

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (HEAD OF FOREST FORCE), MAHARASHTRA STATE, NAGPUR

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Sub:- Proposal for seeking prior approval of the Central Government under Section 2 (i) (ii) of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 in favour of JSW Energy PSP Two Limited for non-forestry use of 243.74 ha. (Shahapur Division 181.45 ha and West Nasik Division 62.29 Ha) of forest land (reserved forest, protected forest and private forest) for Bhavali Pumped Storage Project (1500 MW) in Thane & Nasik District in the State of Maharashtra (Online proposal No. FP/MH/HYD/153240/2022)- reg.

No. Desk-17/FCA-S1/PID-153240/Thane/2483/2025-26

Nagpur – 440 001, Date :- 19/01/2026

To,

The Additional Chief Secretary (Forests),
Revenue & Forest Department,
Mantralaya Mumbai -32

Ref:- 1. The Government of India, MoEF&CC, New Delhi letter No.File No.8-06/2025-FC, dated 15/12/2025.

2. The Chief Conservator of Forests (T), Thane letter No. Desk-10/FCA/A-20/CR-80/24-25/128/25-26, dated 17/01/2026.

The Government of India, Ministry of Environment, Forests and Climate Change, New Delhi vide letter under reference No.1 raised certain queries. Accordingly, the Chief Conservator of Forests (T), Thane vide letter under reference no.2 has submitted compliance report for the same as follows:-

Sr. no	Query	Compliance
i	Both the reservoirs are being constructed afresh. Further, there is no water source in the vicinity and the lower reservoir is proposed to be filled with rain water. Keeping above in view the site specificity of the project is not established. The site specificity of the project is therefore required to be examined in detail and state shall explore to locate the project over non-forest land	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The user agency has been submitted the following details for consideration: It is respectfully submitted that the Bhavali Pumped Storage Project (PSP) is inherently site-specific in nature, as pumped storage schemes are governed by stringent topographical, geological, hydrological and engineering requirements.</p> <p>The selected site offers the essential natural elevation difference (head) between the upper and lower reservoirs, favorable geological conditions for underground power house and tunnel construction, and optimal proximity between reservoirs to ensure operational efficiency and safety along with the required catchment area for availability of water for one-time filling and annual recoup. Such a unique combination of parameters is not available over non-forest land in the surrounding region.</p>

		<p>Hydrology and water availability approval obtained from Central Government agency CWC and Water Resource Department (WRD), Govt. of Maharashtra are attached as (Annexure-1.1 & 1.2.)</p> <p>The project location is site specific, selected site minimize forest land diversion, avoid critical wildlife habitats, and ensure optimal engineering feasibility for the construction of both dams and associated facilities. The justification along with summary note regarding site selected attached as (Annexure-1.3.)</p> <p>The construction of new reservoirs is a standard and accepted design feature for Off-stream pumped storage projects, which do not depend on perennial rivers. During DPR preparation, alternative locations, including non-forest land options, were examined; however, these were found unsuitable due to inadequate head, unfavorable geology, excessive tunnel length, and higher environmental and social impacts.</p> <p>The project DPR has already been examined and approved by the Central Electricity Authority (CEA) on 24.09.2024 (Attached as an Annexure-1.4.) The project has been recommended for Environmental Clearance from MoEF&CC after due appraisal by the Expert Appraisal Committee (EAC) on 31.08.2024. During these appraisals, alternative locations and layouts were examined, and the present configuration was found to be most optimal with minimal environmental and social impacts.</p> <p>Accordingly, relocation of the project to non-forest land is not technically feasible, and the site specificity of the Bhavali PSP stands fully established based on engineering necessity and accepted pumped storage design principles.</p>
ii	An area of 40.91 ha forest land is proposed to be used for muck dumping and job facilities which are not site specific and may be shifted over non-forest land.	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The user agency has submitted that it is to kindly mention that the requirement of 40.91 ha forest land for muck dumping and job facilities in the Bhavali Pumped Storage Project has been assessed from technical, environmental, Forest and operational perspectives, and the proposed locations are functionally site-specific.</p> <p>The User Agency has examined in detail the availability of 40.91 hectares of contiguous Non Forest land in close vicinity of the project in Thane district, Maharashtra. Among the few options</p>

identified, the nearest option is more than 75 km away and that too outside Thane district. With Adjacent forest areas, constructing permanent access to these land options and transportation of muck for such long distances would be unviable and unsuitable for the project while also resulting in a higher environmental footprint and additional ecological risks.

The proposed muck disposal sites are located in areas having low vegetation density and have been selected to avoid dense forest patches. A comprehensive and approved Muck Management Plan has been prepared, incorporating engineering stabilization measures and biological reclamation, ensuring environmental protection, slope stability and long-term restoration of the sites.

The muck disposal areas are directly linked to tunnel portals, dam excavation zones and underground works. Location of these facilities in close proximity to the excavation sites is essential to:

- Minimize environmental impacts on ecology: Shorter haulage routes limit repeated movement of heavy vehicles through forest areas, thereby reducing dust generation, disturbance to vegetation, and stress on local fauna.
- Improve construction efficiency and reduce duration of forest disturbance: Proximity of dumping areas enables faster disposal of excavated material, improving construction efficiency and reducing the overall time of construction activities within forest land, thereby limiting the duration of environmental impact.
- Reduce haulage distance of excavated material: Locating disposal areas nearby significantly reduces transportation distance, resulting in lower fuel consumption by dumpers and machinery and consequently reducing air pollution and greenhouse gas emissions. This also help in lowering noise levels within the forest area.
- Minimizing Safety Risks -The closed proximity of dumping sites ensures construction safety by preventing movement of heavy equipment & reducing traffic congestion, thereby minimizing spatial footprint.
- Reducing Social Impact- Given mega size of the proposed project, Shifting muck disposal

to private or revenue land would require land acquisition and may lead to social impacts, which are avoided by utilizing limited forest land proposed for diversion.

- Ease of environmental monitoring and compliance:- Proximity of disposal areas facilitates regular monitoring of dumping practices, and implementation of environmental safeguards. Localized disposal areas can be systematically stabilized and rehabilitated through landscaping and plantation, ensuring faster ecological recovery.

The Expert Appraisal Committee (River Valley & Hydroelectric Projects), MoEF&CC, during its conducted a site visit on 2nd & 3rd Jan., 2025 (**Attached as an Annexure-2.1**). The findings of the site visit were discussed amongst the Hon'ble EAC members under Additional Agenda Item 22.4 in the 22nd EAC Meeting held on 10th Jan., 2025. As per the recommendations of Minutes of the Meeting, reproduced hereunder

"The relocation of muck disposal site may not be insisted on while considering the proposal for clearance since the muck disposal site was found to have been selected properly. Further, ecologically better sites were not appeared available in nearby areas. Any relocation at this stage might lead to much changes and may lead to more adverse consequences. However, safety measures as contained in EMP and in other documents should be adhered into".

With regard to the working space, the same is essential near the main construction area due to non-availability of private land. Locating this facility away from the project site would increase movement of men and machinery, adversely affecting environmental quality and project safety. Further the job facilities proposed on forest land are temporary and construction-phase requirements only and will be:

- Dismantled after completion of construction
- Restored to original contours plans.
- Post-construction reclamation and afforestation shall be carried out through an integrated approach combining appropriate engineering and biological measures, to ensure long-term slope stability, ecological restoration, and regeneration of local biodiversity, in accordance with the approved plan in the Environmental Clearance (EC) recommendation.

		<p>hilly hydropower has precedents, subject to stringent safeguards and post-project restoration, as permitted by Ministry of Environment, Forest and Climate Change (MoEF&CC) and the Hon'ble FAC in similar projects. (List of the projects attached as Annexure-2.2).</p> <p>In this regards, the user agency has already submitted an undertaking to concern Forest divisions and mentioned that the Muck disposal sites will be properly stabilize and scientifically reclaimed with vegetation after completion of disposal activities. After commissioning of the project, these sites shall not be using for any Non Forest activity. (Attached as an Annexure-2.3).</p> <p>In view of the above, it is submitted that the proposed use of forest land for muck dumping and job facilities has been minimized, carefully planned, and adequately mitigated, and shifting of these components to non-forest land is neither technically feasible nor environmentally preferable. The details justification note is (attached as an Annexure-2.4).</p>
iii	<p>The feasibility of filling the huge reservoir with rain water and maintaining the water level throughout the year needs justification. A detailed report shall be submitted in this regard.</p>	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The User Agency has submitted that the Bhavali PSP is designed as an Off-stream pumped storage scheme, wherein water is cyclically transferred between the upper and lower reservoirs for power generation and pumping operations.</p> <p>The one time initial filling of the reservoirs is proposed through monsoon runoff from the self-catchment area. Thereafter, water will be reused repeatedly, and only marginal losses due to evaporation and seepage will occur. These losses shall be replenished annually during the monsoon season.</p> <p>The assessment of initial reservoir filling and subsequent make-up water requirements has been carried out in line with the Guidelines for Formulation of Detailed Project Reports for Pumped Storage Schemes (CEA, Version 3.0). As per Clause 2.7 – Aspects to be appraised (Hydrology), the Guidelines specify that <i>“for on-stream and off-stream open-loop pumped storage schemes, to determine designed flood and diversion flood estimation for designing spillways, diversion tunnels etc. Appraisal of the project hydrology includes water availability studies, design flood estimation, diversion flood estimation and sedimentation studies for estimating the life of the project”</i>. Relevant</p>

		<p>extracts of the DPR guidelines are (attached as an Annexure-3.1).</p> <p>In compliance with the above provisions, detailed rainfall analysis, catchment yield assessment, initial reservoir filling studies, evaporation and seepage loss estimation, water balance analysis, flood studies and sedimentation studies have been carried out and incorporated in the approved DPR. These studies establish that the one-time initial filling of the reservoirs is feasible through monsoon runoff from the self-catchment area, and that subsequent operation involves recycling of water with only marginal annual losses, which are replenishable during the monsoon season.</p> <p>The initial reservoir filling and subsequent make-up water requirements have been assessed through detailed rainfall analysis, catchment yield assessment, evaporation and seepage studies, which form part of the approved DPR. The hydrological studies and water availability aspects have been examined and Concurred by the Hydrology Directorate, Central Water Commission (CWC). (Attached as an Annexure-3.2)</p> <p>Further, the State Government, through the competent Water Resources Department, Maharashtra has accorded approval for water availability and issued the Water Availability Certificate, confirming adequacy of water for one-time reservoir filling as well as for annual make-up requirements during operation, (Attached as an Annexure-3.3). The same aspects were also considered during the recommendation of Environmental Clearance by MoEF&CC, Delhi.</p> <p>Accordingly, the feasibility of filling the reservoir with rainwater and maintaining the water level throughout the year is duly established through detailed DPR studies and stands approved by the competent Central and State authorities.</p>
iv	<p>As per the recommendations of Regional Office, 20 ha NFL proposed for CA is unsuitable for plantation. Accordingly CA scheme shall be revised to carry out plantation in degraded forest areas at double the extent of unsuitable area. The improvement plan is required for the remaining non forest area where canopy</p>	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The User Agency submitted undertaking for confirm their acceptance to provide the plantation cost of double degraded forest land in respect 20.ha. NFL and they request to allocate the CA Land. (attached as an Annexure-4).</p>

	<p>density is more than 0.4. The detail of identified DFL along with KML files shall be submitted.</p>	<p>As per the recommendation given by the Regional Officer, out of the proposed CA land , 20 ha. are unusable for cultivation, hence, it has been as Accordingly, CA scheme asked to revised to carry out plantation in degraded forest areas at double the extent of unsuitable area.</p> <p>So, Assistant Conservator of Forest (FLCS & Campa) Shahapur and Range Forest Officer, Shahapur are selected the area for compensatory afforestation in Village Pendharghol (Atgaon), Tahsil - Shahapur , Dist- Thane. And submitted Village map, Toposheet and Geo-disital Map, 7/12 (Marathi & English) and CA Sceam .</p> <p>Then Deputy Conservator of Forests, Shahapur are recommended 40 ha. Double Degraded forest land for compensatory afforestation in 1 patches. i.e. (com.No.684, Sr.No.63 (New), Sr.No.293Pt (Old), at. Village Pendharghol (Atgaon) in Tal – Shahapur, Dist-Thane and Suitability Certificate are enclosed here with.</p> <p>Annexure- 4.2- CA land Suitability Certificate. Annexure- 4.3- CA land 7/12 (Marathi & English) Annexure- 4.4- CA Scheme (10 Year) Annexure- 4.5- Toposheet . Annexure- 4.6- Village Map Annexure- 4.7- Geo-digital Map Annexure- 4.8- KML (Pen Drive)</p>
v	<p>The DFO Nasik in his recommendations submitted that the project involves construction of tunnel work, which may require stability studies from national level institutions. The details/report in this regard shall be submitted.</p>	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The user agency has submitted that the Overall project design has received approval from central agencies. The Geological Survey of India (GIS) and Central Water Commission (CWC) has confirmed the suitability and safety of the tunnels . The Central Electricity Authority (CEA) has granted concurrence to the detailed project Report (DPR) through its.</p> <p>Additionally, as recommended by the Chief Conservator of Forest (CCF), Nashik, a detailed study on tunnel construction was conducted by the Central Institute of Mining & Fuel Research (CIMFR), CSIR, Bilaspur on dated 19.05.2025 to ensure safe execution of tunnels, and the report is attached as herewith. (Annexure-5.1)</p> <p>The study provides specific recommendations for safe excavation, support systems and construction methodology for tunnel works during execution,</p>

	<p>thereby further strengthening the safety framework of the project.</p> <p>In addition to the above, it is submitted that the Detailed Project Report (DPR) for the Project has been prepared strictly in accordance with the Central Electricity Authority (CEA) Guidelines for Formulation, Examination and Concurrence of Detailed Project Reports for Pumped Storage Schemes (July 2024, Version 3.0).</p> <p>As per the above Guidelines, the design, alignment and stability of underground works including tunnels form an integral part of the DPR and are required to be examined and vetted by national-level central agencies during the appraisal and concurrence process. In this regard, the Guidelines provide that:</p> <ul style="list-style-type: none"> • The Central Water Commission (CWC), in consultation with its concerned Directorates, is the designated authority for vetting Hydel civil design as stated in Sec 2.7 “Aspects to be appraised” of Guidelines for Formulation of Detailed Project Reports for Pumped Storage Schemes (CEA, Version 3.0) (Attached as Annexure 5.2). The relevant extract is reproduced hereunder: <p>“iv. Hydraulic Structures/ Hydel Civil Design: Techno- economic evaluation of water conductor system and power house comprising of intake, de-silting arrangement, head race tunnel, surge shaft, pressure shaft/ penstock, tail race tunnel/ channel and the type/ layout and dimensions of the power house is made to ensure that the surveys and investigations carried to finalize the layout & designs are adequate, layout is optimum & is evolved after evaluation of various alternatives; project components are safe, planning & design has been carried out utilizing state of the art technology and relevant standards.”</p> <ul style="list-style-type: none"> • The Geological Survey of India (GSI) is responsible for examination and clearance of geological aspects, including subsurface conditions along tunnel alignments. • The Central Soil and Materials Research Station (CSMRS) examines construction material, geotechnical and rock mechanics aspects, which directly govern tunnel
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		<p>stability and support measures.</p> <p>Accordingly, the geological, geotechnical and tunnel-related aspects of the project have been examined through the prescribed statutory mechanism. The DPR incorporates detailed geological mapping, subsurface investigations, geotechnical characterization, tunnel alignment studies, rock mass classification, and preliminary support measures, which have been examined and accepted by GSI, CSMRS and the concerned Directorates of CWC as part of the DPR appraisal process. Further, the Hydel Civil Design Directorate of CWC is mandated under the Guidelines to vet tunnel design and associated civil structures, and the same has been carried out during DPR examination.</p> <p>The Central Electricity Authority (CEA), acting as the nodal authority under Section 8 of the Electricity Act, 2003, accords concurrence to the scheme only after satisfying itself, through consultation with CWC, GSI and CSMRS, that the proposed project meets the norms related to design safety, dam and tunnel stability, and construction feasibility. Accordingly, DPR concurrence for the project has been accorded by CEA vide letter dated 24.09.2024, after due appraisal of all such aspects.</p>
vi	<p>The DFO West Nasik has recommended that in case of land that were allotted prior to 1980, lying in the project area, the user agency shall not utilize/acquire said land parcel without a separate/ additional diversion proposal. The state/user agency has not provided any appropriate justification in this regard. A detailed justification along with a list of such areas involved in the project shall be submitted.</p>	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The User Agency has submitted that Gut No. 37 to 41 at Jamunde Village have been excluded from the Project area Undertaking is attached here.</p> <p>It is respectfully submitted that during detailed scrutiny of revenue records and forest land status, the land parcels allotted prior to 1980, falling within Village Jamunde, Tehsil Igatpuri, District Nashik, have been identified and excluded from the project area. Accordingly, the said land parcels, comprising Gut Nos. 37 to 41 of Village Jamunde, do not form part of the present forest diversion proposal and shall not be utilized or acquired for any component of the project.</p> <p>In this regards, User Agency has already submitted an undertaking to concern Forest divisions, clearly stating that no construction activity or project infrastructure shall be taken up on land allotted prior to 1980, unless a separate and additional forest diversion proposal is submitted and approved under the provisions of the Forest</p>

		(Conservation) Act, 1980, as applicable.
		<p>Since these land parcels are excluded from the project footprint, no forest diversion is involved at this stage. Hence, a separate diversion proposal does not arise presently. A list of such excluded land parcels along with the undertaking has already been submitted and is enclosed again for ready reference. (Attached as Annexure-6)</p>
vii	<p>The state has informed that 13.814 ha area has been excluded as these patches do not fall within the working area. Since these patches are interspersed in-between the working area, the state shall provide the justification for their exclusion and the plan for the protection of these patches.</p>	<p>The DCF, Shahapur & CCF (T), Thane on 16/01/2026 & 17/01/2026 has submitted compliance report as follows:-</p> <p>The user agency has submitted that the exclusion of 13.814 ha forest land is intentional, as these patches do not fall within the actual construction or operational footprint of the project. The exclusion aims to avoid unnecessary and minimization diversion of forest land.</p> <p>The Deputy Conservator of Forests, Shahapur Forest Division, Shahapur has mentioned in compliance report that recommendation for the area that is excluded from proposal i.e.13.841 ha. will be demarcated and erection of Boundary Pillars and construction of Water hole for the protection and conservation of that area.</p>

This is for your information and further needful action.

Encl : As above



(Naresh Zurmure)
Addl. Principal Chief Conservator of Forests
& Nodal Officer

Copy to the Chief Conservator of Forests (T), Thane for information.

Copy to the Chief Conservator of Forests (T), Nashik for information.

Copy to the Deputy Conservator of Forests, Shahapur Forest Division, Shahapur for information.

Copy to the Deputy Conservator of Forests, West Nashik Forest Division for information.

Copy to the Authorized Signatory, JSW Energy PSP Two Limited at JSW Centre, Bandra Kurla Complex Bandra (East), Mumbai-400051 for information.