

Minutes of the 13th Meeting of the Expert Appraisal Committee for River Valley & Hydroelectric Projects held on 27.04.2018 at Narmada Meeting Hall, Ground Floor, Jal Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-3.

The 13th meeting of the re-constituted EAC for River Valley & Hydroelectric Projects was held on 27.04.2018 with the Chairmanship Dr. S.K. Jain in the Ministry of Environment, Forest & Climate Change at Narmada Meeting Hall, Ground Floor, Jal Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi. The following members were present:

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| 1. | Dr. S.K. Jain | - | Chairman |
| 2. | Shri Sharvan Kumar | - | Representative of CEA |
| 3. | Dr. J.A. Johnson | - | Representative of WII |
| 4. | Shri N.N. Rai | - | Representative of CWC |
| 5. | Dr. S.R. Yadav | - | Member |
| 6. | Dr. D.M. More | - | Member |
| 7. | Dr. J.P. Shukla | - | Member |
| 8. | Dr. T.P. Singh | - | Member |
| 9. | Dr. (Mrs.) Poonam Kumria | - | Member |
| 10. | Dr. S. Kerketta | - | Member Secretary |

Dr. A.K. Sahoo, Shri Chetan Pandit, Dr. R. Vasudeva, Dr. Vijay Kumar and Dr. Govind Chakrapani could not present due to pre-occupation. The deliberations held and the decisions taken are as under:

Item No. 13.0 Confirmation of minutes of 12th EAC meeting.

The Minutes of the 12th EAC (River Valley & Hydroelectric Projects) meeting held on 27.03.2018 were confirmed.

Item No. 13.1 CIA and CCS of Beas River Basin – reconsideration and presentation of Draft Final Report before the EAC

The Consultant, IRSET, Gurgaon has presented the draft Final report of CIA and CCS of Beas River Basin and *inter-alia* provided the following:

The CIA&CCS of Beas basin study's report was presented with special focus on the issues of post EAC's visit to the study area covering the issues raised during the visit. Site visit was conducted during April 12-14, 2018 to Parbati valley, Beas river up to Solang valley including Allain and Duhangan tributaries, Sainj valley and Tirthan valley. Detailed discussions were held during the visit based on the observations made by the Sub-committee of the EAC and following major issues were flagged:

- 1) Protected areas in the basin with status of declaration of ESZ along with marking on the map
- 2) Environment flow assessment for all the projects
- 3) Justification for projects recommended to be dropped

Consultant has discussed each point in detailed and have informed the Committee that they have updated the status of ESZ for all the protected areas in the Beas basin report. There are 10 Wildlife Sanctuaries and 3 National Parks in the basin. Indrakilla National Park ESZ has been declared by final notification, whereas remaining two national parks and 10 ESZ are in draft notification stage as listed below:

CAT Plan is not applicable

Item No. 13.4 Pinnapuram Integrated RESP-Storage Project in Tehsil Nandyal, District Kurnool, Andhra Pradesh by M/s Greenko Energies Private Limited - reg. ToR / Scoping Clearance - File No. J-12011/12/2018-IA.I (R), Proposal No. IA/AP/RIV/29585/2015.

The project proponent has submitted this proposal online on 16.04.2018 for grant of fresh Terms of Reference to the Project for preparation of EIA/EMP report. The project proponent made a detailed presentation of the project along with the Consultant, IRSET, Gurgaon and *inter-alia*, provided the following information:

The scheme involving Solar, Wind and Hydro (Pumped Storage) projects in an integrated manner with an installed capacity of 4 GW i.e. 2 GW of Solar Project and 2 GW of Wind Project and with a storage capacity of 1/8 GWH.

This entire project is a self-identified project and is a first of its kind in the country which will supply firm dispatchable renewable power to the Discom/Grid round the clock (RTC). All three components of Pinnapuram IRESP are in closed vicinity therefore power from all three components will be pooled in a common pooling station and will be connected to PGCIL sub-station at Orvakallu. The Pinnapuram IRESP - Storage Project is in Kurnool district of Andhra Pradesh. It envisages creation of reservoir across Muni Madugu (Pond) near Pinnapuram Village. This is an IRES scheme and not a river valley project and the environment clearance is sought due to the storage component only. Memorandum of Understanding was executed between Government of Andhra Pradesh and M/s Greenko Energies Pvt. Ltd. for developing Integrated renewable Energy Project in Andhra Pradesh in Partnership Summit 2018 held during 24-26th Feb, 2018. The Project features are:

- Pinnapuram IRESP- Storage Project will comprise of two reservoirs i.e. Gorakallu Reservoir (already existing) and Pinnapuram Reservoir (to be constructed in a natural depression).
- None of the reservoirs is located on river course. Gorakallu reservoir (existing) is a balancing reservoir located on a canal network and Proposed Pinnapuram reservoir in a natural depression. These reservoirs are far away from any river course.
- This scheme envisages non-consumptive re-utilization of 1 TMC of water of the existing Gorakallu reservoir by recirculation. The water in the Gorakallu (existing lower reservoir) will be pumped up and stored in the proposed Pinnapuram reservoir (upper Reservoir) and will be utilized for power generation.

Other Salient features of the project are:

1	Pinnapuram IRESP Reservoir -Upper (Now Proposed)	
	Catchment Area	9.45 sq. km
	Live Storage	1.00 TMC
	Dead Storage	0.32 TMC
	Gross Storage	1.32 TMC
	Full Reservoir level (FRL)	EL +392.00 m
2	Gorakallu Reservoir -Lower (Existing)	
	Live Storage	10.29 TMC (291.38 Mcum)
	Dead Storage	2.15 TMC (60.88 Mcum)
	Gross Storage	12.44 TMC (352.26 Mcum)
	Full Reservoir level (FRL)	EL +261.00 m
3	Power Intake	
	Type	Open Semi Circular
	Elevation of Intake center line	EL +357.25 m

4	Tail Race Tunnel	Concrete Lined
	Type of tunnel & Nos.	Modified Horse Shoe & Twin Tunnels
	Diameter & Length of each Tunnel	12.0 m & 3860m each
5	Powerhouse	
	Type	Underground 'D' Shape
	PH cavern Dimensions	L 270 m x B 25 m x H 49 m
6	Parameters of Storage Plant	
	Storage Capacity	8000 MWH
	Rating	1000 MWH
	No. of Units	6 (4 x 200 MW + 2 x 100 MW)
	Turbine Capacity	200 MW / 100 MW
	Total Design Discharge	862.50 Cumec
	Rated Head in Turbine mode	134.00 m
	Pump Capacity	220 MW / 130 MW

The project Pinnapuram IRESP Reservoir – Upper (Now Proposed) is bounded by latitude 15°35'38.57" N & 78°18'29.17" E & Gorakall Reservoir - Lower (Existing) is bounded by latitude 15°35'43.25" N & 78°18'18.11" E.

The total cost of the Storage Project is Rs. 4829.22Cr. The land required for the project has been worked out and is about 380 ha including 283 ha of forestland (Surface 263 ha + Under Ground 20 ha) and about 97 ha is Private Land.

PP explained that project design has made provision of dumping muck in reservoir bed to utilize that capacity as there is no water course existing; for dumping surplus quantity of muck, three additional dumping sites are also planned. EAC favourably considered the concept.

PP also explained that for this project where no significant catchment area is contributing to the project, CAT plan shall not be required. Similarly, the proposed reservoir is not on any water / river course and hence no aquatic life would be interfered with. Therefore, Fishery Development Plan will also not be applicable. Further, the reservoir created will have fluctuating levels.

PP also proposed that Dam Break Analysis & Disaster Management Plan should not be applicable, since the project is not on any River Course. However, EAC did not agree and suggested that Dam Break Analysis should be carried out for the storage component in the upper reservoir.

PP requested that this is an IRES scheme and not a river valley project and they are seeking environment clearance due to storage component only. Therefore, they be allowed to complete the Baseline studies based on one season primary data with substantial secondary data. EAC deliberated the issue, and concluded that baseline studies should be carried out by using 3 seasons data as is the standard practice for river valley projects.

After the detailed deliberations, EAC recommended the project for scoping clearance with the following additional conditions:

- i. Three (3) season's data should be collected for the entire project.
- ii. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provision of Right to Fair Compensation and Transparency in Land acquisition, Rehabilitation and Resettlement Act, 2013.
- iii. The project involves about 283ha of forest land. Forest clearance should be obtained as per the prevailing norms of FC Act, 1980.