



सत्यमेव जयते

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



Minutes of 2ND MEETING OF THE EXPERT APPRAISAL COMMITTEE
meeting River Valley and Hydroelectric Projects held from 26/10/2023 to
26/10/2023

Date: 14/11/2023

MoM ID: EC/MOM/EAC/522623/10/2023
Agenda ID: EC/AGENDA/EAC/522623/10/2023
Meeting Venue: N/A
Meeting Mode: Virtual
Date & Time:

26/10/2023	10:30 AM	05:30 PM
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1. Opening remarks

The 2nd meeting (online mode) of the re-constituted 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 October, 2023 under the Chairmanship of Prof. G. J. Chakrapani.

2. Confirmation of the minutes of previous meeting

The EAC while confirming the Minutes of the 1st EAC meeting held on 17-18 October, 2023 and recommended for addition of following para after completion of para no. 1.5.1 of Agenda Item No. 1.5 regarding grant of amendment in TOR issued on 09.11.2022 for conducting EIA study for construction of Tarali Off Stream Open Loop Pumping Storage Project (1500 MW) in an area of 150.74 ha at Village Kalambe, Jalu, Nivade and Tondoshi, Sub District Patan, District Satara, Maharashtra by M/s Adani Green Energy Limited, [Proposal No. IA/MH/RIV/443150/2023; F. No. J-12011/52/2023-IA.I (R)] : "...Shri Janardan Choudhary is presently working as Advisor in M/s Adani Green Energy Ltd; so, to avoid any conflict of Interest he had not participated in the deliberations on Agenda item No. 1.5 regarding grant of amendment in TOR issued by the Ministry on 09.11.2023 for conducting EIA study for construction of Tarali Off Stream Open Loop Pumping Storage Project (1500 MW) in an area of 150.74 ha at Village Kalambe, Jalu, Nivade and Tondoshi, Sub District Patan, District Satara, Maharashtra by M/s Adani Green Energy Limited of M/s Adani Green Energy Limited...." With the above corrections the EAC confirmed the Minutes of the 1st EAC meeting held on 17-18 October, 2023.

3. Details of proposals considered by the committee

Day 1 -26/10/2023

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

				within the existing land area of 1577 ha.
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2.4.3: The EAC during deliberations noted the following:

The EAC deliberated on the information and as presented in the meeting and observed that the proposal is for Amendment in Environmental Clearance to the project for Lower Kopili HEP (120 MW) in Karbi Anglong & Dima Hasao, Assam by M/s Assam Power Generation Corporation Ltd.

The project/activity is covered under Category A of item 1 (c) 'River Valley projects' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

2.4.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting recommended for amendment in Environmental Clearance dated 4.09.2019 to the project for Lower Kopili HEP (120 MW) in Karbi Anglong & Dima Hasao, Assam by M/s Assam Power Generation Corporation Ltd under the provisions of EIA Notification, 2006, as proposed by the project proponent subject to compliance of following additional condition as under: -

- i. Aquatic study specially, migratory aquatic species concerning occurrence of fishes /habitat impact studies shall be carried out from recognised govt. Institutes and prepared mitigation measures, with provision of financial budget revised in the EMP. The outcome of the said study shall be implemented.
- ii. Submit undertaking that R&R scenario /habitat of flora and fauna of project are not change due to modification of the project components.
- iii. All the conditions mentioned in the EC dated 4.09.2019 shall remain unchanged.

Agenda Item 2.5

Requirement of Cumulative Impact Assessment (CIA) & Carrying Capacity Study (CCS) of River Basin for small /Mini/Micro hydro power projects in the country.

2.5.1: The matter related to requirement of Cumulative Impact Assessment (CIA) & Carrying Capacity Study (CCS) of River Basin for Small /Mini/Micro hydro power projects in the country was discussed in EAC meeting held on 18th October, 2023. Wherein, the EAC opined that CIA&CCS of river basin provide comprehensive data about capacity of river system to perform biological processes and impact of various factors of hydro power development and other developmental activities on performance of biological processes. Further, the EAC decided to deliberate on the matter in the next EAC meeting to take a balanced view on the matter.

2.5.2: The EAC during its 2nd meeting held on 26.10.2023 further deliberated on the matter and observed that small/mini HEPs in the river basin are allocated by the State

Government in their State by their own social /techno-economical criteria for development of small Hydel Project (SHEP). They does come under the purview of the EIA Notification, 2006, as amended. However, the small HEPs (<25MW) required Forest clearance in case of diversion of Forest land for project development.

It was also noted by the EAC that the cascade development of small/mini Hydroelectric projects in a basin may leads to various cumulative environmental impacts such as on environmental flow, hydrological flow, bio-diversity, changes in sedimentation at various places within project, release of silt free water into the river downstream from the power house and impact thereof on the geo morphology, erosion, stability of structures etc, deforestation due to various projects and slope stability/increase slides prone areas, aquatic and terrestrial flora and fauna across the basin, mining of various materials required for the projects , muck disposal sites and its transportation and disposal , traffic load in the region, R&R issues etc. In view of above scenario, Cumulative Impact Assessment & Carrying Capacity Study (CIA & CCS) must be required for River Valley Projects for granting Environment Clearance and Forest Clearance, so that we can preserved environmental, ecological and Bio-diversity sustainability of the region for future generation.

It was also noted that the work of “Basin Wise Reassessment of Hydroelectric Potential in the Country” has been taken up by the Central Electricity Authority (CEA) under Ministry of Power, Government of India.

As per the Annual Report (2022-23) of Ministry of New and Renewable Energy Resources (MNRE), Government of India, the estimated potential of 21133 MW from 7133 sites for power generation in the country from small / mini hydel projects was assessed. The hilly States of India mainly Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir and Uttarakhand constitute around half of this potential. Other potential States are Maharashtra, Chhattisgarh, Karnataka and Kerala. North Eastern (NE) States have a fairly good potential to develop small hydro power projects. Among the NE States, Arunachal Pradesh has the highest potential followed by Sikkim, Meghalaya and Mizoram. MNRE has been giving special emphasis for the development of small hydro projects in the NE region. MNRE has launched Jalurjamitra Skill Development Programme with the objective to develop more than 1600 skilled and employable workforce (Jalurjamitras) for Small Hydro Projects by the year 2025-26 for the country. The programme is coordinated and managed by Department of Hydro and Renewable Energy (HRED, IIT Roorkee). The MNRE has also taken various other initiatives to encourage development of small HEPs.

The EAC was of the considered view that Small Hydro Power (SHP) project is a sustainable energy solution because of its low environmental cost in terms of problems of large scale forest land /community land acquisition/deforestation and displacement of human settlements. Such projects are run of the river-based and create minimum hinderance/ disruption to rivers/streams. The small hydro project's construction takes much less time as compared to conventional large hydropower project, which makes it cost effective and favourable to the local community. Small hydro projects are generally set up closer to the demand area, so they are more effective for load-generation management. The SHP play a significant role in social upliftment of remote hilly areas through creating local employment opportunities and restrict population migration from

remote areas to urban areas. In view of nation's growing power demand there is a requirement to encourage development of the SHP sector to achieve the goal of sustainable development. The SHP projects has eligibility to be registered under the clean development mechanism (CDM) mechanism to avail carbon credits.

The EAC after detailed deliberations recommended that:

- i. The cumulative impact assessment and carrying capacity studies of the rivers where hydro-electric projects are proposed must be completed in time bound manner.
- ii. The Small Hydro Power Projects (<25 MW) of total 200 MW capacity (cumulative) may be permitted in the river basin, based on Hydro-electric potential studies done by the Ministry of Power, Government of India, without insisting on individual river basin study.
- iii. A committee consisting members from MOEF&CC, MoJS, MOP, State Govt and expert institutions may be constituted for framing Standard Operational Procedure (SOP) for development of Small Hydro Power Projects in eco-friendly manner.
- iv. List of SHPs may be finalized by the State Govt in view of Hydro-electric potential studies done by the Ministry of Power, Government of India keeping in view of any court order/policy w.r.t. construction of SHPs/HEPs in the river basin.
- v. The cumulative impact assessment and carrying capacity of the whole river basin will include the finalized list of SHPs along with all other proposed/existing HEPs in that particular river basin.

The meeting ended with vote of thanks to the Chair.

ATTENDANCE

S. No.	Name	Role	Attendance
1.	Prof. G. J. Chakrapani	Chairman	P
2.	Dr. Udaykumar R. Y.	Member	P
3.	Dr. Mukesh Sharma	Member	P
4.	Shri Janardan Choudhary	Member	P
5.	Dr. J V Tyagi	Member	A
6.	Shri Kartik Sapre	Member	P
7.	Shri Ajay Kumar Lal	Member	P
8.	Shri Sharvan Kumar	Representative of CEA	P
9.	Shri Alok Paul Kalsi	Representative of CWC	P
10.	Dr. J A Johnson	Representative of WII	A
11.	Dr. A.K. Sahoo	Representative of CIFRI	P
12.	Shri Yogendra Pal Singh	Member Secretary	P

APPROVAL OF THE CHAIRMAN

From: "govind chakrapani" <govind.chakrapani@es.iitr.ac.in>
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Cc: "Saurabh Upadhyay" <saurabh.upadhyay85@gov.in>
Sent: Tuesday, November 14, 2023 3:33:35 PM
Subject: Re: Draft MoM of the EAC (RV&HEP) meeting held on 26.10.2023-reg

The MoM are approved.
G.J. Chakrapani