Public Hearing and commitments made by the Project Proponent will be prepared and submitted in the relevant chapter of EIA/EMP report.
- iii. The EIA/EMP shall include a detailed socio-economic assessment of the tribal population in the project-affected area based on primary data and community consultations. A Tribal Development Plan, prepared in consultation with the District Administration and Tribal Welfare Department, shall be submitted along with the EIA report.
- iv. PP shall submit the credible documents to show the status of land acquisition w.r.t project site from/through the concerned State Government as required under Ministry's OM dated 7th October, 2014 for the project land to be acquired.
- v. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land (if any) shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. Budget earmarked for R&R, CSR shall not be included in the cost of EMP.

[C] Muck Management:

- i. Details of quantity of muck generation component wise, types of muck (Excavation in tunnels, pressure shaft and powerhouse etc.) and disposal site/ transportation to be provided.
- ii. Details of muck management such as dumping sites and its locations, transportation plan along with monitoring mechanism for muck transportation, detailing the road map of project construction site/ indicating the distances from HFL, river, project construction site along with types of road etc.
- iii. Safety measures for avoiding spill over muck into the riverbed/streams and its flow into the river during the high discharge/ flood or monsoon period. Prepare plan for stabilization of muck disposal sites using biological and engineering measures to ensure

that muck does not roll down the slopes and shall be disposed safely and that it does not pollute the natural streams and water bodies in surrounding area.

- iv. Restoration plan for construction area including dumping site of excavated materials by levelling, filling up of burrow pits, landscaping etc.

[D] Disaster Management:

- i. Impact of Project activities (specially blasting and drilling) on the aquatic and terrestrial ecosystem, within study area to be studied and be incorporated in EIA/EMP report.
- ii. The muck dumping sites shall be located with a distance of 100 mts from HFL. The PP shall submit the detailed action plan for transportation of muck along with monitoring mechanism of movement of muck carrying trucks.

[E] Miscellaneous:

- i. Both capital and recurring expenditure under EMP shall be submitted.
- ii. Pre-DPR Chapters viz., Hydrology, Layout Map and Power Potential Studies duly appraised by CWC/CEA shall be submitted.
- iii. 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.
- iv. Drone video of project site shall be recorded and to be submitted.
- v. Detailed plan to restore wider roads and convert them into narrow up to 10m after construction of the project.
- vi. Specific Terms of Reference (ToRs) issued by the Ministry vide Office Memorandum No. F. No. IA3-22/33/2022-IA.III dated 14.08.2023 for Pumped storage projects shall be used for preparation of EIA/ EMP reports.
- vii. As per Ministry's OM dated 1st August, 2013, PP shall submit application to obtain prior approval of Central Government under the Forest Conservation Act, 1980 for diversion of forest land required for such projects will be submitted as soon as the actual extent of forest land required for the project is known to the project proponent, and in any case, within 6 months of issuance of ToR. However, no proposal will be put up before EAC without submission of application for forest clearance, wherever applicable.

Agenda Item No. 49.2

Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra - Environmental Clearance (EC)- reg.

[Proposal No. IA/MH/RIV/423561/2023; F. No. J-12011/05/2021-IA.I (R)]

49.2.1 The proposal is for grant of Environmental Clearance (EC) to the proposed construction of Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 ha. at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra.

49.2.2 The Project Proponent and the Consultant M/s Mantec Consultants Pvt. Ltd, made a detailed presentation on the salient features of the project and informed that:

- i. Kurha Vadhoda Islampur lift Irrigation Scheme is in jurisdiction of Tapi Irrigation Development Corporation, Jalgaon. The project is located near Village Rigaon, Taluka Muktainagar, District Jalgaon.
- ii. The scheme envisages lifting of flood water in rainy season from Purna river by constructing Intake channel, Intake structure, Jack well overhead Pump house near village Rigaon Taluka Muktainagar, District- Jalgaon and a dam near village Islampur for a length of 6845m.
- iii. The proposal for grant of ToR was considered and recommended by the EAC in its meeting held on 25th, 31st and 32nd EAC meetings held on 14th March, 2022, 29th July, 2022 and 12th August, 2022 respectively. The terms of reference was granted by the Ministry vide letter dated 26th September, 2022.
- iv. The lifting point i.e. Jack well from Purna river falls in Village Rigaon, Tehsil- Muktainagar, District- Jalgaon & Dam site falls in Village-Islampur, Tehsil –Jalgaon (Jamod) & DistrictBuldhana, Maharashtra. Project Coordinates are as follows:

Lifting Point: Latitude: 20°57'30.00"N **Longitude:** 76°20'00"E

Dam Site at Islampur: Latitude: 21°02'14.99"N **Longitude:** 76°24'44.99"E

- v. The total command area under this scheme comprises for all 104 villages lies in Muktainagar Taluka of Jalgaon district and Jalgaon-Jamod & Sangrampur Talukas in Buldhana District. The Irrigable command area of Jalgaon District is 8445 ha (32%) and 17453 ha (68%) in Buldhana District, thus total command (ICA) under this scheme is 25898 Ha. Irrigation is proposed from dam by Gravity pipe line. Gross Command Area under this scheme is 40465 Ha Culturable Command Area is 32372 Ha & Irrigable Command Area is 25898 Ha. Thus, the project will benefit 25898 ha irrigable area.

| Benefitted Taluka | Benefit Area | | | Benefitted Villages |
|-----------------------|--------------|-------|-------|---------------------|
| | G.C.A | C.C.A | I.C.A | |
| Jalgaon District | | | | |
| Muktainagar Taluka | 12889 | 10311 | 8249 | 21 |
| Buldhana District | | | | |
| Jalgaon- Jamod Taluka | 15815 | 12652 | 10122 | 53 |
| Sangrapur Taluka | 11761 | 9409 | 7527 | 30 |
| Total | 40465 | 32372 | 25898 | 104 |

- vi. Purna river is a tributary of the River Tapi (also called Tapi). The Tapi River flows in a deep bed which historically has made it difficult to use for irrigation. This project contemplates to provide irrigation facilities annually to a culturable command area of 32372 Ha thus providing immense growth in agricultural produce of the area and will improve overall economy of the local population. Since there is scope for lifting water from Purna river, the scheme Kurha Vadhoda Islampur Ursa Sinchan Yojana is planned to lift flood water, store & then utilize it.
- vii. The total storage capacity of reservoir is 77.60 Mcum, and it will benefit 25898 Ha irrigable area (8249 Ha of Muktainagar Taluka & 17649 Ha of Jalgaon-Jamod Taluka) of Jalgaon & Buldhana Districts respectively of Maharashtra state.
- viii. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times).
- ix. Catchment Area- The catchment area of Islampur Dam is saucer shaped and classified as good. The total catchment area up to dam site is 8.50 sqkm (3.32 sq miles).
- x. The details of the project is as under:

| Particulars | Details |
|-------------------|---|
| Name of Project | Kurha Vadhoda Islampur Lift Irrigation Scheme UPSEA Sinchan Yojna with CCA 32372Ha at Village Rigaon, Tehsil- Muktainagar District Jalgaon, Maharashtra |
| Project Proponent | Tapi Irrigation Development Corporation, Sinchan Bhawan , Akash |

| | |
|--|--|
| | Wani Chowk, Jalgaon, Maharashtra-425001 |
| Location of the project | Village- Rigaon, Taluk-Muktainagar, Dist. Jalgaon, Maharashtra. Dam Site at Islampur: Latitude: 21°02'14.99"N, Longitude: 76°24'44.99"E Lifting Point: Latitude: 20°57'30.00"N, Longitude: 76°20'00"E |
| Land Requirement and Use | The total area required for the project is 572 Ha out of which 562 Ha is private land, 7.57 Ha is Government Land and remaining 1.98 Ha is Forest land for which Forest Clearance have been obtained on 23.11.2012 vide letter no. No. 6- MHB – 030/2012 – BHO/1853. |
| Total Water utilization | 3.564 TCM |
| Total Storage capacity of reservoir under the scheme | 77.60 Mcum |
| Average Annual Rainfall | 670 mm |
| Reserved Forest/ Protected Forest | <ul style="list-style-type: none"> • Machhandar Nath Mandir RF~ 2.6 kms in West from Dam site. • Raipur Reserved Forest~ 2.14kms in NW from dam site. • RF ~ 3.25kms in SE. |
| Seismic Zone | Zone-III (As per 1893:2002) |
| Category of Project | “A” (Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW from Dam site) |
| Type of Project | River Valley Projects (Schedule 1(c)) |

- xi. **Chronology of EC at MoEF&CC:** The proposal was earlier submitted to MoEF&CC for grant of TOR in January 2009, TOR was approved in April 2009. Draft EIA was submitted to SPCB in January, 2010 for conducting Public Hearing. The Public Hearing was held in April, 2010 and January, 2011. The Final EIA was submitted to MoEF&CC for grant of EC. EC was not granted to the project as the case was not pursued further with MoEF&CC, after submission of Final EIA.
- xii. However, it may also be noted that almost more than 50% work has been completed but no operation has been started.
- xiii. Progress of Lift Irrigation Project % wise is tabulated below:

| Sr. No. | Project Components | Construction done | Construction to be done |
|---------|------------------------|-------------------|-------------------------|
| 1 | Earthen Dam | 60% | 40% |
| 2 | HR and Spillway | 0% | 100% |
| 3 | Pump House No.1 | 95% | 5% |
| 4 | Intake structure | 0% | 100% |
| 5 | Pump House No.2 | 0% | 100% |
| 6 | Pump House No.3 | 85% | 15% |
| 7 | Machinery Installation | At PH 1&2 -0% | At PH 1&2 -100% |
| | | At PH 3-60% | At PH 3-40% |
| 8 | Rising Main | 10.784 km | 2.356 km |
| 9 | Electric Supply Works | 85% | 15% |
| 10 | Distribution Network | 0% | 100% |

- xiv. **Land requirement:** The total area required for the project is 572 ha out of which 562 ha is private land and 7.57 Ha is government land and remaining 1.98 Ha is forest land for which Forest Clearance has already been obtained.
- xv. Demographic details in 10 km radius of project area : Total population of the study area has been worked out to 160587 in which 82620 (51.4 per cent) are males and remaining 77967 (48.6 per cent) are females.
- xvi. **State/National boundaries:** Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW from Dam site.
- xvii. **Reserved Forest/Protected Forest:** Machhandar Nath Mandir RF~ 2.6 kms is located in West direction from Dam site and Raipur Reserved Forest~ 2.14kms is located in NW direction from dam site and another RF ~ 3.25kms is also located in SE direction.
- xviii. **Water requirement:** The quantity of water required during construction is estimated as 1177.60 KLD which shall be drawn from the Purna River for Pump House –I and Jack Well and tanker supply for construction of Pump House –II, pump House – III and Dam. It should also include the requirement balanced Work.
- xix. **Power Requirement:** Electricity supply to lift water is taken from Malkapur Sub Station of Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL). 132 KV transmission line is erected from Malkapur to Bhota substation, installed at Bhota. From Bhota sub Station 33 KV transmission lines are erected for electric supply to each pump house.
- xx. **Project Benefit:**
- a. Establishment of large developmental projects improve the availability of the physical

infrastructures like approach roads, communication and electricity facilities etc.

- b. The project will benefits 25898 ha irrigable area. out of this 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon –Jamod & Sangrampur Taluka of Buldhana District.
- c. The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic condition of the region.
- d. The assured irrigation would also lead to increased soil moisture regime.
- e. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times)
- f. Greenbelt is also proposed around the project site and along the project roads which would improve the local ecology and provide barrier to air and noise pollution.
- g. Plantation done in the project sites would also help in carbon sequestration.

xxi. **Environmental Sensitive area:** There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River/ water body is flowing at a distance of in direction.

xxii. **Project Cost:** Proposed cost for sanctioning to Water Resources Department of Government of Maharashtra is Rs. 2226.53 Crore.

xxiii. The project construction has been started prior to grant of Environmental Clearance and completed almost more than 50% of the work therefore, PP applied the proposal for grant of EC under violation category.

xxiv. Details of Solid waste/ Hazardous waste generation/ Muck and its management Estimated Muck to be generated 4065022 cum and Monitoring for spillage of muck during transportation.

xxv. The salient features of the proposal is as under:

- **Project details:**

| | |
|----------------------|---|
| Name of the Proposal | Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna With CCA 32372 Ha' At Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) (Schedule: 1 (C), Category: A (Due To Presence Of Maharashtra- Madhya Pradesh Interstate Boundary At 5.7 kms In NNW) |
|----------------------|---|

| | |
|-------------------------------------|--|
| Location (Including coordinates) | Village- Rigaon, Taluk-Muktainagar, Dist. Jalgaon, Maharashtra. Dam Site at Islampur : Latitude: 21°02'14.99"N Longitude: 76°24'44.99"E Lifting Point: Latitude: 20°57'30.00"N Longitude: 76°20'00"E |
| Inter- state issue involved | Yes, Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7 kms in NNW from Dam site |
| Seismic zone | Zone-III (As per 1893:2002) |

- **Category details:**

| | |
|--|---|
| Category of the project | “A” (Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW from Dam site) |
| Capacity / Cultural command area (CCA) | 77.6 Mcum/CCA 32372 Ha |
| Attracts the General Conditions (Yes/No) | Yes, Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7 kms in NNW from dam site |
| Additional information (if any) | No |

- **ToR/EC Details:**

| | |
|-----------------------------------|--|
| ToR Proposal No. | IA/MH/RIV/255427/2022 |
| EAC meeting date | 1) 25th EAC meetings held on 14th March, 2) 31st EAC meetings held on 29th July, 2022, 3) 32nd EAC meetings held on 12th August, 2022, 4) 45th EAC meetings held on 26th April, 2023, 5) 51st EAC meetings held on 03th October, 2023. |
| ToR Letter No. | F. No. J- 1201 1/05/2021-IA. I (R) |
| ToR grant Date | 26th September, 2022 |
| Cost of project | Rs. 2226.53 Crore |
| Total area of Project | 32372 Ha. |
| Height of Dam from River Bed (EL) | 42.4 mts |

| | |
|---|---|
| Details of submergence area | 536 ha |
| District to provide irrigation facility (if applicable) | Jalgaon District & Buldhana District |
| Details of tunnels on upper level & lower level and length of canal (if applicable) | Not Applicable |
| No. of affected Village. | Islampur, Hashampur, Navkhurd, Gorada |
| No. of Affected Families | Not Applicable |
| Project Benefits | <p>The drought prone area will get immensely benefitted due to availability of water for irrigation. The project will benefit 25898 ha irrigable area out of which 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon —Jamod & Sangrampur Taluka of Buldhana District. The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic prosperity of the region. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times). Thus there will be immense financial benefits accruing to the population. This increase in agricultural production will also boost the industrial activity especially agro based process industries. These will in turn provide employment opportunities to the locals and benefit the people socially as well as financially. The employment generation potential of the project is approx. 83.84 Lakhs man-days.</p> |
| R&R details | Not applicable |
| Catchment area/ Command area | 8.5 sq km/25898 Ha |
| Types of Waste and quantity of generation during construction/Operation | Construction Phase: Apart from the municipal solid waste generated from the labor camps and project colony, other wastes that will be generated during construction |

| | |
|---|--|
| | <p>will include materials such as scraps, inert concrete waste, plastic waste, packaging material, paint containers etc.</p> <p>Operation Phase: solid waste generation from project colonies</p> |
| Material used for blasting and its composition as per DGMS standards. | Not Applicable |
| E-Flows for the Project | Not applicable |
| <p>Is Projects earlier studied in Cumulative Impact assessment & Carrying Capacity studies(CIA&CC) for River in which project located. If yes then</p> <p>a) E-flow with TOR/Recommendation by EAC as per CIA&CC study of River Basin.</p> <p>b) If not the E-Flows maintain criteria for sustaining river ecosystem.</p> | Not Applicable |
| Details on provision of fish pass | Not applicable |
| Project benefit including employment details (no of employee) | <p>The total storage capacity of reservoir is 77.60 Mcum, and it will benefit 25898 Ha irrigable area (8249 Ha of Muktainagar Taluka & 17649 Ha of Jalgaon-Jamod Taluka) of Jalgaon & Buldhana Districts respectively of Maharashtra state.</p> <p>The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic condition of the region.</p> <p>Total 104 of CCA villages will be benefitted by this proposed scheme.</p> <p>The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more</p> |

| | |
|--|---|
| | than 9 times). The employment generation potential of the project is approx. 83.84 Lakhs man days. |
| Area of Compensatory Afforestation (CA) with tentative no of plantation. | 30.69 ha and tentative number of plantation 46035 |
| Previous EC details | Fresh EC |
| EC Compliance Report by R.O, MOEF&CC | Not applicable |
| No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Naam' campaign | -- |

- **Muck Management Details:**

| | |
|--|---|
| No. of proposed disposal area/ (type of land- Forest/Pvt land) | The location of the muck dumping site is inside the storage area in the range of 0.5 hectare to 4 hectares. |
| Cross section of proposed muck area, Height of muck with slope. | The maximum height of the dump will be restricted to 1.5 mts. The unused material will be piled at an angle of repose not exceeding 26 degree at the proposed dumping sites |
| Distance of muck disposal area(location), from muck generation sources (project area)/River, HFL of proposed muck disposal area. | The location of the muck dumping site is inside the storage area in the range of 0.5 hectare to 4 hectares. |
| Total Muck Disposal Area | 2.25 ha |
| Estimate Muck to be generated | 4065022 |
| Transportation | By Truck/Tipper |
| Monitoring mechanism for Muck Disposal Transportation | Monitoring for spillage of muck during transportation. |

- **Land Area Breakup:**

| | |
|---------------------------------|----------------|
| Private Land | 562.45 ha |
| Government land/Forest Land | 7.57 ha |
| Patta Land | 1.98 ha |
| Total Land | 572 ha |
| Submergence area/Reservoir area | 419 ha/87.0 ha |

| | |
|---------------------------------|---|
| Additional information (if any) | - |
|---------------------------------|---|

• **Presence of Environmentally Sensitive areas in the study area:**

| Forest Land/ Protected Area/ Environmental Sensitivity Zone | Yes/No | Details of Certificate/ letter/Remarks |
|--|--------|---|
| Reserve Forest/Protected Forest Land | Yes | 6-MHB 030/2012-BHO/1853 DATED 23/11/2012 |
| National Park | No | |
| Wildlife Sanctuary | No | |
| Archaeological sites monuments/historical temples etc | No | |
| Additional information (if any) | - | |

• **Public Hearing (PH) Details**

| | |
|--------------------------------|---|
| Advertisement for PH with date | For Jalgaon district 24.10.2023 (in English newspaper) and 21.10.2023 (in Marathi newspaper) and For Buldhana district 26.10.2023 in both English and Marathi newspaper |
| Date of PH | 22/11/2023 and 30.11.2023 in Jalgaon and Buldhana district respectively |
| Venue | Shri. Shivaji High School, Vadhoda, Tal. Muktainagar, Dist. Jalgaon & Construction Camp, Near Islampur Dam, At. Islampur, Tal. Jalgaon (jamod) Dist: Buldhana. |
| Chaired by | Sub Divisional Magistrate authorized by District Magistrate |
| Main issues raised during PH | <ol style="list-style-type: none"> 1. Delay in project despite administrative approval of ₹2226 crore; farmers suffering due to lack of irrigation 2. Concern over cost escalation due to delay and administrative approvals 3. Timeline for completion and employment opportunities 4. Suggestion to expedite approvals and complete project quickly 5. Method and timeline for water distribution to farms |

| | |
|------------------------|--|
| | 6. Compensation and land requirement for farm ponds Incomplete pipeline work 7. Benefits to tribal villages and affected communities 8. Electricity requirement and cost for water lifting 9. Employment priority for project-affected persons 10. Land acquisition compensation and grievances 11. Access issues due to land acquisition (road connectivity) 12. Demand for early completion of dam and irrigation benefits 13. Demand for solar facilities and village infrastructure |
| No. of people attended | Around 100 Peoples attended Jalgaon public Hearing and Buldhana public hearing each approximately |

- **Brief of base line Environment:**

| Particulars | Details |
|--|---|
| Period of baseline data collection/Sampling period. | BASELINE STUDY PERIOD: Winter Season (December 2020- February 2021), Pre-Monsoon Season (March- May 2022) and Monsoon Season (June 2022- September 2022) |
| (Air, noise, water, land) flora and fauna of the project area, aquatic ecology, etc. | 8 locations monitoring locations for Air, noise and soil and 6 for ground water and 3 for surface water further detailed in EIA/EMP report 7 monitoring locations for Flora and Fauna further detailed in EIA/EMP report Detailed in EIA/EMP report |
| Brief description on hydrology and water assessment as per the approved Pre-DPR: | Detailed in EIA/EMP report |

- **Court case details:** Maharashtra Pollution Control Board Through Rajendra A Rajput versus Tapi Irrigation Development Corn

- **Status of other statutory clearances:**

| Particulars | Letter no. and date |
|--|--|
| Certified EC compliance report (if applicable) | NA |
| Status of Stage-I FC | 1.98 Ha is Forest land for which Forest Clearance have been obtained on 23.11.2012 vide letter no. No. 6- MHB – 030/2012 – BHO/1853. |
| Additional detail (If any) | |
| Is FRA (2006) done for FC-I | Stage-II FC granted |

- **Miscellaneous:**

| Particulars | Details |
|-----------------------|--|
| Details of consultant | Mantec Consultants Pvt. Ltd. and NABET/EIA/23-26/RA 0305_Rev.01 |
| Project Benefits | The drought prone area will get immensely benefitted due to availability of water for irrigation. The project will benefit 25898 ha irrigable area out of which 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon —Jamod & Sangrampur Taluka of Buldhana District. The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic prosperity of the region. The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times). Thus there will be immense financial benefits accruing to the population. This increase in agricultural production will also boost the industrial activity especially agro based process industries. These will in turn provide employment opportunities to the locals and benefit the people socially as well as financially. The employment generation potential of the project is approx. 83.84 Lakhs man-days. |

49.2.3 The EAC during deliberations noted that the proposal was earlier considered by the EAC in its meeting held on 26.04.2023.

Observations of the EAC in its meetings held on 26.04.2023:

- The scheme envisages lifting of flood water in rainy season from Purna river by constructing Intake channel, Intake structure, Jack well overhead Pump house near village Rigaon Taluka Muktainagar, District- Jalgaon and a dam near village Islampur for a length of 6845m.
- The total command area under this scheme comprises for all 104 villages lies in Muktainagar Taluka of Jalgaon district and Jalgaon-Jamod & Sangrampur Talukas in Buldhana District. The Irrigable command area of Jalgaon District is 8445 ha (32%) and 17453 ha (68%) in Buldhana District, thus total command (ICA) under this scheme is 25898 Ha. Irrigation is proposed from dam by Gravity pipe line. Gross Command Area under this scheme is 40465 Ha Culturable Command Area is 32372 Ha & Irrigable Command Area is 25898 Ha.
- The project proponent has informed that the proposal was earlier submitted to MoEF&CC for grant of ToR in January 2009, TOR was approved in April 2009. Draft EIA was submitted to SPCB in January, 2010 for conducting Public Hearing. The Public Hearing was held in 16th April, 2010 and 12th January, 2011. The Final EIA was submitted to MoEF&CC for grant of EC. EC was not granted to the project as the case was not pursued further with MoEF&CC, after submission of Final EIA.
- Thereafter, the project proponent submitted proposal for ToR afresh under 'violation category' and the Ministry granted ToR vide letter dated 26.09.2022. The Ministry had granted ToR to the project with public consultation (without public hearing) for conducting EIA study and given additional/specific ToR that Public Consultation shall be carried out as per the provision contained in EIA Notification, 2006. In which public 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. However, in the public consultation process, the public notice has not been issued by the State Pollution Control Board. The consultant M/s Mantec Consultants Pvt. Ltd has informed that they have carried out the public consultation process by themselves through interaction with local people. The project proponent then presented the complete public consultation carried out in the project area along with the minutes of earlier Public hearing to the EAC members and submitted tabular chart of issues raised and compliance of the same with statement on the commitments (activity-wise) made during public hearing. The EAC also suggested to incorporate the same in the Final EIA report and submit request to the Ministry to for uploading on PARIVESH portal.
- It was also observed that the project proponent has not submitted the Wildlife Conservation Plan for Schedule-I species reported in the study area to state forest and

wildlife department for approval.

- The committee deliberated on ecological damage assessment report and observed that it needs revision with respect to procedure followed and restoration cost calculation in various components viz. remediation plan, Cost of natural resource augmentation plan and Cost of Community Resources Augmentation in terms of Ministry's OM dated 7.07.2021 for Standard Operating Procedure (SoP) for Identification and handling of violation cases under EIA Notification 2006.
- The Committee also observed certain shortfalls in information provided in the EIA/EMP report prepared by the consultant specially in the TOR compliance. The EAC showed displeasure about the performance of the consultant and suggested the Ministry to take appropriate action against the consultant and report to NABET to review their accreditation.
- The EAC was of the opinion that the present project is being constructed in drought prone area of Jalgaon District of Maharashtra and is of immense importance of local public, and to scrutinize the EIA/EMP report along with the ecological damage assessment report. The summary of amounts mode of spending each, as calculated by the EAC, is presented below,

Table: COST SUMMARY

| Sl. No. | Description | Estimated cost (Rs. Crores) |
|---|--|------------------------------------|
| 1 | Remediation Plan | 2.50 |
| 2 | Natural Resources Augmentation Plan | 2.00 |
| 3 | Community Resources Augmentation Plan | 1.54 |
| Total Damage Amount to be given under bank guarantee | | 6.04 |
| 4 | Penalty as per OM dated 07/07/2021 to be paid to State Pollution Control Board | 3.45 |
| 5 | 0.5% Contribution from Capital Cost (Rs.690 Crores) against Commitment via affidavit as per OM dated 30/09/2020 | 3.45 |

- The EAC after detailed deliberations recommended the proposal for grant of Environmental Clearance (EC) for Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 under violation category.

49.2.4 However, during the processing of the file in the Ministry, it was emerged that the due process has not been followed by the project proponent during Public Consultation as prescribed under the EIA Notification, 2006, as amended and the public consultation process carried out by the consultant themselves, and not as per EIA, Notification. 2006, as amended. Accordingly, the Ministry referred back the proposal to the EAC. The EAC in view of the observations of the Ministry reconsidered the proposal in its meeting held on 12.09.2023 and suggested the PP to conduct 'Public Consultation' as per procedure prescribed.

As per recommendations of the EAC the PP carried out 'Public Consultation' process as per provisions of the EIA Notification, 2006, as amended and submitted the report in the Ministry on 12.01.2024.

The Ministry vide ADS dated 25.01.2024 informed the PP that the Hon'ble Supreme Court vide its order dated 2.01.2024 in Writ Petition(s) (Civil) No(s). 1394/2023 in the matter of Vanashakti versus Union of India has stayed the operation of the Office Memoranda dated 7th July, 2021 and 28th January, 2022 issued by the Ministry for handling the violation cases.

The PP on 12.02.2026 replied the ADS stating that stay on the operation of the Office Memorandum dated 07.07.2021 and 28.01.2022 has since been vacated/removed by the Hon'ble Supreme Court. Accordingly, the restriction on processing of proposals under the said SOP is no longer in force. The PP further requested to consider the proposal in terms of the directions of the Hon'ble Supreme Court in the aforesaid matter.

Accordingly, the Ministry, has referred the Public Consultation report for further examination and deliberation by the EAC in terms of the provisions of the MoEF&CC Office Memorandum dated 20.01.2026 issued for handling the pending violation cases.

Observation of EAC in the current meeting:

- The EAC noted that as per recommendations of the EAC made during its meeting held on 12.09.2023 the PP was informed by the Ministry to complete the Public Consultation process as per prescribed procedure. Accordingly, the Public Hearing Notice was advertised in local newspaper and English newspaper on 26.10.2023 and the Public hearing was conducted by the State Pollution Control Board on 30/11/2023 in Jalgaon District under Chairmanship of Shri Jitendra Patil, Sub-Divisional Officer and Sub-divisional magistrate, Bhusawal Division. Further, the Public Hearing Notice was advertised in local newspaper on 26.10.2023 and English newspaper on 24.10.2023 and the Public hearing was conducted by the State Pollution Control Board on 22/11/2023 in Buldhana District under chairmanship of Shri Shailesh Kale, Sub-Divisional Magistrate, Jalgaon Jamod.
- The main issues raised during the public hearing are related to:
 - a) Delay in project despite administrative approval of ₹2226 crore; farmers suffering due to lack of irrigation

- b) Concern over cost escalation due to delay and administrative approvals
 - c) Timeline for completion and employment opportunities
 - d) Suggestion to expedite approvals and complete project quickly
 - e) Method and timeline for water distribution to farms
 - f) Compensation and land requirement for farm ponds Incomplete pipeline work
 - g) Benefits to tribal villages and affected communities
 - h) Electricity requirement and cost for water lifting
 - i) Employment priority for project-affected persons
 - j) Land acquisition compensation and grievances
 - k) Access issues due to land acquisition (road connectivity)
 - l) Demand for early completion of dam and irrigation benefits
 - m) Demand for solar facilities and village infrastructure
- The EAC observed that Public Hearing was chaired by SDM level officer in the both Jalgaon District and Buldhana District. As per the Ministry Notification S.O.2163(E), dated the 9th May, 2022, it was provisioned that

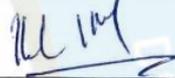
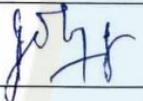
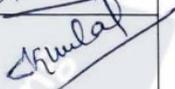
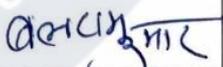
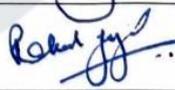
“...Provided that in case the project or activity is confined to the territorial jurisdiction of one sub-division, the District Magistrate/District Collector/Deputy Commissioner, as the case may be, may alternatively authorise any officer not below the rank of Sub-Divisional Magistrate to supervise and preside over the entire public hearing process assisted by a representative of SPCB or UTPCC, as the case may be.”....
 - In view of the above, the EAC asked PP to submit authorization letter from competent authority for presiding the Public hearing. Accordingly, PP vide letter dated 27.02.2026 submitted the requisite information.
 - The EAC discussed the concerns raised during the Public Hearing (PH) and reviewed the action plan submitted by the PP to address these issues. After detailed deliberation, the Committee found the action plan satisfactory, recognizing that the proposed mitigation measures adequately respond to stakeholders' concerns.

49.2.5 The EAC after detailed deliberation on the information submitted and as presented during the meeting recommended the proposal for grant of Environmental Clearance (EC) for Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra under the provisions of EIA Notification, 2006, as amended under violation category, subject to compliance of standard conditions and specific conditions as recommended by the EAC in its earlier meeting dated 26.04.2023.

The meeting ended with vote of thanks to and from the Chair.

ATTENDANCE49TH MEETING OF EXPERT APPRAISAL COMMITTEE (EAC)(RV & HE Sector)

DATE & TIME : 26th February 2026 from 10:30 AM to 5:30 PM
VENUE : Narmada Conference Hall Ground Floor Jal Wing
 Indira Paryavaran Bhawan New Delhi

| Sl. No. | Name of Member | Role | Signature |
|---------|-------------------------|---------------------|---|
| | | | 26.02.2026 |
| 1. | Prof. G.J. Chakrapani | Chairman |  |
| 2. | Dr Mukesh Sharma | Member | |
| 3. | Dr. Uday Kumar RY | Member |  |
| 4. | Dr. J A Johnson | Member | |
| 5. | Dr. J V Tyagi | Member |  |
| 6. | Shri Kartik Sapre | Member |  |
| 7. | Shri Ajay Kumar Lal | Member |  |
| 8. | Dr. A K Sahoo | Member | |
| 9. | Shri Balram Kumar | Member |  |
| 10. | Shri Rakesh Goyal | Member |  |
| 11. | Shri Yogendra Pal Singh | Member Secretary |  |

APPROVAL OF THE CHAIRMAN

===== Forwarded message =====

From: Chakrapani GovindaJoseph <govind.chakrapani@es.iitr.ac.in>

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

Date: Tue, 10 Mar 2026 15:15:52 +0530

Subject: Re: Draft MOM of the 49th EAC (RVHEP) meeting held on 26.02.2026-reg.

===== Forwarded message =====

Approved.
Chakrapani

From: Yogendra <yogendra78@nic.in>

To: Chakrapani <govind.chakrapani@es.iitr.ac.in>

Date: Tuesday, 10 March 2026 3:13 PM IST

Subject: Re: Draft MOM of the 49th EAC (RVHEP) meeting held on 26.02.2026-reg.

Dear Sir,

As discussed, the recommendations para (49.2.5) of the agenda item 49.2 regarding the proposal for grant of EC to Kurha Vadhoda Islampur Lift Irrigation Scheme of Culturable Command Area (CCA) of 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra, has been modified. Accordingly, the modified draft MOM of the 49th EAC (RVHEP) meeting held on 26.02.2026 is attached herewith for your approval please.

With Regards,

Yogendra Pal Singh
Scientist 'F'

Government of India

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

