सत्यमेव जयते

File No: J-12011/38/2023-IA.I (R)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **15/06/2026**

To,

Mr. Ivaturi Nandikeswara Rao
M/s. THE TATA POWER CO LTD
24, Homi Modi Street, Bombay House, Mumbai 24, MUMBAI, MAHARASHTRA, 34, Sant Tukaram Road, 400009
tatapower.moef@tatapower.com

Subject: **Shirawta Open Loop Pumped Storage Project (1800 MW) in an area of 197.797 ha at Village Khandshi, Rakaswadi, Thoran etc, Sub-district Mawal, District Pune, Maharashtra by M/s The Tata Power Company Limited – Environmental Clearance - reg.**

Sir/Madam,

This is in reference to your online application No. IA/MH/RIV/550476/2025, submitted on 05/09/2025 to this Ministry for the grant of Environmental Clearance (EC) under the provisions of the EIA Notification, 2006, and its subsequent amendments. The application pertains to the Shirawta Open Loop Pumped Storage Project (1800 MW) in an area of 197.797 ha at Village Khandshi, Rakaswadi, Thoran etc, Sub-district Mawal, District Pune, Maharashtra by M/s The Tata Power Company Limited.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC25A0000MH5202108N
(ii) File No.	J-12011/38/2023-IA.I (R)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	1(c) River Valley/Irrigation projects
(vi) Sector	River Valley and Hydroelectric Projects
(vii) Name of Project	Shirawta Off Stream Open Loop Pumped Storage Project (1800 MW)
(viii) Name of Company/Organization	THE TATA POWER CO LTD
(ix) Location of Project (District, State)	PUNE, MAHARASHTRA

(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. In view of the particulars given in the Para 2 above, the project proposal inter-alia including Form-1(Part A, B and C)/ EIA & EMP Reports were submitted to the MoEF&CC for an appraisal by the Expert Appraisal Committee (River Valley & Hydro-electric) under the provision of EIA notification 2006, as amended.

4. The above-mentioned proposal has been considered by the EAC in its 40th meeting held on 26.09.2025. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed from the PARIVESH portal by scanning the QR Code above.

5. The EAC after examining the information submitted and detailed deliberations recommended the proposal for grant of prior Environmental Clearance by the Ministry to Shirawta Open Loop Pumped Storage Project (1800 MW) in an area of 197.797 ha at Village Khandshi, Rakaswadi, Thoran etc, Sub-district Mawal, District Pune, Maharashtra by M/s The Tata Power Company Limited, under the provisions of EIA Notification, 2006 and as amended with subject to compliance of applicable Standard EC conditions with the certain specific environmental safeguard conditions (Annexure - I).

6. The details of the project as per the information submitted by the Project proponent is given in Annexure – II.

7. The MoEF&CC has examined the proposal in accordance with the provisions contained in the Environment Impact Assessment (EIA) Notification, 2006, as amended and based on recommendation of EAC, the Ministry, hereby accords approval for grant of Environmental Clearance to the project for Shirawta Open Loop Pumped Storage Project (1800 MW) in an area of 197.797 ha at Village Khandshi, Rakaswadi, Thoran etc, Sub-district Mawal, District Pune, Maharashtra by M/s The Tata Power Company Limited, under the provisions of EIA Notification, 2006, as amended subject to compliance of the Specific and Standard EC conditions as given in Annexure (1) for environmental safeguards.

8. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006, as amended. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

9. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

10. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

11. The Validity of EC is upto 13 years to the start of production operations by the project or activity.

Validity of EC becomes perpetual subject to the start of production operations by the project or activity on or before the In case the project proponent fails to start the production operations within the EC validity date, application for EC validity extension shall be submitted to the regulatory authority as per the provision contained in the Para 9.0 of EIA notification, 2006, as amended.

12. The Project Proponent is obligated to implement all commitments made in the Environmental Management Plan (EMP), which forms an integral part of this Environmental Clearance (EC).

13. General Instructions:

(a) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.
(b) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
(c) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.
(d) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
(e) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
(f) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
(g) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
(h) PP needs to comply the OM dated 24.07.2024 of MoEFCC, where it is stated that the plantation of saplings shall be carried out in the earmarked 33% greenbelt area as part of the tree plantation campaign " EK Ped Ma ke Naam" (एक पेड़ माँ के नाम (and the details of the same shall be uploaded in the MeriLife portal (https://merilife.nic.in).

14. This issues with the approval of the Competent Authority.

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N/A

Annexure 1

Specific EC Conditions for (River Valley/irrigation Projects)

1. Miscellaneous:

S. No	EC Conditions
1.1	After 5 years of the commissioning of the project, a study shall be undertaken regarding impact of the project on the environment. The study shall be undertaken by an independent agency.
1.2	A dedicated team to oversee environmental management activities (at project site) shall be set up comprising Environment Manager having post graduate qualification in Environmental Sciences/ Environment Engineering along with other supporting staff. The Environment Manager Shall report to Project Head directly.
1.3	PP shall procure construction material only from those Organizations having all valid legal/statutory clearances/permissions or necessary permission to be obtained for quarrying construction materials for the project as per the EIA Notification, 2006 and as amended thereof.

2. Socio-economic

S. No	EC Conditions
2.1	Land acquired for the project shall be suitably compensated in accordance with the prevailing guidelines of the state government and provisions under Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
2.2	RO plant shall be installed in the nearby 5 villages and the maintenance shall be done by the project Authorities.
2.3	Solar panel be provided to the families living in rural areas within 10 km radius of project.
2.4	School up to 12^{th} Standard shall be established and managed to provide free quality education for children from project affected villages/Tribal villages. Adequate transportation facilities shall also be provided to students to ensure connectivity and ease of access.
2.5	50 bed multi-specialty hospital shall be established to cater the need of tribal population/locals. The tribal population within 10 km radius of the project shall be given free of cost medical facility.
2.6	Skill development Centre shall be established within 10 km radius of the project and regular training programmes for development and promotion of traditional art/products of tribal/local population. The Skill Development Plan shall mandatorily include the following components: · Capacity building and skill enhancement programs aligned with local livelihood opportunities. · Establishment of linkages with Industrial Training Institutes (ITIs) and other recognized training centres for imparting technical skills. · Provision of free or subsidized access to healthcare facilities in project-supported hospitals and health centres. · Support to educational institutions in the study area through free services, scholarships, infrastructure strengthening, and vocational guidance programs. · Special outreach initiatives for women, youth, and vulnerable groups within the SC/ST communities to ensure inclusive participation and benefits. The Plan shall be implemented in a time-bound manner with clearly earmarked budgetary provisions, which shall not be diverted for any other purpose.

S. No	EC Conditions
2.7	The PP shall submit annual progress reports on the implementation of the Skill Development Plan and associated community welfare measures to the Regional Office of the Ministry.
2.8	Bio-Gas plant shall be installed in the Project affected area for Utilizing Cattle waste (Cow Dung) into renewable source of fuel.
2.9	Preference in employment opportunities and admission to ITI institutions shall be given to Project Affected Families (PAFs).
2.10	An institutional mechanism to be developed to ensure the preference of jobs to PAFs and SC/ST and also a policy for preferential treatment for award of sundry works to the PAFs and SC/ST and their dependents.
2.11	The compliance of above conditions shall be monitored by IRO, MoEF&CC and regularly site visit once in year. The compliance report of IRO shall be regularly submitted to MoEF&CC.
2.12	A Environment Management Cell shall be established comprising One Environment Manager having post graduate qualification in Environmental Sciences/Environment Engineering along with supporting staff. The Environment Manager will report to Project head directly.

3. Disaster Management

S. No	EC Conditions
3.1	Disposal of the excavated muck and its filling on the low-lying area with proper measures for the stabilization and greenery to minimize the impacts of the generated construction muck shall be taken up pari passu with construction work.
3.2	Stabilization of muck disposal sites using biological and engineering measures shall be taken up immediately to ensure that muck does not roll down the slopes and does not pollute the natural streams and water bodies in surrounding area. The plantation on muck disposal site with local species for restoration of ecology and environment of the project site area.
3.3	Necessary control measures such as water sprinkling arrangements, and construction of paved roads leading to muck disposal sites etc. shall be taken up on priority to arrest fugitive dust at all the construction sites.
3.4	Solid waste generated, especially plastic waste, etc. should not be disposed of as landfill material. It should be treated with scientific approach and recycled. Use of single-use plastics may be discouraged.
3.5	Technical appraisal of project shall be obtained from CEA in terms of Office Memorandum no. 15-23/3/2021-Hydel-II dated 29.08.2025 issued by the Ministry of Power, before start of construction activities of the project.

4. Environmental Management And Biodiversity Conservation

S. No	EC Conditions
4.1	Stage-I FC shall be obtained before grant of EC.
4.2	The water of rainfall yield of self-catchment of the reservoir shall be released to downstream through body of dam/ barrage/ embankment etc.
4.3	The Environmental Management Plan (EMP) shall be strictly adhered to as submitted in the EIA/EMP reports. The budgetary provisions for implementation of EMP, shall be fully utilized and not to be diverted to any other purpose. In case of revision of the project cost or due to price level change, the cost of EMP shall also be updated proportionately.
4.4	The contract clause limiting the No. of vehicles used during excavation and transportation shall followed scrupulously and the same shall informed to the ministry.
4.5	Ambient Air Quality Monitoring Stations for real time data to be installed at project site before commencement of the construction, shall be displayed at project site and its report to be submitted to IRO, MoEF&CC.
4.6	No vehicle purchase shall be allowed from funds earmarked for implementation of Wildlife Conservation plan. Measures for minimizing the human–animal conflict specially for black bear and leopard be suitably incorporated in the wildlife conservation plan in consultation with State Forest Department.
4.7	10000 plants shall be planted around the muck disposal area and the survival of plants shall be submitted with the 6 monthly compliance report.
4.8	Plantation of saplings shall be carried out as a part of the tree plantation campaign "Ek Ped Ma Ke Naam" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in).
4.9	Watershed development plan prepared shall be implemented within 10 km radius of the project. Implementation status be submitted in the 6 monthly compliance report to the concerned regional office of the Ministry. The execution of Watershed development Plan shall be supervised by the agency/institute who has prepared the plan.
4.10	PP shall prepare time bound reclamation and restoration plan for restoration of batching plant in consultation with the Forest Department and same shall be submitted to IRO, MoEF&CC and shall be fully implemented within five years of commissioning of the project.
4.11	The reservoir sedimentation study shall be conducted periodically to determine the actual amount of water available in the reservoir.

Standard EC Conditions for (River Valley/Irrigation projects)

1. Statutory Compliance

S. No	EC Conditions
1.1	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

S. No	EC Conditions
1.2	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
1.3	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of Schedule-I species in the study area).
1.4	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
1.5	NOC shall be obtained from National Commission of Seismic Design Parameters (NCSDS) of CWC.
1.6	Necessary approval of CEA shall be obtained for those projects having the project cost more than Rs. 1,000 crores.

2. Air Quality Monitoring And Preservation

S. No	EC Conditions
2.1	Regular monitoring of various environmental parameters viz., Water Quality, Ambient Air Quality and Noise levels as per the CPCB guidelines at designated locations shall be carried out on monthly basis and a detailed database of the same shall be prepared and recorded. This shall be used as a baseline data for post construction EIA / Monitoring purposes.
2.2	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed standards.
2.3	Necessary control measures such as water sprinkling arrangements, etc. bet taken up to arrest fugitive dust at all the construction sites.
2.4	Conjunctive use of surface water to be planned in the project to check water logging as well as to increase crops productivity. The field drains shall be connected with natural drainage system (if applicable).
2.5	Remodelling of existing natural drains (link drains) and connecting them with irrigated land through constructed field drains, collector drains, etc. are to be ensured on priority basis (if applicable).
2.6	Before impounding of the water, Cofferdams for both at the upstream and downstream are to be decommissioned as per EIA/EMP report so that once the project is commissioned; cofferdam should not create any adverse impact on water environment including the rock mass and muck used for the Cofferdam.
2.7	As the reservoir will be acting as balancing reservoir and there would be fluctuation of water level during peaking period, efforts be made to reduce impact on aquatic life including impacts during spawning period both at the upstream and downstream of the project.

S. No	EC Conditions
2.8	Water depth sensors shall be installed at suitable locations to monitor e-flow. Hourly data to be collected and converted to discharge data. The Gauge and Discharge data in the form of Excel Sheet be submitted to the Regional Office, MoEF & CC and to the CWC on weekly basis.
2.9	Mixed irrigation shall be practised and necessary awareness be given to all the farmers and trained in the use of such systems. Proper crops selection shall be carried out for making irrigation facility more effective (if applicable).
2.10	On Farm Development (OFD) works like landscaping, land levelling, drainage facilities, field irrigation channels and farm roads, etc. should be taken up in phased manner prior to the start of irrigation in the entire command area. The Command Area Development Plan should be strictly implemented as proposed in the EIA/EMP report (if applicable).

3. Noise Monitoring And Prevention

S. No	EC Conditions
3.1	All the equipment likely to generate high noise shall be appropriately enclosed or inbuilt noise enclosures be provided so as to meet the ambient noise standards as notified under the Noise Pollution (Regulation and Control) Rules, 2000, as amended in 2010 under the Environment Protection Act (EPA), 1986.
3.2	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

4. Catchment Area Treatment Plan

S. No	EC Conditions
4.1	Catchment Area Treatment (CAT) Plan as proposed in the EIA/EMP report shall be implemented in consultation with the State Forest Department and shall be implemented in synchronization with the construction of the project.

5. Waste Management

S. No	EC Conditions
5.1	Muck disposal be carried out only in the approved and earmarked sites. The dumping sites shall be located sufficiently away from the HFL of the river. Efforts be made to reuse the muck for construction and other filling purposes and balanced be disposed of at the designated disposal sites. Once the muck disposal sites are inactive, proper treatment measures like both engineering and biological measures be carried out so that sites are stabilized quickly.
5.2	Solid waste management should be planned in details. Land filling of plastic waste shall be avoided and instead be used for various purposes as envisaged in the EIA/EMP reports. Efforts be made to avoid one time use of plastics.

6. Green Belt And Wildlife Management

S. No	EC Conditions
6.1	Based on the recommendation of Cummulative Impact Assessment and Carrying capacity study of river basin or as per the ToR conditions or minimum 15% of the average flow of four consecutive leanest months, whichever value is higher, shall be released as environmental flow.
6.2	Detailed information on species composition particular to fish species from previous study/literature be inventoried and proper management plan shall be prepared for insitu conservation in the streams, tributaries of river and the main river itself for which adequate budget provision be made and followed strictly.
6.3	Wildlife Conservation Plan approved by the Chief Wildlife Warden shall be implemented in consultation with the local State Forest Department.
6.4	To enrich the habitat of the project site, plantation shall be raised as envisaged in the EIA/EMP report. Plantation to be developed along the periphery of the reservoir in multi-layers with local indigenous species in consultation with the local State Forest Department.
6.5	Compensatory afforestation programme shall be implemented as per the plan approved.
6.6	Fish ladder/pass as envisaged in the EIA/EMP report shall be provided for migration of fishes. Regular monitoring of this facility be carried out to ensure it effectiveness.

7. Public Hearing And Human Health Issues

S. No	EC Conditions
7.1	Resettlement & Rehabilitation plan be implemented in consultation with the State Govt. as approved by the State Govt.
7.2	Budget provisions made for the community and social development plan including community welfare schemes shall be implemented in toto.
7.3	Preventive measures viz. fuming and spraying of mosquito control shall be done in and around the labour colonies, affected villages, stagnated pools, etc. Provisions be made to not to create any stagnated pools to avoid creation of breeding grounds of the vector borne diseases.
7.4	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
7.5	Labour force to be engaged for construction works shall be examined thoroughly and adequately treated before issuing them work permit. Medical facilities shall be provided at the construction sites.

8. Risk Mitigation And Disaster Management

S. No	EC Conditions
8.1	Early Warning Telemetric system shall be installed in the upper catchment area of the project for advance intimation of flood forecast.
8.2	Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
8.3	Emergency preparedness plan be made for any eventuality of the dam failure and shall be implemented as per the Disaster Management Plan.
8.4	Stabilization of muck disposal sites using biological and engineering measures shall be taken up 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. The engineering measures for the muck disposal arrangements be evolved after carrying out required slope stability analysis.
8.5	Catchment area treatment plan shall be prepared and sufficient fund shall be provided for afforestation, rim plantation, pasture development, nursery development.

9. Corporate Environment Responsibility

S. No	EC Conditions
9.1	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30th September, 2020, as applicable, regarding Corporate Environment Responsibility.
9.2	Skill mapping be undertaken for the youths of the affected project area and based on the skill mapping, necessary trainings to the youths be provided for their long time livelihood generation
9.3	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation/violation of the environmental / forest / wildlife norms/conditions and / or shareholders/ stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
9.4	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
9.5	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
9.6	Post EIA and SIA be prepared for the project through a third party and evaluation report be submitted to the Ministry after five years of commissioning of the project.

S. No	EC Conditions
9.7	Multi Disciplinary Committee (MDC) be constituted with experts from Ecology. Forestry, Wildlife, Sociology. Soil Conservation, Fisheries, NGO, etc. to oversee implementation of various environmental safeguards proposed in EIA/EMP report during construction of the project. The monitoring report the Committee shall be uploaded in the website of the Company.
9.8	Formation of Water User Association/Co-operative be made involment of the whole community be ensured for discipline use of available water for irrigation purposes

10. Miscellaneous

S. No	EC Conditions
10.1	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
10.2	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
10.3	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
10.4	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
10.5	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
10.6	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
10.7	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
10.8	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
10.9	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
10.10	Concealing factual data or submission of false/fabricated data may result in revocation of this

S. No	EC Conditions
	environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
10.11	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
10.12	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
10.13	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
10.14	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
10.15	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Additional EC Conditions

The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon’ble Supreme Court of India/High Court and any other Court of Law relating to the subject matter.

Annexure-II

Shirawta Open Loop Pumped Storage Project (1800 MW) in an area of 197.797 ha at Village Khandshi, Rakaswadi, Thoran etc, Sub-district Mawal, District Pune, Maharashtra by M/s The Tata Power Company Limited

The details of the project: -

The Project Proponent and the accredited Consultant M/s R S Envirolink Technologies Pvt. Ltd. (RSET) made a detailed presentation on the salient features of the project and informed that:

i. Shirawta Off-stream Open Loop Pumped Storage Project (PSP) with a proposed installed capacity of 1800 MW is located near the Khopoli Hydro Power Plant and Shirawta Dam, Mawal (Maval) Taluka in Pune District of Maharashtra.

ii. The total installed capacity of proposed PSP is 1800 MW (5 x 300 MW + 2 x 150 MW) and envisaged non-consumptive reutilization of 15.15 MCM (Maximum requirement) of water per day for recirculation among two reservoirs upper reservoir & lower reservoir (Shirawta reservoir).

iii. The lower reservoir is existing one across stream named Indrayani, a tributary of Bhima River in Krishna Basin & upper reservoir is proposed to be constructed at top of Jambhavli-Thoran hillock ranges. Both reservoirs will be used cyclically for water storage & energy generation. The initial filling and the annual make up water towards the tank losses shall be sourced from the existing Shirawta reservoir.

iv. The project proposes to utilize the water of existing Shirawta reservoir serving as the lower reservoir (existing). The gross storage of the existing lower reservoir is 195.25 MCM with live storage as 183.48 MCM at FRL of 656.84 m which is much more than the water requirement for reutilization between the two reservoirs for power generation purposes. The reservoir belongs to Tata Power and the water in this reservoir has been protected under the Krishna Water Disputes Tribunal (KWDT) allocation. The water use for the proposed alternative shall be within the KWDT entitlement and hence no additional State water resource shall be required to be allocated.

v. **Project location:** The geographical co-ordinate of the project are Latitude: 18° 50' 26.26" N Longitude: 73° 27' 15.78" E.

vi. Scoping clearance of Shirawta Off Stream Open Loop Pumped Storage Project (1800 MW) project was accorded by Ministry of Environment Forest and Climate Change (MoEF& CC), Government of India vide letter no. J-12011/38/2023-IA.I (R), dated: 23.09.2023. However, due to project optimization and changes in configuration of project components & land requirement; scoping clearance was amended for Shirawta Off Stream Open Loop Pumped Storage Project with 1800 MW installed capacity by MoEF&CC vide letter dated 27.05.2024.

vii. **Land requirement:** Total land requirement is about 197.797 ha for the construction of various project components, out of which 160.783 ha is forest land and 37.014 ha is non-forest land. The forest land required for the project falls in Pune Forest Division. For diversion of 197.797 ha of forest land, online application has been submitted to MoEF&CC vide proposal No.: FP/MH/HYD/IRRIG/477051/2024 dated 07.06.2024. While in case of non-forest land, the entire 37.014 ha is in possession of Tata Power. The land under possession of Tata Power was acquired around 100 years back for a specific purpose of 'generation of electricity & associated activities' and is under right, title, interest & possession of Tata Power till today for the same purpose.

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

The entire study area falls under two districts, namely Pune and Raigad. The project covers a total of 69 villages in the study area, including 3 villages identified as uninhabited. Out of the 69 villages, 50 are located in Mawal (Maval) tehsil of Pune district, and the remaining 19 are in Raigad district (16 villages in Karjat tehsil and 3 villages in Khalapur tehsil).

The total population of the study area is 50461, of which 26306 (52.13%) are males and 24155 (47.86%) are females. The number of households is 10085, with an average of 5-6 persons living in each house. The number of children below 6 years of age was found to be 6614, which is 13.10% of the total population. Sex ratio was found to be 918 females per 1000 males.

There are 3183 Scheduled Castes in the study area, which is 6.30% of the total population, of which 1597 are Scheduled Caste males and 1586 are Scheduled Caste females. There are 11207 Scheduled Tribes, which is 22.20% of the total population, of which 5739 are Scheduled Tribe males and 5468 are Scheduled Tribe females.

The literacy rate in the villages is 75.28% (population above 6 years), with the rates for males and females being 84.23% and 65.46% respectively, creating a gender gap of 18.77%.

There are a total of 22,315 workers in the study area, and 48.07% of them are involved in agriculture and allied activities. Out of this group, 32.01% are cultivators, and 16.06% are agricultural labourers. Only 2.92% of the population is engaged in household industries, while 48.99% are engaged in various other services like trade, commerce, business, and

transport, government and private jobs. This indicates that a significant portion of the working population in the area is involved in non-agricultural activities.

ix. **Water requirement**: Approximately 15.15 MCM will suffice to meet generation of 1,800 MW for 6 hours.

x. **Project Cost:** The estimated project cost is Rs 7285.0 crore. Total capital cost earmarked towards Environment Management Plan/environmental pollution control measures is Rs. 3474.91 lakh and the Recurring cost (operation and maintenance) will be about Rs. 2474.28 lakh about i.e. Rs 354.47 lakh per annum.

xi. **Project Benefit:** Total Employment will be 1500 persons during construction phase and 200 during operational phase of the project. Rs. 1000.0 lakh has been allocated under CER and Local Area Development Plan for strengthening and development of basic infrastructural facilities with a view to improve the quality of life of residents in the project vicinity.

xii. **Environmental Sensitive area:** No project component falls in any notified protected area. Nearest Protected Area to the Project Components is Bhimashankar Wildlife Sanctuary which is at a distance of around 19.70 km from proposed upper reservoir. The lower reservoir named Shirawta Dam is existing one across Kundali river, a tributary of Bhima River in Krishna Basin.

xiii. **MoU / any other clearance/ permission signed with State government:**

a) MoU: MoU signed with GoM on 12th Aug 2024 (WRD as per PSP policy dated 20.12.2023)
b) Water Allocation: Approval from Krishna valley Development Corporation (MKVDC) dated 26.03.2024.
c) CEA/CWC accorded concurrence to Shirawta PSP (1800 MW) vide Office Memorandum dated 01.09.2025.

xiv. **Resettlement and rehabilitation:** The required 37.014 ha of non-forest land is in the possession of Tata Power that will be utilized for various components of the proposed project. No private land will be acquired for the proposed project; therefore, no family is affected due to the acquisition of land for the proposed project. Hence, requirement of preparation of Resettlement & Rehabilitation Plan is not envisaged in the present case.

xv. **Scheduled – I species:** Among the mammals, 10 species are categorised as schedule I species. Rest of the mammalian species are listed under schedule II category of WPAA, 2022. As per the IUCN Red List of Threatened Species, Version 2023-1, Leopard, Sloth Bear, Sambar Deer, Indian Bison and Bonnet Macaque under Vulnerable (VU) category and Striped Hyaena is listed under Near Threatened (NT) category.

As per the IUCN Red List of Threatened Species version 2023-1, all birds have been listed under Least Concern (LC) category. As per the WPAA 2022, Indian Peafowl (*Pavo cristatus*) is listed as Schedule I species. All other bird species are listed as Schedule II category.

In case of herpetofauna, all species are listed under Least Concern (LC) category as per the IUCN Red List of Threatened Species version 2023-1. As per the WPAA, 2022, Asian Chameleon, Indian rat Snake, Indian Cobra and Russel's Viper are categorized as schedule I species.

Among the butterflies, Danaid Eggfly (*Hypolimnas misippus*) is listed under Least Concern (LC) category of IUCN Red List categories (Ver. 2023-1). No species of butterfly is categorized as a schedule species as per the WPAA 2022

xvi. **Alternative Studies:** Alternative studies were carried out amongst all the four proposed 'upper reservoirs' with common existing Shirawta reservoirs as 'lower reservoir'. The project components such as approach channel, intake/outlet structure, water conductor system, powerhouse, tail race tunnels, surge chamber, construction adit's, etc. were proposed for the respective alternatives keeping in view the all the technical and construction requirements.

- Alternative – 1: Layout with Site – 1 Upper Reservoir, Underground Powerhouse and other project components like Intake structure, Penstock / Pressure Shaft, Tail Race Tunnel, Tail Race Outlet, Tail Surge tank and Existing Lower reservoir.
- Alternative -2: Layout with Site – 2 Upper Reservoir, Underground Powerhouse and other project components like Intake structure, Penstock / Pressure Shaft, Tail Race Tunnel, Tail Race Outlet, Tail Surge Tank and Existing Lower reservoir.
- Alternative – 3: Layout with Site – 3 Upper Reservoir, Underground Powerhouse and other project components like Intake structure, Penstock / Pressure Shaft, Tail Race Tunnel, Tail Race Outlet, Tail Surge Tank and Existing Lower reservoir.
- Alternative – 4: Layout with Site – 4 Upper Reservoir, Surface Powerhouse and other components project components like Intake structure, Penstock/ Pressure Shaft, Tail Race Tunnel, Tail Race Outlet, and Existing Lower reservoir.

In view of the advantages and optimum utilization/availability of precious water and land resources; and attractive techno-economic parameters, Alternative 4 has been recommended.

Description	**Alternative-I (1400 MW)**	**Alternative-II (1020 MW)**	**Alternative-III (180 MW)**	**Alternative-IV (1800 MW)**
Source of Water	**Existing Shirawta Reservoir**			
Location Village	Maval	Maval	Maval	Maval
District	Pune	Pune	Pune	Pune

Description	Alternative-I (1400 MW)	Alternative-II (1020 MW)	Alternative-III (180 MW)	Alternative-IV (1800 MW)
State	Maharashtra	Maharashtra	Maharashtra	Maharashtra
Lower Reservoir	**Existing Shirawta Reservoir**			
Latitude/ Longitude	18° 50' 26.26" N 73° 27' 15.78" E	18° 50' 26.26" N 73° 27' 15.78" E	18° 50' 26.26" N 73° 27' 15.78" E	18° 50' 26.26" N 73° 27' 15.78" E
FRL (m)	657.76	657.76	657.76	657.76
MDDL (m)	638.00	638.00	638.00	638.00
Capacity at FRL (MCM)	195.25	195.25	195.25	195.25
Capacity at MDDL (MCM)	11.77	11.77	11.77	11.77
Live Storage Capacity (MCM)	183.48	183.48	183.48	183.48
Upper Reservoir	**Proposed**			
Latitude/ Longitude	18°47'22.02" N 73°28'26.60" E	18°48'10.52" N 73°25'47.50" E	18°47'41.98" N 73°26'58.80" E	18°50'10.52"N 73°25'47.50"E
Type of Dam	GFRD	GFRD	GFRD	GFRD
FRL (m)	935	895	882	965
MDDL (m)	912	875	870	948
Avg. Dam Height (m)	33	28	20	21
Dam Length (km)	6.30	4.80	20.20	4.26
Live Storage (MCM)	12.84	10.96	2.10	15.15
Max Min Head ratio	1.17	1.19	1.15	1.12
Rated Capacity	1400	1020	180	1800
No. of Units	5	4	1	5+2
Unit Capacity Generation Mode (MW)	280.0	255.00	180.00	1800 (5x300) + (2x150)
Unit Discharge (cumec)	118.86	126.91	97.17	111.10 (300 MW) 55.74 (150 MW)
No. of Main PS	5	4	1	6
Pressure Shaft Discharge (Cumec)	118.86	126.91	97.17	112.06
Circular Diameter (m)	5.50	5.50	5.50	5.90 (main)
Velocity (m/s)	5.00	5.34	4.09	6.20
Water Conductor System				
Pressure Shaft/Penstock	803	666	756	1126.984
Tail race Tunnel	690	1091	521	149.826
Length of WCS (m)	1493	1757	1277	1276.81

Description	Alternative-I (1400 MW)	Alternative-II (1020 MW)	Alternative-III (180 MW)	Alternative-IV (1800 MW)
Upstream L/H Ratio	3.01	2.93	3.53	3.52
Surge Tank/shaft	Not Required	Not Required	Not Required	Not Required
Tailrace Surge Chamber	Required	Required	Required	Not Required
Type of Powerhouse	Underground	Underground	Underground	Surface (Pit Type)
Peaking Hours (hr)	6.0	6.0	6.0	6.0
Land Requirement (ha)	**139.70**	**123.80**	**45.00**	**197.79**
Forest Land	130.5	102.20	33.30	160.78
Forest land (ha./ MW)	0.093	0.100	0.185	0.089
Non-Forest land	16.0	21.60	11.70	37.01
RECOMMENDATION	Ruled Out	Ruled Out	Ruled Out	**RECOMMENDED**

xvii. **Baseline Environmental Scenario:**

Period: **From April 2023 to December 2023**

AAQ parameters at 10 locations (min. & Max.)

Unit in microgram/m^3

Core	Min	Max	Average	Standards
PM 2.5	17.20	22.90	20.05	60
PM 10	40.50	54.60	47.55	100
SO2	4.90	6.40	5.65	80
NO2	6.50	8.50	7.50	80
Buffer	Min	Max	Average	Standards
PM 2.5	21.60	33.50	27.55	60
PM 10	43.80	68.60	56.20	100
SO2	6.80	10.40	8.60	80
NO2	9.10	13.90	11.50	80

Incremental GLC Level

Criteria Pollutant (PM10, PM2.5, SO2, NOx, Other parameters specific to the sector	Unit (microgram/m^3)	Baseline Concentration (A)	Predicted incremental value considering worst case stability class (B)	Total GLC (A + B)
PM10	microgram/m^3	49.6	12.4	62.0
PM2.5	microgram/m^3	20.80	5.2	26.0
SO2	microgram/m^3	5.8	4.35	10.15
NOx	microgram/m^3	7.8	5.85	13.65

River water samples (4 samples)

	Core Zone			
S. No	Parameters	Min	Max	
1	pH	6.9	7.1	A
2	Total Dissolved Solids, mg/L	112.3	117	A
3	Dissolved Oxygen (mg/l)	6.9	7.1	B
4	Chloride (as Cl), mg/L	22.9	23.4	-
5	Total Hardness (as CaCO3), mg/L	159.8	163.1	A
6	Biological Oxygen Demand (mg/l)	21	21	A
7	Chemical Oxygen Demand (mg/l)	7.1	7.1	B
8	Total Coliform (MPN/100 ml)	21	23	A
	Buffer Zone			
S. No	Parameters	Min	Max	
1	pH	6.8	7.7	A
2	Total Dissolved Solids, mg/L	89.9	156	-
3	Dissolved Oxygen (mg/l)	5.3	7.3	A
4	Chloride (as Cl), mg/L	27.4	81	NA
5	Total Hardness (as CaCO3), mg/L	117.5	286.2	A
6	Biological Oxygen Demand (mg/l)	21	5.52	B
7	Chemical Oxygen Demand (mg/l)	7.1	14.9	-
8	Total Coliform (MPN/100 ml)	27	45	A

Ground water samples (10 samples)

	Core Zone				
S. No.	**Parameters**	**Min**	**Max**		
1	pH	7	7.7	6.5	8.5
2	Total Dissolved Solids (mg/l)	187	332	500	2000
3	Chloride (as Cl) (mg/l)	37.2	61.2	250	1000
4	Total Hardness (as $CaCO_3$) (mg/l)	124.9	205.3	200	600
5	Fluoride (mg/l)	0.22	0.36	1.0	1.5
	Buffer Zone				
S. No.	**Parameters**	**Min**	**Max**		

	1	pH	7.1	7.7	6.5	8.5
	2	Total Dissolved Solids (mg/l)	135	384	500	2000
	3	Chloride (as Cl) (mg/l)	26.8	70.8	250	1000
	4	Total Hardness (as $CaCO_3$) (mg/l)	70.1	237.5	200	600
	5	Fluoride (mg/l)	0.14	0.42	1.0	1.5

Noise levels Leq (Day & Night) at 10 locations

Noise Level	**Zone**	**Leq Day dB(A)**		**Leq Night dB(A)**		
		From	To	From	To	
Core	Residential	40.2	46.6	34.2	39.4	55
Buffer	Commercial	42.5	60.9	35.9	51.3	65

Soil Quality at 10 Locations

Monitoring Location (Core /Buffer)	**Criteria Parameter [Calcium, Carbon, Nitrogen, Phosphorus, Potassium, Magnesium, Sodium Absorption Ratio, Salinity]**	**Unit [gm/mg/ Other (please specify)]**	**Observed Value**		**Permissible standard**
			From	To	
Core Zone	Calcium	(mg/kg)	357	814	500
	Magnesium	(mg/kg)	119	271	500
	Available Nitrogen	(kg/ha)	174.8	290	500
	Available Phosphorus	(kg/ha)	8.2	15.5	50
	Available Potassium	(kg/ha)	143.5	268	500
	Organic carbon	(%)	0.4	0.6	1
	Sodium Adsorption Ratio		2.1	3.2	10
	Salinity	(ppt)	0	0	0.01
Buffer Zone	Calcium	(mg/kg)	236	1068	500
	Magnesium	(mg/kg)	91	356	500
	Available Nitrogen	(kg/ha)	142	267	500
	Available Phosphorus	(kg/ha)	8.2	22.3	50
	Available Potassium	(kg/ha)	170	320	500
	Organic carbon	(%)	0.6	0.8	1
	Sodium Adsorption Ratio		2	3.6	10

	Salinity	(ppt)	0	0	0.01	

	Particle Size Distribution						Water Holding Capacity (%)		Porosity (%)	
	Sand (%)		Silt (%)		Clay (%)					
	From	To	From	To	From	To	From	To	From	To
Core	35.8	54.2	16.4	31.6	25.5	40.3	32.2	38.4	19.8	23.7
Buffer	35.4	56	16.3	41.1	21.3	42	31.8	37.1	19.4	24.2

Flora & Fauna	Among the mammals, 10 species are categorised as schedule I species. Rest of the mammalian species are listed under schedule II category of WPAA, 2022. As per the IUCN Red List of Threatened Species, Version 2023-1, Leopard, Sloth Bear, Sambar Deer, Indian Bison and Bonnet Macaque under Vulnerable (VU) category and Striped Hyaena is listed under Near Threatened (NT) category. As per the IUCN Red List of Threatened Species version 2023-1, all birds have been listed under Least Concern (LC) category. As per the WPAA 2022, Indian Peafowl (*Pavo cristatus*) is listed as Schedule I species. All other bird species are listed as Schedule II category. In case of herpetofauna, all species are listed under Least Concern (LC) category as per the IUCN Red List of Threatened Species version 2023-1. As per the WPAA, 2022, Asian Chameleon, Indian rat Snake, Indian Cobra and Russel's Viper are categorised as schedule I species. Among the butterflies, Danaid Eggfly (*Hypolimnas misippus*) is listed under Least Concern (LC) category of IUCN Red List categories (Ver. 2023-1). No species of butterfly is categorised as a schedule species as per the WPAA 2022.

xviii. **Details of Solid waste/ Hazardous waste generation/ Muck and its management:** Generation of Municipal Solid Waste- Bio degradable (613.0 Tons in four years), Generation of Non degradable (263.0 Tons in four years).

Solid waste management shall involve Reuse/Recycling, Storage/Segregation, Collection and Transportation and Disposal of Degradable component, non-degradable component& bio-medical waste.

Total quantity of Muck to be dumped: 25.78 lakh cum. Excavated muck is to be dumped in a pre-identified site located at a relatively flat ground at North of upper reservoir with total area of about 20.246 ha and capacity has been worked as 32,00,000.00 cum. The disposal site was

identified taking into consideration availability of suitable area, minimum distance from generation sites.

xix. Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 29th, October 2024, near Shirawta Dam, Mouje - Khandshi, Tal. Maval, District Pune, Maharashtra. The public hearing meeting was chaired by Ms. Jyoti Kadam, ADM, Pune.

xx. Status of Litigation Pending against the proposal, if any: Not Applicable

xxi. The salient features of the project are as under:

- **EAC Meeting Details:**

EAC meeting/s	40th meeting
Date of Meeting/s	26.09.2025
Date of earlier EAC meetings	11.08.2023 (50th meeting for TOR) 29.04.2024 (10th meeting for Amendment in TOR)

- **Project details:**

Name of the Proposal	Shirawta Off-Stream Open Loop Pumped Storage Project (1800 MW)
Proposal No.	IA/MH/RIV/550476/2025
Location (Including Coordinates)	Near existing Shirawta dam, Mawal Taluka, Pune district of Maharashtra Upper Reservoir- Lat: 18° 50' 26.26” N Long: 73° 27' 15.78" E
Company’s Name	M/s The Tata Power Company Limited
CIN no. of Company/user agency	L28920MH1919PLC000567
Accredited Consultant and certificate no.	R S Envirolink Technologies Pvt Ltd; NABET/EIA/25-28/RA 0415
Project location (Coordinates /River/ Reservoir)	Near existing Shirawta dam, Mawal Taluka, Pune district of Maharashtra
Inter- state issue involved	No
Proposed on River/ Reservoir	Shirawta Dam across Kundali river
Type of Hydro-electric project	Pumped Storage Project
Seismic zone	Seismic Zone III

- **Category details:**

Category of the project	A
Capacity / Cultural command area (CCA)	1800 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	-

- **TOR/EC details:**

ToR Proposal No.	IA/MH/RIV/438423/2023
EAC meeting date	11.08.2023 (TOR) 29.04.2024 (TOR amendment)
ToR Letter No.	J-12011/38/2023-IA.I (R)
ToR grant Date	23.09.2023 (TOR) 27.05.2024 (TOR amendment)
Cost of project	Rs 7285.0 crore
Total area of Project	197.797 ha
Height of Dam from River Bed (EL)	Upper Dam-33.0 m
Details of submergence area	130.67 ha
District to provide irrigation facility (if applicable)	NA
Details of tunnels on upper level & lower level and length of canal (if applicable)	--------
No. of affected Village	No private land will be acquired for the proposed project; therefore, no family is affected due to the acquisition of land for the proposed project.
No. of Affected Families	No private land will be acquired for the proposed project; therefore, no family is affected due to the acquisition of land for the proposed project.
Project Benefits	The levelized cost of generation of the project has been found to be Rs 7.35/kWh considering cost of pumping @ Rs 3/kWh. Shirwata pumped storage hydro project is a technically feasible project and will be beneficial in meeting the peaking requirement of energy during evening/night. The National Solar Mission would induct large quantum of renewable energy to the grid in the years to come and the Solar power would go off the grid by the end of the day. The pumped storage project (PSP) will be required for stabilizing the grid and in turn supporting the National Solar Mission and facilitate induction of renewable energy into the grid.
R&R details	The required 37.014 ha of non-forest land is in the possession of Tata Power that will be utilized for various components of the proposed project. No private land will be acquired for the proposed project; therefore, no family is

	affected due to the acquisition of land for the proposed project. Hence, requirement of preparation of Resettlement & Rehabilitation Plan is not envisaged in the present case.
Catchment area/ Command area	Since there is no landward catchment area of the upper reservoir, no CAT plan can be prepared. Also, since lower reservoir is already existing hence CAT plan preparation is not applicable. In view of above, CAT plan in proposed Shirawta PSP is not applicable and has not been prepared.
Types of Waste and quantity of generation during construction/Operation	Municipal Solid Waste- Bio degradable (613.0 Tons in four years), Non degradable (263.0 Tons in four years)
Material used for blasting and its composition as per DGMS standards.	One magazine of 10 MT capacities would be sufficient to meet the requirement of the project. A mobile explosive van shall be deployed to carry explosive at the site of use at upper and lower dam area. Movement of van should be done with armed guards and proper documentation recommended by PESO.
E-Flows for the Project	The upper reservoir is proposed as a closed embankment on a plateau and no stream contributes to the supply of water. The upper reservoir will receive water from rainfall directly falling into the proposed reservoir and pumping from the lower reservoir; the inflow receipt from the precipitation shall be released to downstream side through the appropriate arrangement.
Is Projects earlier studied in Cumulative Impact assessment & Carrying Capacity Studies (CIA&CC) for River in which project located. If yes then c) E-flow with TOR/Recommendation by EAC as per CIA&CC study of River Basin. d) If not the E-Flows maintain criteria for sustaining river ecosystem.	No
Details on provision of fish pass	The proposed Shirawta Pumped Storage Project is planned as an ‘open loop’ scheme. Water in circulation from lower to upper reservoir and vice versa is small as compared to the total capacity of the Shirawta reservoir (about 8% of the storage capacity) and will be limited to one part of the reservoir only where the component design of PSP shall take care of the aquatic life

	where intake will be through screens and barrier nets to segregate this area for fish entry.
Project benefit including employment details (no of employee)	The setting up of 1800 MW PSP project would provide employment for a hundred plus technical staff and provide job opportunities to thousands during the construction phase. About 1500 workers (labour and staff) would be engaged during the peak construction period, out of which 300 persons will be engaged permanently and about 1200 will be temporary labour for the construction work. It is expected that 70% of the total workforce shall be available from the State of Maharashtra. After completion of the project only a staff of about 200 technical persons shall be required for the operation of the project.
Area of Compensatory Afforestation (CA) with tentative no of plantation.	CA land – 160.783 ha; Land is having tree cover with density of 0.4; Protection and conservation measures proposed.
Previous EC details	-
EC Compliance Report by R.O, MOEF&CC	-
No. of trees/saplings proposed in the view of 'Ek Ped Maa Ke Naam' campaign	500

- **Electricity generation capacity:**

Powerhouse Installed Capacity	1800 MW
Generation of Electricity Annually	3744.90 MU
No. of Units	7; 1800 MW [5 x 300 + 2 x 150]

- **Muck Management Details:**

No. of proposed disposal area/ (type of land- Forest/Pvt land)	The total quantity of muck to be disposed of works out to 25,78,463.00 cum. Excavated muck is to be dumped in a pre-identified site located at a relatively flat ground at North of upper reservoir with total area of about 20.246 ha and capacity has been worked as 32,00,000.00 cum. The disposal site was identified taking into consideration availability of suitable area, minimum distance from generation sites.
Cross section of proposed muck area, Height of muck with slope.	**Enclosed as Annexure-I**
Distance of muck disposal area(location), from muck generation sources (project	Dumping Area 1-North of Upper Reservoir

area)/River, HFL of proposed muck disposal area	
Total Muck Disposal Area	20.246 ha
Estimate Muck to be generated	46,18,699 cum
Transportation	The generated muck will be carried in dumper trucks covered with heavy duty tarpaulin properly tied to the vehicle in accordance with best international practices. All precautionary measures will be followed during the dumping of muck. All dumpers will be well maintained to avoid any chances of loose soil from being falling during transportation. All routes will be periodically wetted with the help of sprinklers prior to the movement of dumper trucks.
Monitoring mechanism for Muck Disposal Transportation	The provisions of Monitoring have been kept under proposed Environmental Monitoring Plan.

- **Land Area Breakup:**

Private land	37.014 ha Private land
Government land	-
Forest land	160.783.00
Total land	197.797 ha
Submergence area/reservoir area	130.67 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	**No**	No project component falls in any notified protected area. Nearest Protected Area to the Project Components is Bhimashankar Wildlife Sanctuary which is at a distance of around 19.70 km from proposed upper reservoir.
National Park	**No**	
Wildlife Sanctuary	**No**	
Archaeological sites monuments/historical temples etc	**No**	The proposed project will not affect any important cultural, historical or religious sites in the vicinity. However, there are many tourist, religious and historical sites near project area such as Lonavala-Khandala Hill Station, Valvhan Lake, Uksan Lake, Karla Caves, Adishakthi Aai Ekavaira Temple which are more than 5 km away from the project components.

Additional information (if any)	-	

- **Public Hearing (PH) Details**

Advertisement for PH with date	Advertisements of the Public Hearing meetings were prepared by Maharashtra Pollution Control Board (MPCB) and published in local newspaper Loksatta (in Marathi) and in national newspaper Indian Express (in English) on 25th September 2024.
Date of PH	29th October 2024
Venue	Near Shirawta Dam, Mouje - Khandshi, Tal. Maval, District Pune.
Chaired by	Meeting was chaired by Ms. Jyoti Kadam, ADM, Pune
Main issues raised during PH	- Provision of Employment of local Youth. - Form a Coordination Committee with MPCB, company officials, and government representatives to utilize the CSR budget effectively. - Provide skill development courses for unemployed youth in the project-affected area with government support. - Urge the government to proceed only with full consent from all stakeholders and without harming the environment.
No of people attended	337

- **Court cases: Nil**

- **Status of other statutory clearances**

Particulars	**Letter no. and date**
Status of Stage- I FC	Forest proposal has been submitted vide proposal no. FP/MH/HYD/IRRIG/477051/2024 and pending at Technical Officer - MOEFCC, HQ
Approval of Central Water Commission	CEA/CWC accorded concurrence to Shirawta PSP (1800 MW) vide Office Memorandum dated 01.09.2025
Approval of Central Electricity Authority	CEA/CWC accorded concurrence to Shirawta PSP (1800 MW) vide Office Memorandum dated 01.09.2025
Is FRA (2006) done for FC-I	Under progress.

- **Details of the EMP**

S. No	Component of EMP	Capital Cost (Rs. In lakh)	Recurring Cost (Rs. In lakh)							Total Cost
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	(Rs. Lakh)
1	Catchment Area Treatment Plan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Biodiversity Conservation & Wildlife Management Plan	1410.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1410.00
3	Fisheries Conservation and Management Plan	50.00	16.00	16.00	16.00	16.00	0.00	0.00	0.00	114.00
4	Muck Dumping and Management Plan	943.90	84.12	140.18	88.33	11.00	5.00	5.00	4.00	1281.53
5	Landscaping, Restoration of Quarry, and Construction Sites	96.25	68.21	27.40	14.94	1.50	0.50	0.50	0.50	209.80
6	Green Belt Development Plan	0.00	5.00	5.35	18.70	12.45	4.00	2.00	3.00	50.50
7	Sanitation and Solid Waste Management Plan	147.00	33.00	33.00	26.00	19.00	0.00	0.00	0.00	258.00
8	Public Health Delivery System	126.00	35.00	34.00	34.00	34.00	0.00	0.00	0.00	263.00
9	Energy Conservation Measures	56.00	72.50	72.50	72.50	72.50	0.00	0.00	0.00	346.00
10	Labour Management Plan	35.00	7.00	17.00	17.00	17.00	0.00	0.00	0.00	93.00
11	Disaster Management Plan	210.00	10.00	10.00	10.00	10.00	0.00	0.00	0.00	250.00

12	Control of Air, Noise and Water Pollution	0.00	15.00	15.00	15.00	15.00	0.00	0.00	0.00	60.00
13	Environmental Monitoring Programme	0.00	53.15	53.15	53.15	53.15	0.00	0.00	0.00	212.60
15	Rehabilitation and Resettlement Plan*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	Local Area Development Plan	0.00	244.75	244.25	265.75	245.25	0.00	0.00	0.00	1000.00
17	Watershed Development Plan	400.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	400.76
	Total	**3474.91**	**643.73**	**667.83**	**631.37**	**506.85**	**9.50**	**7.50**	**7.50**	**5949.19**

* No acquisition/ procurement of private land involved.

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Signature Not Verified

Digitally Signed by : Yogendra Pal Singh
Member Secretary, MoEFCC (EC)

Date: 15/06/2026