**MINUTES OF THE 1st MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR RIVER VALLEY AND HYDROELECTRIC PROJECTS HELD ON 17TH - 18th OCTOBER, 2023 FROM 10:30 AM – 05:30 PM BY HYBRID MODE (PHYSICAL- INDUS HALL, MoEF&CC AND ONLINE).**

The 1st meeting (hybrid 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 17th - 18th October, 2023, under the Chairmanship of Prof. G. J. Chakrapani. After initial introduction of all, the committee deliberated on the various issues and challenges for sustainable development of hydroelectric and river valley projects and expressed their absolute commitment, cooperation and team work for the EAC. The list of Members present in the meeting is shown in the **Annexure**.

**Agenda Item No. 1.1: Confirmation of Minutes of 51st EAC meeting**

The EAC confirmed the minutes of 51st EAC meeting held on 12th September, 2023.

**Agenda Item No. 1.2**

**Vijayanagar Pump Storage Project (130 MW) in an area of 127.54 ha at Village Kurekuppa, Sub District Sandur, District Ballari, Karnataka by M/s JSW Energy PSP Two Limited – Environmental Clearance (EC) – reg.**

**[Proposal No. IA/KA/RIV/444768/2023; F. No. J-12011/05/2022-IA.I (R)]**

**1.2.1:** The proposal is for grant of Environmental Clearance (EC) to the project for Vijayanagar Pump Storage Project (130 MW) in an area of 127.54 ha at Village Kurekuppa, Sub District Sandur, District Ballari, Karnataka by M/s JSW Energy PSP Two Limited.

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

i. The proposed Vijayanagar Pumped Storage Project is a self-identified, green field project by the JSW Renewable Energy (Vijayanagar) Ltd., a subsidiary of JSW Energy Limited, for captive use in JSW Steel Plant.

ii. The project has been conceived as an off-stream closed loop pumped storage project of installed capacity 130 MW/845 MWH pumped storage component with twin cycle consisting of hydropower generation during morning and evening peaks by pumping twice during 24-hour period. The project shall be located in Vidya Nagar area of JSW Steel Plant, Taluka Sandur, District Bellary, Karnataka.

iii. The project with an installed capacity of 130 MW by utilizing a design discharge of 108.01 cumecs with rated net head of 136.32 m for two daily cycles of peaking (4.0 hours in the morning and 6.50 hours in evening/night)

The EAC after detailed deliberations on the TOR proposal was of the view that the TOR for Cumulative Impact Assessment (CIA&CCS) of Ravi River Basin needs to be prepared for complete stretch of Ravi River in Himachal Pradesh and Jammu & Kashmir. The updated list of HEPs proposed in the Ravi River and its tributaries in both states needs to be provided by the Himachal Pradesh Government. Accordingly, the revised Terms of Reference for conducting CIA & CC study of Ravi River may be submitted. After completion of draft TOR proposal for conducting CIA&CC study of Ravi River basin for Himachal Pradesh and J&K the same may be submitted to MoEF&CC for further deliberations by the EAC meeting.

**Item No.- 1.13**

**Discussion on requirement of CIA/CSS for small hydro power projects – reg.**

The Member Secretary, EAC informed that Ministry has received proposals for grant of Forest Clearance (FC) under Forest (Conservation) Act, 1980 for diversion of forest land involved for construction of small hydro-power projects i.e. the Hydropower projects having power generation capacity less then 25 MW.

It was further informed that vide Office Memorandum dated 28.05.2013 of the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India, the Cumulative Impact Assessment & Carrying Capacity (CC& CIA) study of the river basins has been made mandatory before grant of Environment Clearance and Forest Clearance. The said office memorandum inter-alia states as under:

*"…….(i) **Environmental Flow**: As EAC has got requisite expertise, this aspect may be considered by EAC alone and outcome be shared with FAC.*

***(ii) Bio-diversity Component:** Examination of bio-diversity issues is a highly specialized task and the consultants involved in preparation of EIA/EMP report may not be equipped to do full justice to this subject. Some institutes in the country are well equipped with expertise and resources with regard to examination of bio-diversity issues. Therefore, their knowledge and expertise may be harnessed on Bio-diversity aspect for ensuring a sound assessment of this cardinal component in EIA Studies and preparing an effective EMP. It has been decided that WII and ICFRE, Dehradun will provide a State-wise list of such institutes and based on their inputs, MoEF would finalize a list of institutes which would be displayed on MoEF's website. The developers would then choose from amongst such institute to conduct such a study. The standard ToRs for a bio-diversity study for a hydro power project may be prepared by EAC and shared with FAC for modifications, if any. The same template be then used by EAC/FAC (taking into account which Committee considers the project first) with suitable project specific modifications, if required. Once the bio-diversity study report is ready, the same could them be shared between EAC and FAC.*

***(iii) Cumulative Impact Study:** Cumulative Impact study of a basin would reflect the cumulative impact -of commissioned/up-coming hydro-power projects in the basin on environmental flow, bio-diversity, muck disposal sites, traffic flow hi the region R&R issues etc. While the first project in a basin could come up without insisting on cumulative study. for all subsequent hydro-power projects in the basin. it should be incumbent on the developer' of the second/other project(s) to incorporate*

*all possible and potential impact of other project(s) in the basin to get a cumulative impact assessment done. This condition shall be stipulated. at the ToRs stage itself during the EC process. Once such a cumulative impact- study has been done. the same could be shared by EAC with FAC. The Cumulative impact study in respect of bio-diversity component may be separately got done by one of the specialized institutes as stated at (ii) above. While making recommendation on EC/FC for such projects. the EAC/FAC will take into account the results of such cumulative studies.*

*(iv)* ***Carrying Capacity Study****: The carrying capacity study of a river basin is important to plan optimal number of power projects in a basin. All State Governments will be required to get such studies done for river basins in their State. The process may be initiated in the next three months and completed within a period of two years, after which the carrying capacity study report would be made a pre-requisite for considering EC/FC cases of projects of any basin. All State Governments will send the details of river basins where such studies are to be done and confirm initiation of studies to MoEF within 3 months of issuance of this OM. -The institutes for such studies may be settled by the State Government in consultation with the EAC…."*

Till date total **13 River basin CIA&CC** studies have been completed. Out of 13 River basin study reports of 11 River basin studies have been accepted by Ministry and communicated to the concerned States for implementation of recommendations given in the Study reports.

It was further informed that the Ministry consider the projects for grant of prior Environmental Clearance (EC) under the provisions of the Environment Impact Assessment (EIA) Notification,2006, as amended. The Hydro-electric projects with electricity generation capacity ≥ 25 MW attract the provisions of Environmental Impact Assessment (EIA) Notification,2006, as amended and liable to take prior EC under the provisions of the said notification.

1. For diversion of forest land for construction of small /mini HEP forest clearance required in which FAC require CIA&CC study of River Basin

There are many river basins in the country for which CIA &CCS are yet to be conducted. Many small HEPs are not included in the list of HEPs where CIA &CCS study report of River basin already completed. Since, the aforesaid Office Memorandum mandates that after development of one hydro-electric project in any river basin other projects shall have to conduct individual CIA &CCS study for complete river basin, if the CIA &CC study has not been done for that particular river basin.

The Ministry has decided to assess the requirement of CIA&CCS study for small hydro-power projects (mini, micro and small HEPs) which do not require Environmental Clearance under the provisions of the EIA Notification, 2006, as amended, as many such projects are kept on hold due to absence of CIA&CCS study for complete river basin.

Given the above information the EAC deliberated on the matter and observed that for ensuring the sustainability of any ecosystem it is essential to have baseline information about it's carrying capacity and extent of anthropogenic pressure/activities that the ecosystem will be able to accept without any considerable impact on biological processes. CIA&CCS of river basin provide comprehensive data about capacity of river system to continue biological processes and

metabolism. River basins also influence positively on the nearby ground water aquifer systems by water level fluctuations and recharge/discharge. The proposed activities may also enhance increased moisture which helps in better crops, agro-forestry and food security in a changing climate change scenario. Socio-economic, anthropologic, aesthetics, aqua sports and river tourism also are based on the carrying capacity of river systems. In addition, marginal marine environments such as estuaries, mangrove and deltaic ecosystems are home to the large biodiversity which are sensitive to the river cultural impacts. CIA&CCS is an important informative and scientific tool to analyse the range of environmental impacts associated with the developmental activities including development of hydropower projects and provide a road map for preparation of effective environmental management plan. The EAC decided that deliberation on the matter to be continued in the next meeting of the EAC so as to take a balanced view on the matter.

*****

**Annexure**

**ATTENDANCE**

**1st MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC)**
**RIVER VALLEY AND HYDROELECTRIC PROJECTS**

**DATE** : **17-18th October 2023**
**TIME** : **11.00 AM onwards**
**VENUE** : **Indus Hall, Jal Block, Indira Paryavaran Bhawan, New Delhi.**

| Sl.No. | Name of Member | Role | Signature (17.10.2023) | Signature (18.10.2023) |
|---|---|---|---|---|
| 1. | **Prof. G. J. Chakrapani** | **Chairman** | G.J. Chakrapani | G.J. Chakrapani |
| 2. | **Dr. Udaykumar R. Y.** | Member | | |
| 3. | **Dr. Mukesh Sharma** | Member | Joined through VC | Joined through VC |
| 4. | **Shri Janardan Choudhary** | Member | Joined through VC | – Ab – |
| 5. | **Dr. J V Tyagi** | Member | | |
| 6. | **Shri Kartik Sapre** | Member | | |
| 7. | **Shri Ajay Kumar Lal** | Member | | |
| 8. | **Shri Sharvan Kumar,** (Chief Engineer, HPA), Representative of Central Electricity Authority (CEA) | Member | | – Ab – |
| 9. | **Shri Alok Paul Kalsi, Director (EM)** Representative of Central Water Commission (CWC) | Member | Joined through VC | Joined through VC |
| 10. | **Dr. J.A. Johnson, Scientist - F** Representative of Wildlife Institute of India (WII) | Member | Joined through VC | – Ab – |
| 11. | **Dr B.K. Das, Director / Dr. A.K. Sahoo, Senior Scientist** Representative of Central Inland Fisheries Research Institute (CIFRI) | Member | Joined through VC | Joined through VC |
| 12. | **Shri Yogendra Pal Singh** | Scientist – E and Member Secretary (River Valley and Hydroelectric Projects), MoEF&CC | Joined through VC | |

***

## APPROVAL OF THE CHAIRMAN

**From:** "govind chakrapani" <govind.chakrapani@es.iitr.ac.in>
**To:** "Yogendra Pal Singh" <yogendra78@nic.in>
**Sent:** Monday, November 6, 2023 3:57:23 PM
**Subject:** Re: Draft MoM of 1st EAC meeting held on 16-17.10.2023 for approval - reg

The Minutes of the Meeting held on 16-17 October 2023 prepared by due procedure by the Member Secretary and circulated to all and after incoroprating the neccesary feedback and consent received from all is approved.
G.J. Chakrapani