

Minutes of the 10th Meeting of the Expert Appraisal Committee for River Valley and Hydroelectric Projects held on 05.12.2017 at Teesta Meeting Hall, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi-3.

The 10th meeting of the re-constituted EAC for River Valley & Hydroelectric Projects was held on 05.12.2017 with the Chairmanship of Dr. Sharad Kumar Jain in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, 1st Floor, Vayu Wing, Indira Paryavaran Bhavan, Jorbagh Road, New Delhi. The following members were present.

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|-----|-----------------------|---|-----------------------|
| 1. | Dr. Sharad Kumar Jain | - | Chairman |
| 2. | Shri Sharvan Kumar | - | Representative of CEA |
| 3. | Shri N.N. Rai | - | Representative of CWC |
| 4. | Dr. Vijay Kumar | - | Representative of IMD |
| 5. | Shri Chetan Pandit | - | Member |
| 6. | Dr. D.M. More | - | Member |
| 7. | Dr. T.P. Singh | - | Member |
| 8. | Dr. Poonam Kumria | - | Member |
| 9. | Dr. J.P. Shukla | - | Member |
| 10. | Dr. S.R. Yadav | | Member |
| 11. | Dr. S. Kerketta | - | Member Secretary |

Dr. R. Vasudeva, Dr. J.A. Johnson, Dr. A.K. Sahoo and Prof. Govind Chakrapani could not present due to pre-occupation. The deliberations held and the decisions taken are as under:

Item No. 10.0 Confirmation of the Minutes of 9th EAC meeting- reg.

The minutes of the 9th EAC (River and Valley Hydroelectric Project) meeting held on 24.10.2017 were confirmed with the following corrections:

Item No. 9.2 Bursar HEP (800 MW) in Kishtwar District of Jammu & Kashmir by M/s NHPC – For fresh Environmental Clearance.

The EAC had earlier suggested a site visit for proposed project by a Sub-committee to be carried out during early November, 2017 and submit a report on the project based on the ToR suggested for the Sub-committee. However, the members of the Sub-committee could not visit the project due to very harsh climate conditions in the area during November, 2017. The Member Secretary informed the Committee that the next visit would be possible only after June 2018 as by that time, weather conditions will become fairly good. As the grant of Environmental Clearance will be delayed by more than 7 months if we wait, the Committee took note of it and after deliberation, site visit to the project site has been dropped and EAC ***recommended for grant of EC*** to the proposed project.

Item No. 9.8 Additional Study for CIA & CCS of Subansiri River Basin in Arunachal Pradesh by M/s IRGS- for reconsideration of presentation before EAC

“In the RBS of Subansiri river, almost all the projects are located in the tributaries of the main river. The locations of the projects are known but water

series are not available for these projects. Therefore, absolute value of e-flow cannot be determined and linked with the main river. It is suggested that the e-flow may be prescribed/recommended as per the standard ToR of the River Valley Projects.

The following portion of Para 3(a) of page 18 of the minutes of 9th EAC meeting to be deleted.

- a) The hydrological covered all the aspects and 25 HEPs in the 3 tributaries. However, the e-flows for all 3 seasons for 16 HEPs are only presented in the Table and remaining are in descriptive in nature. Hence for all 25 HEPs e-flow series have to be presented in the report."

Item No. 10.1 Shivasamudram Run- Of -the- River Power Project (2x100 MW) Phase-I in Chamarajnagar district, Karnataka by M/s Karnataka Power Co. Ltd- For Fresh ToR – reg.

The Shivasamudram HEP is a run-of-the-river scheme proposed across Cauvery river at Shivasamudram. Proposed Project envisages construction of diversion weir from Bharachukki branch of Cauvery river and an underground powerhouse with an installed capacity of 200 MW.

The project is proposed to be implemented in 2 phases. In Phase-I (present case) - two (2) units of 100 MW capacity each with an underground powerhouse will be implemented and the remaining 1 unit of 100 MW will be implemented in Phase-II.

The project envisages construction of 15.5 m high weir (from the river bed) across Cauvery river. An underground powerhouse is proposed with 2 units of 100 MW capacity each. The total land requirement is about 165 ha. Out of which, 90 ha of area is forestland and 75 ha is revenue land. Total submergence area is about 90 ha. Total cost of the project is Rs. 893.65 crores and it is proposed to be completed in 48 months. The project lies in the Eco-sensitive Zone (ESZ) of Cauvery Wildlife Sanctuary (CWLS). Weir site is 3.4 km from the Cauvery Wildlife Sanctuary. Tail Race Tunnel (TRT) is about 200 m from the boundary of Cauvery Wildlife Sanctuary.

During the meeting, the Committee wanted the clarification on the phase wise implementation of the Project, which the PP replied that bifurcation has been done due to constraints in the availability of the funds with KPCL. EAC suggested that as the scheme is one, the same cannot be considered separately for granting of TOR in a piecemeal manner.

The Member Secretary informed the Committee that the project lies well within the ESZ of CWLS and development / establishment of major hydroelectric project is under Prohibited Category of the ESZ Notification of CWLS issued vide dated 22.08.2017 by MoEF&CC. However, the Committee opined that as the scheme envisaged is an ideal situation for development of Hydel project with natural falls and levelised tariff to the tune of Rs. 2.58 per unit, a comprehensive

study can be undertaken whether to include the development of this project in the Zonal Master Plan of ESZ of CWLS.

Committee deliberated in detailed, and in the present form did not recommend accordance of TOR for the Project. The PP has to bring out an integral plan for all the three units and Ministry may take a separate call on the implementation of the project as the scheme envisaged is an ideal situation for development of Hydel project with natural falls and levelised tariff even though it falls in the ESZ area.

Item No. 10.2 **Chikan Dam Irrigation Project in Yamunanagar District of Haryana by Irrigation & Water Resources Department, Government of Haryana- for TOR- reg.**

The project proponent did not attend the meeting. The EAC was informed that the project envisages construction of 27 m high earth fill dam across Chikan-ki-khol (a tributary to Pathrala Nadi which is further tributary of River Yamuna) local stream near village Chikan to irrigate 2,190 acres (887 ha) command area covering 12 villages. The catchment area of the project is 3.79 km. The gross command area (GCA) is 2,190 acres (887 ha) and culturable command area (CCA) is 1,750 acres (708.2 ha). The total land requirement is about 30.95 ha. Total submergence is about 25.84 ha. The total cost of the project is Rs 21.12 crores.

The Member Secretary informed the EAC members that the Environment Impact Assessment Notification, 2006 mandates prior environmental clearance to various developmental projects including River Valley projects. The River Valley & HEP projects are covered under Schedule-1 (C) of EIA Notification, 2006.

- **Category-A** at Central level for culturable command area of more than $\geq 10,000$ ha.
- **Category-B** at State level Environment Impact Assessment Authority (SEIAA) for projects less than $<10,000$ and $\geq 2,000$ ha culturable command area.
- As per the amendment of EIA Notification in 2009, the irrigation projects having no submergence/inter-state domain are categorized as '**B**' and shall be considered by SEIAA.
- However, if a '**B**' category project is located in whole or in part within 10 km from the boundary of (i) protected areas notified under the Wildlife (Protection) Act, 1972 (ii) Notified Eco-sensitive areas; and (iii) Inter-State boundaries and international boundaries, it will be treated as category '**A**' and shall be considered at Central level.
- Irrigation projects <2000 ha culturable command area do not require environmental clearance.

As the project is having CCA of less than 2000 ha, ***the provisions of EIA Notification, 2006 and amendment thereof do not attract***, thus, environmental clearance is not required.

Item No. 10.3 Pancheswar Multipurpose (5,600 MW) project in Uttarakhand by Pancheswar Development Authority – Discussion of the Site Visit Report and reconsideration of Environmental Clearance

In the EAC meeting held on 24.10.2017, it was decided that a sub-committee could be constituted which shall visit the project site of Pancheswar Multipurpose Project (5,600 MW), Pancheswar to be developed by M/s Pancheswar Development Authority (PDA).

The Sub-committee visited the project site on 24.11.2017. The Sub-committee also held discussion with the project officials at Champawat, Uttarakhand. The Sub-committee also held discussions with the Project Affected Persons (PAFs) at Pancheswar in presence of the District Officials at Champawat on 24.11.2017. The copy of the site visit report of the Sub-committee is **Annexed as A1**

During the visit of the proposed project, the following was brought to the notice of the Sub-committee by the local public:

- 1. The people of Pancheswar village informed that the village will be fully submerged and all the families will be displaced. Therefore, their settlement may preferably be done at one place along with facility for their live stocks, etc.*
- 2. At least one person be provided employment in the proposed project from each family displaced based on their education.*
- 3. There should be a dialogue between Project Affected Families, State Government of Uttarakhand and Project Proponent in order to arrive at the final R&R compensation, other benefits, etc.*
- 4. The project affected families do not have any objections for construction of the project. They wanted the project to be implemented at the earliest, because in the uncertainty that prevails, they are not able to get bank loans, support for entrepreneurship, etc. They further demanded that the developmental activities such as educations, health care facilities, access roads to the villages, bank loans for entrepreneurship development, etc. should not be stopped.*
- 5. Landless agriculturists are cultivating fields of those families who are in service or business elsewhere and this practice is going on for quite some time. Therefore, while defining the type of Project Oustees, this aspect should also be looked into.*
- 6. As the existing roads will be used for the transportation of materials, plying of vehicles, etc., these roads be strengthened and widened so that traffic congestion and accidents, can be avoided.*
- 7. During the construction period, lot of construction workers shall be deployed in the project. Necessary health care facility shall be created for the labour force and shall be extended to the PAFs till such time the PAFs are not displaced from their villages.*
- 8. The proposed project area has got lot of agriculture fields, and now organic farming is very much in practice. Therefore, use of weedicides and pesticides may be avoided for growing of vegetables for the construction labourers.*

Observations of the Sub-committee:

1. *Concerns of local people are to be suitably addressed by PDA/State Govt regarding updation of land records, identification of resettlement locations, etc. Villagers staying below or at 680 m FRL shall be displaced and villages located just above i.e say at 681 m FRL shall not be displaced. The Sub-committee suggested that PAFs may be identified i.e. say another 20 m height beyond 680 m FRL so that a uniform criteria is adopted for enumerating the project affected families in holistic ways. Similarly, villages affected due to backwater, may also be considered as project affected families.*
2. *Developmental facilities like schools, access roads to villages, health care facilities, etc. should be continued to all the PAFs otherwise trust and confidence levels of the PAFs would be lost.*
3. *As the existing roads shall be used for the plying of vehicles, transport of materials, machines and machineries, etc. these roads should be strengthened and widened so that safety of the villagers can be ensured. Speed breakers, as required, should be provided in consultation with villagers.*
4. *Drift site falling in India side was visited. It is suggested that appropriate plan be prepared for better utilization of the excavated drift, after the commissioning of the project.*
5. *Project related information may be shared by PDA/State Govt with project affected people.*
6. *The EIA report of the Nepal portion has been provided by the PP. On quick scanning of the report, it has been found that the salient features of the the project in the two EIA reports are not matching. Therefore, it is suggested that the same may be reconciled again for both the portions including the ToR granted for the India portion.*
7. *All the borrow materials shall be brought from the quarries located at higher elevation in the area. Therefore, it is suggested that borrow materials may be transported to the construction sites through conveyor belt so that impact on the area be minimized.*
8. *There are three temples, namely Pancheswar, Taleswar and Pandeswar, which are to be shifted for which Rs. 20 crore has been earmarked. Before relocating the temples, concern from the villagers be addressed .*
9. *It is again reiterated based on the 5th EAC meeting held on 28.05.2017 that -*
 - a. *confirmation for the Installed Capacity along with the dam height is required from the Project proponent. The already cleared EIA report for the Nepal portion should be submitted in order to get holistic idea of the entire project.*
 - b. *secondary data for the wildlife and fish species shall be referred and incorporated. Accordingly, minimum e-flow for survival of aquatic life be modified.*
 - c. *the Ascot Wildlife sanctuary is located near the project site. The PP is advised to obtain wildlife clearance from Standing Committee on NBWL as per the extant rules. Similarly, in the impact prediction, the EIA report is totally silent on other wildlife species such as Sambar, Hog deer and Small Clawed-Otter (use only small streams/river-occur in Sarju river).*

Therefore, secondary data to be collected from the local DFO and EIA/EMP report be revised accordingly.

- d. *a supplementary study to be carried out, as the location of Rupaligad Dam has been shifted 2.0 km downstream from the earlier proposed location of the dam.*

Besides, EAC deliberated on the proposed project for grant of environmental Clearance including the representation received from the Civil Societies and observed the following:

1. Pancheshwar project is a joint project of India and Nepal, and in addition to its tangible benefits of hydro-power, flood control, water conservation, indirect benefits of a general uplift to the economy, there are also enormous intangible benefits, pertaining to strategic issues in the geo-political context. Although EAC is an Expert body, it is also multi-disciplinary and it is aware of the strategic implications.
2. The EAC does not agree with the contents of the letter of the NGO that “*casting of floods as an undesirable phenomenon to be controlled, is an obsolete and tired ontology*”. Flood control is an important part of river management and welfare of the people. Damodar valley is an excellent example of the benefits of flood control through large dams.
3. The EAC also does not agree with the statement that flood control benefits of Pancheshwar are not real.
4. Observations such as “. . . *a seismically uncertain context*” are alarmist because seismic activity is always uncertain. *Further, a certain degree* of risk is always present in any human endeavour. Nothing can be 100% risk free. Evaluating the uncertainty and providing for it, is an important task in engineering.
5. “*The seismic risk that is being referred to is one, of building such a large impoundment over a series of active thrusts and faults, . . .*” is not new. All this has been stated earlier too, in case of Koyna, Bhakra and most recently Tehri dam. But, the engineers in India have demonstrated their ability to successfully build large dams anywhere in India; and the Tehri dam has successfully withstood major earthquakes that caused devastation elsewhere.

*Committee deliberated on the site visit report of the Sub-committee including the representations received from the NGO, and **deferred the proposal**.* The following information is to be provided for reconsideration in the next EAC meeting:

- i. Information as per the recommendation of the site visit shall be submitted by the PP.

Item No. 10.4 Kaleswaram Project in Karimnagar District of Telengana by Irrigation and CAD Department, Govt. of Telengana – For Fresh EC

The Project Proponent (PP) and EPTRI, the EIA Consultant made a presentation of the project and *inter-alia*, provided the following information:

The project envisages construction of a barrage across River Godavari near Medigadda village in Karimnagar District of Telangana for diversion of 180 TMC of water for providing irrigation facility in 7,38,851 ha covering 7 Districts namely Adilabad, Karimnagar, Nizamabad, Warangal, Medak, Nalgonda and Rangareddy Districts. It is also proposed to stabilize the existing command area of 7,62,028 ha of area. The project also proposes to provide drinking water facility for Hyderabad and Secunderabad cities. Total land requirement is about 32,000 ha, out of which 2,866 ha is forestland. The total submergence area is about 13,706 ha. In addition to Medigadda barrage, 2 more barrages between Medigadda and Sripada Yellampally are to be constructed, one at Annaram and the other at Sundilla. The total length of water canal system is about 1,832 km. This project lies in the interstate boundary with submergence of 302 ha of area in Maharashtra State. Total estimated cost of the project is about Rs. 80,499.71 Crores and it is proposed to be completed in 3 years.

The Scoping/TOR clearance for the project was accorded on 31.3.2017. The project proponent informed that the project involves (i) diversion of 180 TMC water from Godavari river, (ii) additional 20 TMC water will be drawn from Yellampally barrage, (iii) 10 TMC of water from self-yield tanks and (iv) 15 TMC of water from utilizable groundwater; put together 225 TMC of water. Out of this, 30 TMC of water will be used for providing drinking water facility for twin cities of Hyderabad and Secunderabad, 10 TMC of water to en-route villages, 16 TMC of water for industrial purpose, 134.5 TMC for irrigation facility in 7,38,851 ha of new command area and 34.5 TMC of water for stabilization of 7,62,028 ha of area. The CWC has cleared water availability vide letter No. 6-231/2017-PA(S)/1327-28 dated 30.10.2017 for the project.

The project proponent informed that a combination of open channel flow and tunnels with limited number of lift systems has been proposed. The water is proposed to be lifted at 3 main barrages i.e. (i) Medigadda, (ii) Annaram and (iii) Sundilla barrages. About 82 pumps have been proposed in the entire command area. The entire project system has been divided into seven links. The water conveyer system is divided into gravity canals and tunnels as given in the following table:

Table: Water Conveyer System

Sl. No	Particulars	Length of the canal (Km)
1	Gravity Canal	1531 km
2	Gravity Tunnel	203 km
3	Pressure Mains/Delivery Mains	98 km
Total		1832 km

The total power requirement for the project is about 4,227 MW. It was informed that an agreement has been made between Project Proponent & TSGENCO for power supply to this project. The Public Hearings were conducted in 15 Districts of Telangana and 1 District in Maharashtra as per the provisions of EIA Notification, 2006. Altogether, about 15,350 persons participated and 716

representations received during public hearings. The public hearings details District-wise/date-wise are as follow:

Sl. No.	Venue & Village	Mandal	District	Date
Telangana State				
1	Rajasree Garden, Rekurthi Village	Kothapalli	Karimnagar	22.8.2017
2	Rajiv Gandhi Auditorium	Khaleelwadi	Nizamabad	22.8.2017
3	Sri Balaji Function Hall, Turkapally Village	Shamirpet	Medchal-Malkajgiri	22.8.2017
4	Radhakrishna Function Hall, Raigiri Village	Bhuvanagiri	Yadadri-Bhuvanagiri	22.8.2017
5	Reddy Function Hall, Raghavpur Village	Peddapally	Peddapally	23.8.2017
6	Raja Rajeswari Function Hall, Chityala Village	Chityala	Nalgonda	23.8.2017
7	Maa Function Hall	Narayankhed	Sangareddy	23.8.2017
8	Sri Laxmidevi Gardens Devenapally Village	Kamareddy	Kamareddy	23.8.2017
9	Y.S.R Function Hall	Nirmal	Nirmal	24.8.2017
10	Narender Reddy Gardens	Metpally	Jagityal	24.8.2017
11	Sai Balaji Gardens Chegunta Village	Medak	Medak	24.8.2017
12	A.S.R Gardens Khundurpally Village	Bhupalapally	Jayshankar Bhupalapally	26.8.2017
13	Tahsildar Office Jaipur Village	Jaipur	Mancherial	26.8.2017
14	State Social Welfare Residential School, Narmala Village	Ghambiraope ta	Rajanna Sircilla	26.8.2017
15	Viola Garden	Siddipet	Siddipet	26.8.2017
Maharashtra State				
16	Pochampalli Village	Sironcha	Gadchiroli	27.9.2017

The various environmental aspects covering catchment area, submergence area and project influence area, i.e. area within 10 km radius from main project components have been considered. The baseline data has been collected covering Physico-chemical aspects, biological aspects and socio-economic aspects. Three (3) season data (September, 2016 to October, 2017) have been collected for air, noise, water, soil and ecological aspects. Impacts during construction and operation phases have been assessed and mitigation measures suggested minimizing the anticipated impacts. Base line data used for preparation of EIA/EMP report prior to issuance of ToR is in agreement with the O.M. No. J-11013/41/2006_IA_II (I) (Part) dated 29.08.2017.

The project proponent informed that at the preliminary survey i.e. at TOR stage, the tentative figures in land requirements have been presented/projected. While collecting the data & conducting the study, the figures have been firmed-up and the exact land requirements have been projected in EIA/EMP reports. The diversion of forestland involved in eight different forest divisions viz. Mahadevpur, Karimnagar-Sircilla, Siddipet, Yadadri, Medak, Nizamabad Banswada and Nirmal forest divisions for construction of canals, tunnels, lift system, surge pool, delivery cistern and reservoirs.

The PP informed that all the issues raised during the Public Consultation have been incorporated in the EIA/EMP report. Thereafter, the final EIA/EMP reports were submitted to the Ministry for environment clearance. The main issues raised during public hearing are – lack of irrigation facilities in the region, improving socio-economic conditions, stabilization of SRSP ayacut (command area), drinking water facility, resolve land acquisition issues at the earliest, rehabilitation benefits for SC/ST communities, R&R should be as per the R&R LA Act, 2013, compensation should be 10 times the basic value of land, inclusion of lakes at Muraharipally villages to fill-up, storage facility should be increased, water supply to semi-arid zones, employment in the villages, compensation should be as per Mallanasagar project and project should benefit in the region, reasons for redesigning the project & increasing the reservoir capacity, impact on environment etc. The project proponent clarified all the queries/issues pertaining to them. Majority expressed happiness over the implementation of the project.

Detailed DGPS Surveys were conducted and after joint inspection of the proposals by the Irrigation, Forest and Revenue departments, the diversion area was finalized as 3,168.1315 ha. Accordingly, the proposals for diversion of 3,168.1315 ha of forestland were submitted to the MoEF & CC. The Stage-1 FC clearance was accorded vide letter No. 8-31/2017-FC dated 24.10.2017 and Stage-II FC clearance has been granted vide letter No. 8-31/2017-FC dated 24.11.2017. The land details are presented below in a tabular form:

Details of Forest area in Kaleshwaram Project

Sl. No	Forest area as DPR/PFR Preliminary Survey	Forest area as DPR/PFR Preliminary Survey	Difference in area	Remarks
1	2,849.00 ha	3,168.13 ha	319.13 ha	The difference in the area is due to detailed DGPS surveys conducted in the project area and finalization of the diversion area after joint inspection of the proposals by the Irrigation, Forest & revenue Departments

Details of Land Acquisition in Kaleshwaram Project

Sl. No	Area as DPR/PFR Preliminary Survey	Area as per final EIA Report	Difference	Remarks
1	32,000 ha	34,684 ha	2,684 ha	The difference in the area is due to detailed Surveys conducted in the project area and finalization after joint inspection of the proposals by the Irrigation, & revenue Departments

Break-up of Land details in Kaleshwaram Project

Head	At TOR stage	Study and analysis stage/ firm-up at EIA/EMP stage
Total land requirement	32,000 ha	37,852 ha
Forest land	2866 ha	3168.1315 ha
Private land	--	34,684 ha
Total submergence area	13,706 ha	18,302 ha
submergence area in Maharashtra	302 ha	174.37 ha

The salient features of the project in the EIA/EMP reports are as under:

- i. Total catchment area of the project is about 36,35,437 ha. The catchment area treatment is proposed in 3,28,308 ha sub-watershed and to be taken up on priority during construction of the proposed project. The proper engineering and biological measures have been proposed in this area. An amount of Rs.362.04 crores are allocated for the purpose.
- ii. The project is likely to generate 1,480 lakh m³ of muck due to excavation and the entire muck will be utilized for various project components (all along the canals and at the entry & exist points of the tunnel and either side of the canal) and remaining will be dumped in the designated dumping sites. The sites will be rejuvenated using biological measures and afforestation with suitable local species. An amount of Rs.32.79 crores has been allocated for the purpose.
- iii. The compensatory afforestation programme will be taken up in 5,333.817 ha of degraded forestland which is double the forestland diverted for the

project. Twenty-two (22) local plant species have been identified for the programme with a total of 51,44,393 lakh plants to be raised as per Stage-I forest clearance dated 24.10.2017 and 24.11.2017.

- iv. The Biodiversity Conservation and Management Plan has been proposed in consultation with the State Forest Department. The following programmes under Biodiversity Conservation and Management Plan have been proposed:

- a) Wildlife Management Programme
- b) Management measures for Forest Protection and Wildlife species
- c) Avi-fauna conservation measures

An amount of Rs.3.36 crores has been allocated for the Biodiversity Programme.

- v. Green belt will be developed in the barrage site of the project covering a length of 110.20 km and canal bank of 116.334 km and local plant species will be raised. A grant of Rs.19.21 crores has been allocated for this purpose.
- vi. Fishery development and management plan is proposed for the conservation of fish in river & reservoir, movement of migratory fish species and economic upliftment of the region in 15 Districts. A grant of Rs.485 crores has been allocated for this purpose.

The project proponent also mentioned about the court cases associated with Kaleswaram Project and details provided below:

S. No.	Case Number/Court	Applicant	Subject/Cause
1.	OA No. 372/2017, NGT, New Delhi	Md. Hayathuddin	Commencement of construction work
2.	WP No. 19410/2017 High Court, Telangana	Sunju Rajam	Land Acquisition
3.	WP No. 26421/2017 High Court, Telangana	Gandla Lakshmi	Land Acquisition
4.	WP No. 27069/2017 High Court, Telangana	G. Anand Reddy	Land Acquisition

The project proponent informed that Md. Hayathuddin has filed an application before the Hon'ble NGT, New Delhi, with regard to the commencement of construction of Kaleshwaram Project. The NGT vide interim order dated 5.10.2017 has pronounced restraining the project authorities from carrying out any construction activities for this Scheme. Meanwhile, the State of Telangana has filed a Writ Petition No. 34458/2017 in the Hon'ble High Court of Telangana on the above interim order of the Hon'ble NGT. The Hon'ble High Court of Telangana has given order on 8.11.2017 setting aside the order of NGT and ordered as follows:

- works shall be confined strictly to the drinking water component of the project.
- not to take up any works in reserve forests till final forest clearance is obtained from the Government of India.
- not to commence construction of distributaries and channels, relating to the irrigation component of the project without obtaining environmental clearance from the Union of India.

The EMP has been prepared based on predicted impact, actual requirement and incorporating suggestions of local people, stakeholders, etc. with the details as provided in the table below:

Table: The cost estimated for implementation of EMP

Sl. No	Environment Management Plan	Amount (Rs in Crores)
1.	CAT Plan and Reservoir rim plan	362.04
2.	Biodiversity Management Plan	3.36
3.	Fisheries Conservation and Management Plan	485.00
4.	Command Area Development	1326.86
5.	R & R Plan & Local Area Development Plan	13296.00
6.	Compensatory Afforestation	722.30
7.	Muck Management Plan	32.79
8.	Greenbelt Development Plan	19.21
9.	Plan for Restoration & Quarry sites	23.16
10.	Water, Air & Noise Management Plan	25.93
11.	Public Health Delivery Plan	10.35
12.	Sanitation & Solid waste Management Plan	16.40
13.s	Local Area development Plan	28.24
	Total	16351.64

After detailed deliberations, and considering all the facts of the project as presented by the PP including the Public Representations, the EAC recommended the ***proposal for grant of environmental clearance*** with the following conditions:

- As the submergence area is very large, micro-climatic change conditions in the project area during construction/post-construction period to be brought-out/reported at regular intervals.
- Plans for greenbelt development and reservoir rim treatment have to be made in consultation with State Forest Department. Preference shall also be given to plant local indigenous species.
- Solid waste generated, especially plastic waste, should not be disposed of as landfill material. It should be treated with scientific approach and recycled.
- Construction work to be carried out after following due procedure of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. At no point of time, the land losers shall have any kind of grievances on compensation. The

displacement shall be taken up only after complete land acquisition is done including providing full compensation to all the project oustees.

- v. Six monthly compliance reports shall be submitted to Regional Office, MoEF & CC, Chennai until completion of the modernization works.

Item No. 10.5 Kalisindh Major Multipurpose Irrigation Project Jhalawar, Minor Irrigation project, Rajasthan – For fresh EC

The project proponent and the Consultant (M/s Manteck Consultants Pvt. Ltd.) made a detailed presentation on the project and *inter alia* informed the following:

The project is planned across river Kalisindh river (tributary of Chambal River) near village Bhanwarasi in Jhalawar District of Rajasthan. The gross command area (GCA) of the project is 16,624.51 ha and culturable command area (CCA) is 14,250 ha. The proposed irrigable command area is 16,387.52 ha covering 100 villages in Jhalawar and Kota Districts.

The project is an extension of Kalisindh dam Project (Phase I) in which a concrete gravity dam has already been built to store water up to El 316 m so as to provide water to Kalisindh Thermal Power Plant at Jhalawar. As Phase I of the project was an integral part of Kalisindh Thermal Power Project Jhalawar, the environmental clearance of Phase-I of project has been included in Environmental clearance for 2x600 MW Kalisindh Coal based Thermal Power Plant in Jhalawar District Rajasthan granted by Ministry vide letter dated J-13011/80/2007-IA. II(T) dated 26.02.2009. A total of 29.962 ha forestland is affected under Phase I of the project for which the forest clearance has been issued vide 8B/Raj/08/06/2009/FC/1731 dated 24.2.2012. The Phase-II project involves 37.4 ha forestland diversion. Total submergence area is about 2,241.08 ha.

Dam construction, all the civil, hydro-mechanical components, etc have been completed in such a way that during Phase-II of project, the reservoir level can be increased from EL 316 m to 319.25 m by simply adding skin plates of 3.25 m height over existing radial gates, so that gross storage of 148.11 million m³ of water can be achieved. In Phase-II project, work for raising the reservoir level by 3.25 m by increasing the height of existing radial gates has been envisaged. The hydrology of project has been vetted by CWC. The catchment area of Kalisindh river upto project site is 7,547 km², out of which 6,685 km² catchment area lies in Madhya Pradesh & remaining 862 km² lies in Rajasthan. The Interstate clearance/consent of Madhya Pradesh has already been accorded vide MP Govt. Letter. 22A/MPS/31/812 Bhopal dated 2.4.2007. At this FRL, 5 villages are likely to be submerged in the upstream of the project. About 736 families are to be affected due to this project. The project affected families will be rehabilitated and resettled as per R&R Policy, 2007 and Land Acquisition Act, 2013 as well as Rajasthan State Policy. Total estimated cost of the project is about Rs. 1415.10 Crores.

The water use planning from the Project (Phase II) includes:

S. No.	Items	Phase-II
1.	Gross Storage Capacity	148.11 Mm ³
2.	Live Storage Capacity	147.69 Mm ³
3.	Dead Storage Capacity	0.42 Mm ³
4.	Provision for Drinking water Jhalawar & Jhalarapatan towns & adjoining rural areas	10 Mm ³
5.	Provision for Irrigation	38.295 Mm ³
6.	Centre of Excellence (Horticulture & Forestry College)	0.255 Mm ³
7.	Agro food park & Industrial Development	1.0 Mm ³
8.	Water losses (evaporation & other losses 13%)	18.07 Mm ³
9.	Proposed CCA	14,250 ha
10.	Irrigation facility in number of villages	100

The public hearing was conducted on 18.8.2017 at Thasildar's Office, Jhalarapatan, District Jhalawar, Rajasthan as per the provisions of EIA Notification, 2006.

The various environmental aspects covering catchment area, submergence area and project influence area, i.e. area within 10 km radius from main project components have been considered. The baseline data has been collected covering Physico-chemical aspects, biological aspects and socio-economic aspects. Three (3) season data have been collected for air, noise, water, soil and ecological aspects. Impacts during construction and operation phases have been assessed and mitigation measures suggested minimizing the anticipated impacts.

The catchment area treatment is proposed in 368 km² of area which is found to have very high priority sub-watershed. Various engineering and biological measures have been proposed in this area. An amount of Rs. 7.94 crores has been allocated for the purpose. The compensatory afforestation programme will be taken-up in 56.1 ha of degraded forestland which is double the forestland diverted for the project. Local plant species will be planted for the programme. Total amount allocated for this purpose is Rs. 103.071 lakhs. Green belt will be developed in the project area in an area of 732 ha and Rs.74.85 lakhs has been allocated for this purpose. The Biodiversity Conservation and Management Plan have been proposed in consultation with State Forest Department. An amount of Rs.25 lakhs has been allocated for the Biodiversity Programme.

The EMP has been prepared based on predicted impact, actual requirement and incorporating suggestions of local people, stakeholders with the details as provided in the table below:

Table: The cost estimated for implementation of EMP (Rs. in lakhs)

S. No	Environment Management Plan	Amount
1	Reservoir Rim Treatment plan	40.00
2	Compensatory Afforestation	103.07

3	Greenbelt Development Plan	74.85
4	Biodiversity Conservation Management Plan	25.00
5	Water, Air Quality Management Plan	50.00
6	Public Health Management Plan	52.00
7	Provision of subsidized fuel	11.08
8	Solid waste Management Plan	0.44
9	Road Management Plan	4.00
10	Disaster Management Plan	20.00
11	Environment Monitoring Plan	73.50
	Sub-total	453.94
12	R & R Plan	68447.00
	Grand total	689.00 Crores

After detailed deliberations and considering all the facts of the project as presented by the PP including the Public Representation, ***the EAC recommended the proposal for grant of environmental clearance*** with the following additional conditions:

- i. Micro-climatic change conditions in the project area during construction/post-construction period to be brought-out/reported at regular intervals.
- ii. Plans for greenbelt development and reservoir rim treatment plan have to be made in consultation with State Forest Department. Preference shall also be given to plant local indigenous species.
- iii. Solid waste generated, especially plastic waste, should not be disposed of as landfill material. It should be treated with scientific approach and recycled.
- iv. Construction work to be carried out after following due procedure of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013. At no point of time, the land losers shall have any kind of grievances on compensation. The displacement shall be taken up only after complete land acquisition is done including providing full compensation to all the project oustees.
- v. Six monthly compliance reports shall be submitted to Regional Office, MoEF & CC, Chennai until completion of the modernization works.

Item No. 10.6 Kundah Pumped Storage HEP (500 MW) Project in Nilgiri District of Tamil Nadu by M/s. TNGEDCO – For extension of validity of EC

The Project Proponent made a presentation of the project and *inter-alia*, provided the following information:

The Kundah Pumped Storage HEP (4x125 MW) project in Nilgiri District of Tamil Nadu is being implemented by M/s Tamil Nadu Electricity Board, Government of Tamil Nadu. The Ministry, on 8.5.2007, accorded the Environmental Clearance for this project for 5 years as per EIA Notification, 2006 for commencement of construction work.

The PP requested for 3 years extension mentioning that the EC validity for River Valley & HEP is for 10 years. As per amendment in EIA Notification dated 14.9.2016, a provision of extension of validity of EC for 3 more years is existing for River valley & HEP projects. In the present case, PP has requested EC validity for 5 years.

The project was earlier considered by the EAC in its meetings held on 2-3rd March, 2017. After deliberations and considering all the facts of the project, the EAC observed that 3 year provision for extension of EC is available for this project. However, the EAC initially recommended for 6 months extension of validity of EC in order to facilitate the PP to submit compliance and monitoring report from RO, MoEF & CC, Chennai. Based on the report, the remaining extension of 2½ years could be granted. Accordingly, the Ministry granted 6 months extension of the validity of EC on 8.6.2017.

The project was reconsidered by EAC in its meeting held on 24.10.2017. The EAC was informed that during May, 2017, the CEA requested for clarifications on water sharing of the project. The PP informed that a detailed reply was submitted to CEA. The committee mentioned that a copy of the reply be submitted to MoEF & CC for record and also mentioned that the RO, MoEF & CC, Chennai raised certain issues in their monitoring report.

The PP submitted the detailed on the reply. However, the EAC noted that the PP so far has not issued an OM to Multidisciplinary Committee for which the committee requested to submit the copy immediately to the Ministry. The reply to CEA has not clearly mentioned as to whether the project need inter-state sharing of water. The PP intimated that the project has been taken in a phased manner, the inter-state sharing is not applicable as the water is pumped back to generate electricity.

After detailed deliberations, and considering all the facts of the project as presented by the PP based on the monitoring report on the status of compliance of EC conditions submitted by RO, MoEF & CC, Chennai, the EAC recommend for grant of extension of validity of EC for remaining 2½ years as per the prevailing norms. **The Committee felt that PP should be careful while developing the project in a single unit (500 MW=4x125 MW) and not as an phased manner taking into consideration of all norms as prescribed by CEA/CWC from time to time and should be strictly adhered to.**

Item No. 10.7 Shiggaon Lift irrigation Scheme, Karnataka Neeravari Nigam Ltd., Karnataka – For reconsideration of EC

M/s. Karnataka Neeravari Nigam Ltd. propose the Shiggaon Lift Irrigation Scheme in Haveri District of Karnataka for Environmental Clearance for their expansion project for 13,500 ha CCA. The proposal was considered as per EIA Notification, 2006 and its subsequent amendment in 2009. Earlier the environmental clearance (EC) was approved vide letter dated 6.2.2016 for 9,900 ha of CCA. The EAC in its meeting held during 22-23 December, 2015, recommended that the present proposal is for expanded scope of work than the project with earlier scope for which EC accorded. The instant proposal is also

based on the TOR issued by the Ministry in May, 2015. Therefore, while the EAC has agreed to recommend for grant of a fresh EC, the Committee suggested that the Ministry should take decision to cancel the EC granted earlier.

The revised proposal comes within the vicinity of the Bankapura Peacock Conservation Reserve. Therefore, General Conditions apply and the proposal was considered at Central Level. The Shiggaon Lift Irrigation Scheme envisages construction of a diversion weir across Varada river near Halsur village of Savanur Taluka in Haveri District of Karnataka for diversion of 1.5 TMC of water and providing irrigation facility in 9,900 ha CCA benefitting 30 drought prone villages. The project also involves drinking water facility by filling up of 5 minor irrigation tanks (MI) within the command area and construction of 6 bandaras. Filling of existing tanks in command area helps in stabilization and recharge of the groundwater in the region. Total land requirement is about 45 ha. Total cost of project is about Rs.238 Crores.

The total water allocated for the scheme is 1.5 TMC. While considering the project for TOR, the EAC in its meeting held in March, 2010 noted that the entire command area of the project has been converted from flow irrigation to sprinkler irrigation system thereby, reducing the total water required for the project which is 1.12 TMC (0.98 TMC for irrigation 0.14 TMC for filling MI Tanks). Thus, the project achieved water conservation of 0.38 TMC. Considering demand of farmers adjacent to the command area, Karnataka Neeravari Nigam Ltd proposed to utilize the balance 0.38 TMC of water allocated for the scheme by providing drip irrigation to 3,600 ha benefitting additional 7 villages.

The EAC observed that there is no change in project parameters except make use of available water within the allocated 1.5 TMC by adding additional 3,600 ha of command area. It was informed that in order to lay underground pipelines, the muck generation, land use pattern an irrigation pattern has slightly changed. Therefore, the project was granted TOR with one season study in proposed command area. The baseline has been collected for one season covering ambient air quality, noise environment, water quality analysis (physic-chemical & biological parameters), soil quality analysis (physic-chemical characteristics) flora and fauna in the additional command area. Impacts during construction and operation phases have been assessed and mitigation measures suggested minimizing the anticipated impacts.

As the preset proposal has forestland implication, the PP was advised to submit the Forest Clearance Stage-1 Clearance. PP has submitted the Forest Clearance (0.96 ha) online on 23.10.2017. Vide O.M. dated 09.09.2011, Forest Clearance Stage-I was not submitted on or before 18 months of recommendation of environmental clearance. Therefore, the proposal was placed before the EAC to recommend whether the proposal to be granted environmental clearance or will be rejected to start the environmental clearance *de-novo*. In the meeting, Member Secretary appraised the status of the Forest Clearance. The EAC felt that as the forest area is very less (0.96 ha) and the proposed project is an irrigation project, the **Committee recommended for grant of Environmental Clearance** to the proposed irrigation project for 13,500 ha CCA.

Item No. 10.8 Hidising Irrigation Project in Angul District of Odisha by

Project Planning Formulation & Investigation, Department of Water Resources, Government of Odisha- For TOR

The project proponent made a detailed presentation on the project and *inter-alia*, provided the following information:

This is a **Category-B** project. The project is located in the vicinity of Satkosia Wildlife Sanctuary and General Condition applies. Therefore, the project has submitted for grant of ToR at the Central Level. The project has been considered by EAC as per EIA Notification, 2006 as Category-A project.

The Hidising Irrigation project envisages construction of 32.5 m high and 933 m long earthen dam across Bauli nallah near village Karadarsing in Angul District of Haryana to irrigate 2,958 ha of command area to provide drinking water facility and other development benefit in 30 villages. The gross storage is 1,765.58 ham and the live storage is 1,520.28 ham of water. The gross command area is 3,943 ha. The total land requirement is about 427.197 ha. Total submergence area is about 324.17 ha (of which forest land is 55.299 ha, private land is 236.42 ha and government land is 33.451 ha). The CWC has technically cleared this project in November, 2010 vide letter No. M&A/AP-1/2012/13-15 dated 4.1.2013. About 4 villages are (2 fully + 2 partially) coming under submergence, displacing 161 families due to proposed scheme. Total cost of the project is Rs. 129.32 crores.

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended for grant of scoping/TOR clearance** for the proposed project with the following observation/additional conditions along with the standard ToR:

- i. Three (3) seasons data should be collected for the entire project.
- ii. A detailed irrigation management plan should be worked out so that at least 10% of the CCA would be covered by micro irrigation scheme.
- iii. 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
- iv. The project involves about 55.299 ha of forestland. Forest clearance should be obtained as per the prevailing norms.
- v. The Wildlife Sanctuary is in the vicinity of the project site and it is within the 10 km radius of the project site. Therefore wildlife clearance from Standing Committee on NBWL has to obtained, if required.

Item No. 10. 9 Indrapuri Reservoir Scheme by Water Resources Department, Bihar – For Fresh ToR

The project envisages construction of a storage dam having a reservoir with gross storage of about 4,170 MCM to meet Municipal & Industrial (M&I) demands, to enhance irrigation potential and irrigation intensity of downstream Indrapuri Barrage. This project benefits include Hydropower generation and flood control. The water releases from this project will be based on the irrigation demand from downstream. Sone Canal system takes off from Indrapuri barrage

located about 70 km downstream of proposed Indrapuri storage dam. The irrigation releases from the dam shall be used for power generation at the dam toe powerhouse by utilizing the irrigation flows and the water level difference between the upstream and downstream reach at dam site. The flows shall be further regulated and diverted into Sone Canal System at Indrapuri (Sone) Barrage.

Salient features of the Project are as below:

DESCRIPTION	DETAILS
Multi Purpose Reservoir Scheme	Water Supply, Irrigation, M&I Requirement and Power Generation
LOCATION	
Diversion Structure	
River	Sone
State	Bihar and Jharkhand
District	Rohtas and Garhwa
Right bank	Kadhwani
Left bank	Matiawan
HYDROLOGY	
Total Catchment Area up to Dam Axis	55,636 km ²
Free Catchment Area up to Dam Axis	17,260 km ²
RESERVOIR	
High Flood Level (HFL) / MWL	El. 171.00 m
Minimum Draw Down Level (MDDL)	El. 158.00 m (will be studied)
POWER HOUSE	
Type	Surface
No. & Size of Units	5 Nos., 90 MW each
Type of Turbine	Vertical Kaplan
Maximum Tail Water Level	El. 142.0 m
Minimum Tail Water Level	El. 135.2 m
Maximum Gross Head	35.80 m (171.0 m -135.20 m)
Minimum Gross Head	22.80 m

Indrapuri Reservoir Scheme is located on Sone River. The success of Sone canal modernization project depends largely on this proposed reservoir on river Sone, Planning Commission (Now Niti Ayog) has already accepted this proposal. The Modernization of Sone canal system deals with Sone low level canal

system (SLLC), which consists of two systems viz., Western Low Canal System (WLLC) covering two districts viz. Bhojpur and Rohtas and the Eastern Low Level Canal System covering the remaining districts of Aurangabad, Gaya, Patna and Jehanabad. Post modernization, CCA will increase from 4,86,000 ha to 6,85,900 ha; irrigation intensity will go up from 115% to 162%.

As per Bansagar agreement of 1973 to share and utilize Sone Waters by the three Co-basin States of Madhya Pradesh (MP), Uttar Pradesh (UP) and Bihar, 7.75 MAF of water was allocated for Bihar, which includes the requirement of Sone canal System. Bihar is unable to utilize its allocated share of 7.75 MAF as per the agreement due to absence of storage arrangement. Bihar gets majority of its water flow in Sone River during monsoon months when its requirement is low.

To ensure stabilization of irrigation facilities in Sone command, a balancing reservoir (Kadhwan Reservoir Scheme now renamed as Indrapuri Reservoir Scheme) is envisaged by WRD by constructing a Dam across Sone River 70 km upstream of existing Indrapuri Barrage. FRL of proposed Indrapuri Reservoir Scheme is fixed at El 173 m. A gross storage of about 4,170 MCM has been estimated to meet Municipal & Industrial (M&I) demands, to enhance irrigation potential and irrigation intensity of downstream Indrapuri Barrage. Dam site is located near village Matiawan on left bank of Sone River, in Rohtas district of Bihar and near village Kadhwan on right bank in Jharkhand. The reservoir spreads in Jharkhand & Uttar Pradesh in addition to Bihar.

DPR of Kadhwan Reservoir scheme was prepared and submitted to CWC and CEA for approval in 1989. Govt. of UP expressed their objection for this FRL of 173.0 m due to backwater effect on the tailrace of Obra hydropower project located about 80 km upstream of Dam site. Govt. of UP has suggested to reduce the FRL from 173 to 169 m. During interstate meeting held on 05.02.2016 under the chairmanship of CWC, CWC recommended to adopt FRL at EL 169 m and MWL at EL 171 m for Indrapuri Reservoir Scheme. CWC also suggested Government of Bihar to arrive at consensus for the fixation of higher FRL/ MWL after discussion with Government of Uttar Pradesh.

EAC enquired about tail water level of upstream Obra project which was informed as below:

Level height is taken when	Tail race water level (in m)
No. Machine is running	169.073
One Machine is running	170.225
Two Machines are running	170.958
Three Machines are running	Elevation could not be measured.

EAC raised concern regarding the backwater effect due to large reservoir on TWL of Obra project and asked to carry out a backwater study and accordingly fix FRL of this reservoir. The Committee was informed that backwater study and detailed surveys & investigations are in progress and FRL shall be firmed up after that.

EAC noted and asked PP to firm up FRL after back water study and detailed Survey & Investigation as well as in consultation with UP government *vis-a-vis* Obra TWL and inform EAC, if there is change in FRL, as proposed now at 171 m and power generation of 450 MW.

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended for grant of scoping/TOR clearance** for the proposed project with the following observation/additional conditions along with the standard ToR:

- i. Three (3) seasons data shall be collected for the entire project.
- ii. A detailed irrigation management plan should be worked out so that at least 10% of the CCA would be covered by micro irrigation scheme.
- iii. 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
- iv. The project involves about 55.299 ha of forestland. Forest clearance should be obtained as per the prevailing norms.

Item No. 10.10 Lower Kopili HEP (120 MW) in Karbi Anglog & North Cachar Hill, Assam by M/s Assam Power Generation Corporation Ltd.- Discussion of the Site Visit report & reconsideration of EC

The Member Secretary informed the EAC that as decided in the 7th EAC meeting held during 24-25th August, 2017, a sub-committee of four members was formed to visit the project site of Lower Kopili (120 MW) HEP in Karbi Anglong and North Kachar Hill Districts of Assam proposed to be developed by M/s Assam Power Generation Corporation Ltd (APGCL) to examine the viability of the project - whether the project has economic viability and whether the acidic water would be sustainable to the viability of the project including machine availability.

Accordingly, the Sub-committee comprising of the following members:

- | | | |
|-----------------------|---|----------------------|
| 1. Shri N.N. Rai | - | Member & Rep. of CWC |
| 2. Shri Sharvan Kumar | - | Member & Rep. of CEA |
| 3. Dr. S. Kerketta | - | Member Secretary |

visited the project site on 27.10.2016 and 28.10.2017. Discussions were held with the project officials at Guwahati on 27.10.2017 and the site was visited on 28.10.2017. Dr. A.K. Sahoo, Representative of CIFRI and Member EAC was not available during the site visit. However, team of Fisheries Scientists from CIFRI, Gauhati accompanied the sub committee to the site. Interaction was also made with project officials of Kopili HEP, NEEPCO. The data related to the monitoring of the pH of the various sites of the Kopili HE Project was also collected.

Water samples were collected to find out the pH levels at various locations viz. Kopili river at Panimur site (6 km d/s of dam axis), Project proposed dam site of Lower Kopili HEP, HEP of NEEPCO. The table below is on the analysis report of

the water quality as monitored by the CIFRI team accompanying the Sub Committee during the visit:

Analysis of Water Quality in river Kopili and Umrang reservoir (date: 28.10.2017)

Parameters	River Kopili		Umrang Reservoir	
	Longku	Panipura	NEEPCO Office	Dam Site
GPS coordinates	25°39'58.4"N	25°43'19.4"N	25°30'55.3"N	25°31'41.0"N
	92°46'53.9"E	92°49'22.2"E	92°43'35.5"E	92°42'48.4"E
pH	6.76	6.86	4.54	4.62
Specific Conductivity (µs/cm)	93	98	107	121
TDS (mg/l)	47	49	53	60
Turbidity (FNU)	3.6	5.6	0.7	0.0
Temperature (°C)	26.8	25.01	25.46	25.26
DO (mg/l)	6.51	7.70	8.67	7.93

(Note: Whirling beetle (*Gyrinus* sp.) could be collected from Umrang reservoir near NEEPCO office site)

The pH values for all the locations were found to be above 4.5, while that reported in EIA report by the Consultant were between 3 to 4 revealing acidic nature of water. It was noted that the pH values as reported in EIA were from the period 1.7.2014 to 30.09.2015 at the dam site and that the same has considerably improved which can be attributed to many reasons viz. NGT ban on rat hole coal mining in the upper catchment of the Kopili river, etc. Therefore, the Sub-committee suggested that pH may be monitored at 5 locations: one at proposed dam site and 2 each at the upstream and downstream of the dam site so that the actual reason of abnormal change in pH level could be ascertained. Copy of Site Visit is enclosed as **Annexure A2**.

It was also intimated that discussions with the officials of Kopili HEP, NEEPCO, regarding machine availability of the existing powerhouse, etc. were also held, which revealed that 70% of the machine availability is there on average, every year which is viable and efficient. Therefore, the sub-committee is of the view that if the existing powerhouse is able to work at the present pH value of water then the proposed Lower Kopili HEP can also run and is viable.

The Sub-committee also suggested that pH value may be monitored from the TRT location of the Kopili HEP to FRL location of the existing Lower Kopili HEP on a long term basis to understand the changing pattern of pH and drawing logical information thereof so that viability of proposed project can be further ensured on long run basis.

The Committee deliberated on the site visit of the Sub-committee, agreed to the recommendation of the report of the site visit of the sub-committee and ***recommended for grant of environmental clearance to the project.***

Item No. 10.11 **Standardization of Environmental Clearance conditions of River Valley projects – For reconsideration before EAC**

Member Secretary informed the Committee that comments have been received from the EAC members and also from some Civil Societies. Based on the comments received, the environmental clearance conditions have been compiled. In the meeting, the members suggested that a Special Meeting may be conveyed so that a proper justification can be given to standardized the Environmental Clearance Conditions. Accordingly, ***the matter was deferred.***

Item No. 10.12 **Any other time with the permission of the chair.**

The following decisions were taken after discussions:

- a. As and when some projects are deferred, the additional information to be provided by the projects to be indicated in the minutes and should be mentioned as **“deferred and following information is to be provided by the PP:”**
- b. Some members suggested that there should be a fixed date for conducting the EAC meeting every month so that members can plan in advance and can keep the slot for attending the EAC meeting. After deliberation among the members, it has been decided that 27th of every month or the immediate next working day (in case of 27th is a holiday), may be fixed for the EAC meeting. In case the Chairman is not available on that, the co-chairman (to be identified) will chair the meeting.

As no agenda item was left for discussions, the meeting ended with thanks to the Chair.

Report of the EAC Sub-committee regarding site visit of Lower Kopili HEP (120 MW) Project in Karbi Anglong & North Kachar Hill Districts of Assam by M/s Assam Power Generation Co. Ltd

In the EAC meeting held during 24-25th August, 2017 at Ministry of Environment, Forest & Climate Change, New Delhi, it was decided in the EAC meeting that a sub-committee consisting of four member committee could be constituted, which shall visit the project site of Lower Kopili (120 MW) HEP in Karbi Anglong and North Kachar Hill Districts of Assam proposed to be developed by M/s Assam Power Generation Corporation Ltd (APGCL) to examining the economic viability of the project in the extreme whether condition. The Sub-committee consisting of the following Members:

Sl. No.	Sub-committee	Designation
1.	Shri N.N. Rai	Rep. of CWC & Member, EAC
2.	Shri Shravan Kumar	Rep. of CEA & Member, EAC
3.	Dr. A.K. Sahoo	Rep. of Director, CIFRI & Member, EAC
4.	Dr. S. Kerketta	MoEF&CC & Member Secretary, EAC

The Sub-committee was duly approved by the Competent Authority vide Ministry's Office Order No.J-12011/26/2012-IA.I dated 18.09.2017. The Sub-committee held discussion on 26.10.2017 (Afternoon) with the project officials at Guwahati and visited the project site on 27.10.2017. Dr. A.K. Sahoo, Representative of CIFRI and Member EAC was not available during the site visit due to preoccupation. The following officers and other senior officers from the project site were present:

Sl. No.	Officials	Designation
APGCL		
1.	Ms. Antra Baruwa	Chief General Manage (only on 26.10.2017)
2.	Shri B.R. Das	Project Director(only on 26.10.2017)
3.	Shri R. Talukdar	General Manager
4.	Shri Utpal Dutta	Project Co-ordinator
5.	Shri P.K. Borthakur	Dy. General Manager
6.	Shri M. Bharadwaj	Dy. Manager
7.	Shri G. Nath	Junior Manager
Kopili HEP, M/s NEEPCO		
1.	Shri D. Bhattacharjee	Head of project
2.		
WAPCOS, Gurgaon		
1.	Shri P. D. Karkhanis	Chief Engineer
2.	Shri Rishi Punia	ES Safeguards
CIFRI, RO, Guwahati		
1.	Shri B. K. Bhattacharya	Additional Director
2.	Shri Simanku Borah	Scientist (ARS)

M/s APGCL (henceforth be referred as PP) held discussion with the Sub-committee on 26.10.2017 (afternoon) about the proposed project and *inter-alia*, presented a small brief on the project to the Sub-committee as below:

Scoping clearance, for pre-construction activities along with standards TOR was granted on 31.01.2014. The location of the project (dam site) is at 25°39'57.39"N latitude and 92°46'53.62"E longitude. It is envisaged to fully harness the hydropower potential of the Kopili River. Kopili River is a major tributary of Brahmaputra River, which along with Barak is the principal River basin of North-East region. The scheme has been conceived to run at full potential in monsoon season and operate as a peaking station in non-monsoon season. The total land requirement for the project is 1,577 ha, of which 523 ha is forestland and 1,054 ha is private land and is part of Dima Hasso and Karbi Anglong districts of Assam. The total cost of the project is Rs.1,115.91 crore. As per the norms, about 0.5% of the project cost has been earmarked for development of Local Area Development Plan. Thus, an amount of Rs.5.58 crores has been earmarked for implementation of Local Area Development Plan.

The proposed Lower Kopili Hydroelectric project (120 MW) is located in east of Karbi Anglong and west of Dima Hasao districts of Assam. It is a storage scheme of a 70.13m high concrete gravity dam across the river Kopili at Longku, about 20 km downstream of Kopili HEP powerhouse, spills of Khandong and Umrong Dam and the discharge from the intermediate catchment area of 2,076.62 km² by creation of a reservoir and utilizing a gross head of about 114m. The dam structure is located on Kopili River (a major tributary of the Brahmaputra River) and the power house structure is located on right bank of Kopili River. The project envisages utilization of the regulated discharge from Kopili HEP, a water conductor system comprising of an Intake Structure, Head Race Tunnel along with Surge Shaft and penstock and a surface power house of installed capacity of 110 MW comprising of 2 units of 55 MW each with overall efficiency of 0.92. An Auxiliary Power House having a capacity of 10 MW (2x2.5MW+1x5MW) has also been planned at the toe of the dam for utilizing the mandatory releases for ecological purposes. A total off our species viz. *Garragotylagotyla*, *Daniorerio*, *Puntius sophore* and *Barilius bendelisis* could be found from the down stream part of influence zone (near power house and 4 km downstream of power house site) from the distributaries however, during visit no fish species could be seen in the Kopili River i.e. at dam site. **But, some whirling insects were found in the river water.** It was informed that absence of aquatic species / fish diversity in the vicinity could be attributed to the acidic water of the river due to coal mining activities at the upper catchment area stream. Even though, for sustenance of aquatic ecology, e-flow has been proposed to release as per the Table below:

Table- Release of E-flows in 90% dependable year

Season	Average flow (m ³ /s)	% of flow	Average E-flow (m ³ /s)
Lean (December-March)	21.40	20%	4.30
Non-monsoon/Non-lean(October-May)	53.70	25%	13.40
Monsoon(June-September)	79.20	30%	23.80

There are three Nos. of quarries to be made for construction materials (Fine and coarse) of more than 16.50 lac m³. During construction, about 14.07 lac m³ (including 40% Swell Factor) of muck will be generated and about 35% use for construction of the project and remaining will be disposed in two earmarked sites. Based on the topography, inlet and outlet of the Diversion channel are planned for a length of 104 m at the upstream and 155 m at the downstream along with 50.12 m of construction sluice at the right bank for which a quantity of total earthwork and rock-fill to be required are 74,261 m³ and 3,470.50 m³, respectively. Upstream Cofferdam shall have 17.95m height. The quantity of total earthwork and concreting shall be 10,894 m³

and 45,920 m³, respectively. Similarly, downstream Cofferdam shall have 13m height. The quantity of total earthwork and concrete shall be 42,795 m³ and 11,037.25 m³, respectively.

Primary surveys have been conducted for three seasons namely, monsoon (August, 2014), post-monsoon (December, 2014-January, 2015) and pre-monsoon season (April, 2015). The data has been collected for flora, fauna, forest types and ecological parameters, geological and soil features. During these surveys data and information was collected on Physico-chemical, biological and socio-economic aspects of the study area. In addition, detailed surveys and studies were also conducted for understanding bio-diversity in the study area. Impact of project activities has been predicted using Mathematical Models and Overlay Technique (superimposition of activity on environmental parameter). For intangible impacts, qualitative assessment has been done. As a part of study impacts likely to accrue during construction and operation phases on various aspects of Environment have been assessed accordingly. Assam State Pollution Control Board organized the 'Public Hearing' on 10.01.2017 at Longku, APGCL Project Site, district Dima-Hasao, Assam for the proposed Lower Kopili HEP (120MW). The Public Hearing was conducted under the Chairmanship of the ADM, Dima Hasao.

PP applied for grant of environmental clearance on 19.06.2017 online in the website of the Ministry. The meeting held during 24-25th August, 2017, the EAC was informed that during construction, 5 lac liter of fresh water per day shall be required for which Longku and Kala nallahs have been proposed. A total quantity of 106.29 MCM water will be stored at Full Reservoir Level (FRL) and shall remain in a artificial bowl of acidic water which may cause a major disaster in case of dam failure and shall impact around 12 km distance at the downstream. The PP has made a provision for treatment of acidic water (pH: 3.2-5.2) of river Kopili with adequate capacity and shall be used during construction stage, if required. The reason for low pH is due to indiscriminate rat hole coal mining in the area.

Therefore, it was decided in the EAC meeting that this Sub-committee shall visit the project site of Lower Kopili (120 MW) HEP and the economic viability of the project in the extreme whether condition may be examined whether the acidic water be suitable to the viability of the proposed project including machine availability.

The Sub-committee deliberated at length with the PP on the ToR assigned vide letter dated 18.09.2017. During the visit of Sub-committee, interaction was also made with project officials of Kopili HEP, NEEPCO. The data related to the monitoring of the pH of the various sites of the Kopili HE Project was collected. The detailed report is annexed as Annexure-I.

The Sub Committee visited the areas viz., Kopili river at Panimur site (6 km d/s of dam axis), Lower Kopili HEP project proposed dam site, Kopili HEP of NEEPCO. (pH levels were monitored at all the locations).

The following of the observations of the Sub-committee:

1. Analysis of pH was carried out by using mobile pH meter at the project site, reservoir area of Kopili Project, NEEPCO, etc. The details are given below:

Parameters	River Kopili		Umrang Reservoir	
	Longku	Panipura	NEEPCO Office	Dam Site
GPS coordinates	25°39'58.4"N	25°43'19.4"N	25°30'55.3"N	25°31'41.0"N
	92°46'53.9"E	92°49'22.2"E	92°43'35.5"E	92°42'48.4"E
pH	6.76	6.86	4.54	4.62
Specific Conductivity (µs/cm)	93	98	107	121

TDS (mg/l)	47	49	53	60
Turbidity (FNU)	3.6	5.6	0.7	0.0
Temperature (°C)	26.8	25.01	25.46	25.26
DO (mg/l)	6.51	7.70	8.67	7.93

The pH value of dam site of Kopili HEP was provided from the period 1.7.2014 to 30.09.2015 at the dam site. The pH value reveals acidic and was found to be between 3 to 4. However, during visit of the Sub-committee when the pH was measured at different locations, it was found totally different and improved a lot and it suggests pH value is more than 4, the above decay level of survival of aquatic. Therefore, the Sub-committee suggested that pH may be monitored at 5 locations such as one at proposed dam site and 2 each at the upstream and down stream of the dam site so that the actual reason of abnormal change in pH level could be ascertain.

2. During visit to the proposed project site, discussion was held with the officials of Kopili HEP, NEEPCO, discussion was also held regarding machine availability of the existing powerhouse, etc. The running hours of the powerhouse was provided for the period 2015 to till date. The report reveals that 70% of the machine has been run in an average every year and seems that it is beneficial and efficient. Therefore, the sub-committee is of the view that if the existing powerhouse is efficient at the present pH value of the water then the proposed Lower Kopili HEP can also run and viability of the project dose exists.
3. The Sub-committee also suggested that pH value may be monitored from the TRT location of the Kopili HEP to FRL location of the existing Lower Kopili HEP on a long term basis to understand the changing pattern of pH and drawing logical information thereof so that viability of proposed project can be further ensured on long run basis.

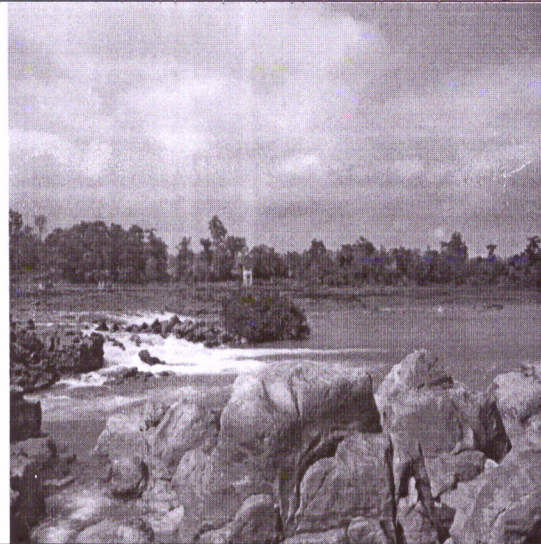

(Dr. S Kerketta) 05/12/17


(Sharvan Kumar)

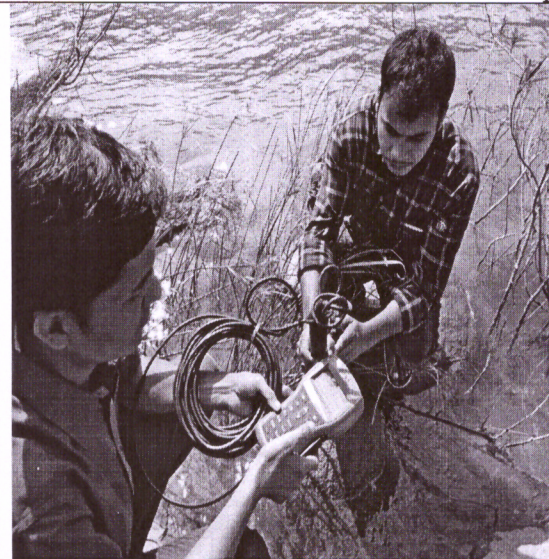

(N.N. Rai)



1- Sub-Committee at the proposed Dam Axis site of the Project



2- View of the Kopili river at Panimur Site



3- pH level monitoring of Kopili river water at the site

Site visit report of the EAC Sub-committee of Pancheswar Multipurpose
Project (5,600 MW) in Uttarakhand by M/s Pancheswar Development
Authority

In the EAC meeting held during 24.10.2017 at Ministry of Environment, Forest & Climate Change, New Delhi, it was decided in the EAC meeting that a sub-committee could be constituted, which shall visit the project site of Pancheswar Multipurpose Project (5,600 MW), Pancheswar to be developed by M/s Pancheswar Development Authority (PDA). The Sub-committee consisting of the following Members:

Sl. No.	Sub-committee	Designation
1.	Dr. S.K. Jain	Chairman
2.	Shri N.N. Rai	Rep. of CWC & Member, EAC
3.	Shri Shravan Kumar	Rep. of CEA & Member, EAC
4.	Dr. J.A. Johnson	Rep. of Director, WII & Member, EAA
5.	Shri Chetan Pandit	Member
6.	Dr. Poonam Kumria	Member
7.	Dr. S. Kerketta	MoEF&CC & Member Secretary, EAC

The Sub-committee was duly approved by the Competent Authority vide Ministry's Office Order No.J-12011/10/2015-IA.I dated 15.11.2017. The Sub-committee visited the project site on 24.11.2017. Shri Chetan Pandit and Dr. Poonam Kumria, Members of the Sub-committee were not available during the site visit due to preoccupation. The Sub-committee held discussion with the project officials at Champawat, Uttarakhand and visited the proposed project site on 24.11.2017. Similarly, the Sub-committee also held discussions with the Project Affected Persons (PAFs) at Pancheswar in presence of the District Officials at Champawat on 24.11.2017. During discussion with the PAFs, Shri R.C. Gautam, SDM, Lohagad and Ms. Nilu Chawala, Tahasildar, Lohagad & Barakot were present. The following officials and other senior officers from the Project, the Consultant (WAPCOS), CWC Officials posted in PDA, the District Officials and Project Affected Persons were present:

S. N.	Officials	Designation
District Administration, Champawat		
1.	Dr. Ahmed Iqbal	District Magistrate
2.	Shri H.K. Verma	Upper District Magistrate
3.	Ms. S. Bishwakarma	SDM, Champawat
4.	Shri Anil Singh Garbyal	SDM, Pati
5.	Shri R. C. Gautam	SDM, Lohagat
6.	Ms. Nilu Chawala	Tahasildar, Lohagat
7.	Shri Govind Prasad	Tahasildar, Champawat
8.	Shri Suresh Ram	Patwari, Pancheswar
9.	Many others..	

Pancheswar Development Authority		
1.	Shri M.B. Gurung	Chief Executive Officer
2.	Shri A.K. Kharya	Dy. CEO
3.	Shri M. Lal	Executive Director
WAPCOS, Gurgaon		
1.	Dr. Aman Sharma	Executive Director
2.	Shri S.S. Godhara	Chief Engineer
3.	Shri Amit Gawande	Chief Engineer
4.	Shri Dipendra Lamba	Engineer
Project Affected Persons		
1.	Shri Ganesh Singh	Mallakhai Kat village
2.	Ganesh Dutta Panth	Mallakhai Kat village
3.	Laxmi Dutta Panth	Panthura Vibil village

M/s Pancheswar Development Authority held discussion with the Sub-committee on 24.11.2017 (forenoon) about the proposed project. The Sub-committee visited the Dam Axis, Drift point of Indian portion, Pancheswar Temple which will be submerged and falls in Pithoragad district, held discussions with the project Officials, Officials of the District Administration and also with some Project Affected People, etc. The project site in Nepal portion couldn't be visited, as necessary permissions couldn't be obtained for members of the Sub-committee. Similarly, the site of the dam Axis of Rupaligad also couldn't be visited due to difficulty in accessibility to the location. The brief of the proposed project is presented below:

The Pancheshwar Multipurpose Project (PMP) is a Joint Venture scheme between India and Nepal and is being implemented by the Pancheswar Development Authority. The project primarily aimed at energy production. In addition, the project aims to enhance the food grains production in both the countries by providing additional irrigation resulting from river regulation. Due to moderation of flood peaks at reservoir(s), incidental flood control benefits have also been envisaged from the proposed project.

The Pancheshwar dam is proposed at about 2.5 km downstream of the confluence of Saryu with the Mahakali River, a primary tributary of the Mahakali from India. A re-regulating dam at Rupaligad, 25 km downstream of main dam, is proposed downstream of main dam to even out peaking flows from Pancheshwar powerhouses for meeting irrigation water requirement and to exploit hydro potential of the basin below Pancheshwar. The project structures, including the reservoir area, lie in Champawat, Pithoragarh and Almora Districts of Uttarakhand state in India and in Baitadi and Dharchula districts of Far Western Development Region in Nepal.

The project will have an incidental flood mitigation effect, reducing risk of flooding along the lower course of Mahakali (Sarada) river, both in the Nepalese and Indian territories. It is expected to protect low-lying areas in Chandani-Dodhara villages along the west bank of Mahakali River in Nepal. Further, around 10,000 ha of area in District Pilibhit and



90,000 ha in District Lakshmipur Kheri in Uttar Pradesh (India) are inundated almost every five years in the Sarada basin due to floods in a stretch of 60 km of the river which would get protected from floods in the post-Pancheshwar project development scenario.

The project envisages construction of 300 m high rock-fill dam across Mahakali river from the deepest foundation for generation of hydropower with an installed capacity of 5,040 MW. The total land requirement for the project is about 14,100 ha (Indian portion - 9,100 ha + Nepal portion - 5,000 ha). The submergence area is 11,600 ha. Two underground powerhouses, one on each bank of river is proposed with 6 units of 400 MW each (6x 400 MW - on left bank + 6x400 MW-on right bank= 4,800 MW). Re-regulating dam has been proposed at Rupaligad, 27.0 km downstream of Pancheshwar Main Dam. Two powerhouses, one on each bank of the river, are proposed with 2 units of 60 MW capacity each (2x60 MW -on left bank+ 2x60 MW - on right bank= 240 MW).

The Pancheshwar Dam complex is likely to generate 53.98 Mm³ of muck due to excavation and Rupaligad Dam would generate 2.91 Mm³ of muck. Considering 85% of the muck and swelling factor as 1.4, 64.26 Mm³ of muck will be utilized for infrastructure and other components of the project and remaining 11.33 Mm³ will be dumped in designated dumping sites covering an area of 67 ha (Indian side - 50 ha + Nepal side -17 ha) for Pancheswar Dam. Similarly, considering 25% of the muck and swelling factor as 1.4, 1.02 Mm³ of muck will be utilized for infrastructure and other components of the project and remaining 3.05 Mm³ will be dumped in designated dumping sites covering an area of 25 ha (Indian side - 20 ha + Nepal side - 5 ha) for Rupaligad Dam. The sites will be rejuvenated using integrated biological & biotechnological measures. An amount of Rs. 80 crores has been allocated for the purpose.

Minimum E-flow will be released for sustenance of aquatic life in various seasons is as follows:

Season	% of flow to be released	% of flow as E-flow releases	Inflow (cumec)	E-flow (cumec)
Monsoon	30	55.4	1,217.70	674.00
Lean	20	251.2	143.70	360.80
Non- monsoon /non-lean	25	106.6	376.50	392.00

The Ascot Wildlife Sanctuary is located about 300 m from the reservoir tip of the project and no area of this wildlife sanctuary will be acquired for the project and no impact is anticipated on wildlife sanctuary. The compensatory afforestation programme will be taken up in 9,374.26 ha of degraded forestland which is double the forestland diverted for the project. A grant of Rs. 1,125 crore has been allocated for the purpose. Similarly, an amount of Rs. 3801 lakh has been allocated for the Biodiversity Conservation Programme. A grant of Rs. 43.20 lakhs has been allocated for development of greenbelt in and around the project area. Rs.19.50 crores has been allocated for Fishery development and

management plan.

The catchment area of the project is about 14,147 km². Three major temples, Pancheshwar, Rameshwar and Taleshwar, will be submerged due to this project. The estimated project cost is about Rs. 33,108 crores. The cost of various Environmental Management plan is Rs. 12,237 crores. About 123 villages in Pithoragarh, Almora and Champawat Districts of Uttarakhand in India and 25 VDC and one Municipality in Darachukla & Baitadi Districts in Nepal are likely to be affected due to this project. Rs. 8,220 crore has been earmarked for implementation R & R programme for 31,023 PAFs (PAFs losing Homesteads & Land and Only Land) in India.

The Ministry granted Scoping clearance/Terms of Reference (TOR) to Pancheshwar Multipurpose project on 13.10.2016 for construction of 315 m high rock-fill dam across Mahakali river from the deepest foundation for generation of hydropower with an installed capacity of 5,600 MW and to undertake study at the proposed project site as per the EIA Notification, 2006 and subsequent amendment in 2009 for preparation of EIA/EMP report. While issuing the TOR on 13.10.2016, there was a suggestion to form a joint mechanism for considering the assessment of environmental impact of the full project. While considering the full project by the proposed joint mechanism, the TOR shall be modified for the full project and shall accordingly be appraised before EAC for approval. Then the EIA/EMP report prepared for the full project by the PDA shall be placed before the entity established through the joint mechanism for examination and its recommendations to be submitted to the Ministries of Environment in both countries for acceptance. However, the assessment of environmental impact of full project through Joint Mechanism couldn't be done and its reason has clearly been explained in the 5th EAC meeting held on 31.05.2017. It was also stated that, as both sides have significantly progressed in preparation of EIA/EMP report of the project, under such circumstances, separate EIA/EMP reports of the project for Indian side & Nepal side be placed before the EAC for considering the EIA of full project. Further, Govt. of Nepal has approved the EIA report for this project for the Nepal side on 16.10.2014. Hence, the Public Hearing was conducted based on the EIA report for Indian portion and after that the Project Proponent approached the Ministry for final appraisal of Environmental Clearance.

During the visit of the proposed project, the following brought to the notice of the Sub-committee by the local public:

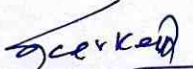
1. The people of Pancheswar village informed that the village will be fully submerged and all the families will be displaced, therefore, their settlement may preferably be done at one place along with facility to their live stocks, etc.
2. Atleast one person be provided employment in the proposed project from each family displaced based on their education.
3. There should be a dialogue between Project Affected Families, State Government of Uttarakhand and Project Proponent in order to arrive at the final R&R compensation, other benefits, etc.
4. The project affected families do not have any objections for construction of the project. On the contrary, they wanted the

- project to be implemented at the earliest, because in the uncertainty that prevails they are not able to get bank loans, support for entrepreneurship, etc. They further demanded, that the developmental activities such as educations, health care facilities, access roads to the villages, bank loans for entrepreneurship development, etc. should not be stopped.
5. Landless agriculturists are doing agricultural practices of those affected families who are staying outside and this practice is being carried out in generation together. Therefore, while defining the type of Project Oustees, this aspect should also be looked into.
 6. As the existing roads will be used for the transportation of materials, plying of vehicles, etc., the existing roads be strengthened and widened so that traffic congestion and accidents, if any, can be avoided.
 7. During the construction period, lot of construction workers shall be deployed in the project. Necessary health care facility shall be created for the labour force shall be extended to the PAFs till such time the PAFs are not displaced from their villages.
 8. The proposed project area has got lot of agriculture fields, and now organic farming is very much in practice. Therefore, use of weedcites and pesticides may be avoided for growing of vegetables for the construction labourers.

Observations of the Sub-committee:

1. Concerns of local people are to be suitably addressed by PDA/State Govt regarding updation of land records, identification of resettlement locations, etc. Villagers staying below or at 680 m FRL shall be displaced and villages located just above i.e say at 681 m FRL shall not be displaced. The Sub-committee suggested that PAFs may be identified i.e. say another 20 m height beyond 680 m FRL so that an uniform and unbalance criteria be adopted for enumerating the project affected families in holistic ways. Similarly, villages affected due to backwater, may also be considered as project affected families.
2. Developmental facilities like schools, access roads to their villages, health care facilities, etc. should be continued to all the PAFs otherwise trust and confident levels of the PAFs would be lost.
3. As the existing roads shall be used for the plying of vehicles, transport of materials, machines and machineries, etc. the existing roads should be strengthened and widened so that safety of the villagers can be ensured. Speed breakers as and where required should also be provided in consultation with villagers.
4. Drift site falling in India side was visited. It is suggested that appropriate plan be prepared for better utilization of the excavated drift, after the commissioning of the project.

5. Project related information may be shared by PDA/State Govt with project affected people.
6. The EIA report of the Nepal portion has been provided by the PP. On quick scanning of the report, it has been found that the salient features of the the project in both the EIA reports are not matching. Therefore, it is suggested that the same may be reconciled again for both the portions including the ToR granted for the India portion.
7. All the borrow materials shall be brought from the quarries located at higher elevation in the area. Therefore, it is suggested that borrow materials may be transported through conveyor belt to the construction sites so that impact on the area be minimized.
8. There are three temples namely Pancheswar, Taleswar and Pandeswar are to be shifted for which Rs. 20 crore has been earmarked. While shifting theses, necessary concern be heard from the villagers before relocating the temples.
9. Some photographs of the Site visit of the Sub-committee are enclosed as **Annexure**.
10. It is again reiterated based on the 5th EAC meeting held on 28.05.2017 that -
 - a. confirmation for the Installed Capacity along with the dam height is required from the Project proponent. The already cleared EIA report for the Nepal portion should be submitted in order to get holistic idea of the entire project.
 - b. secondary data for the wildlife and fish species shall be referred and incorporated. Accordingly, minimum e-flow for survival of aquatic life be modified.
 - c. the Ascot Wildlife sanctuary is located near to project site. The PP is advised to obtain wildlife clearance from Standing Committee on NBWL as per the extant rules. Similarly, in the impact prediction, the EIA report is totally silent on other wildlife species such as Sambar, Hog deer and Small Clawed-Otter (use only small streams/river-occur in Sarju river). Therefore, secondary data to be collected from the local DFO and EIA/EMP report be revised accordingly.
 - d. a supplementary study to be carried out, as the location of Rupaligad Dam has been shifted 2.0 km downstream from the proposed location of the dam.


(Dr. S kerketta) 05/12/17


(Sharvan Kumar)

(Dr. J.A. Johnson)


(N.N. Rai)


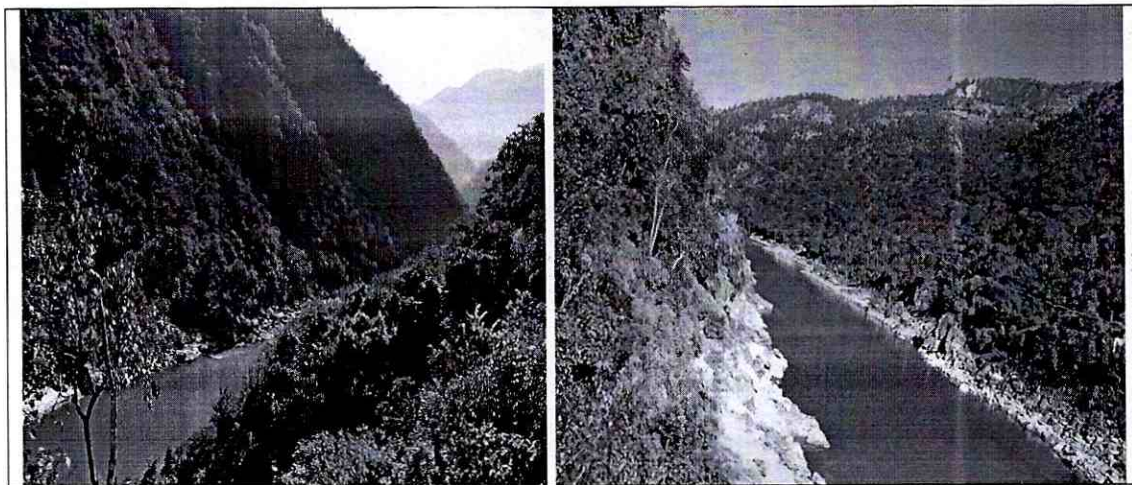
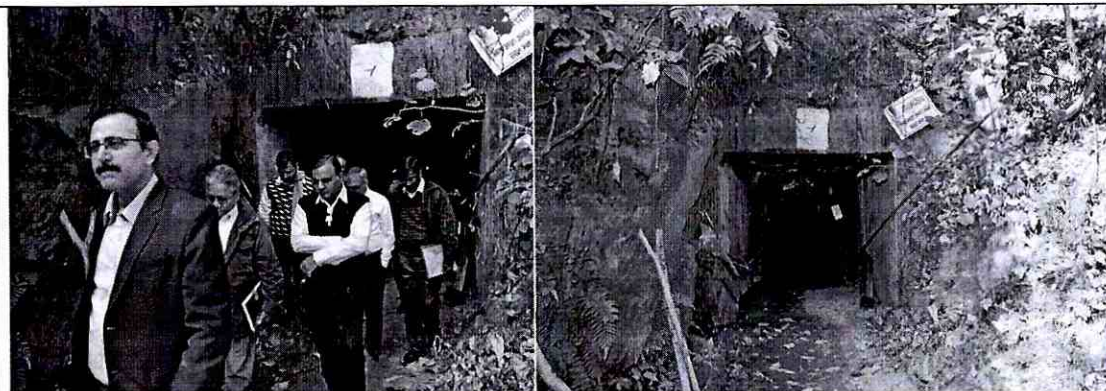

(Dr. S.K. Jain)

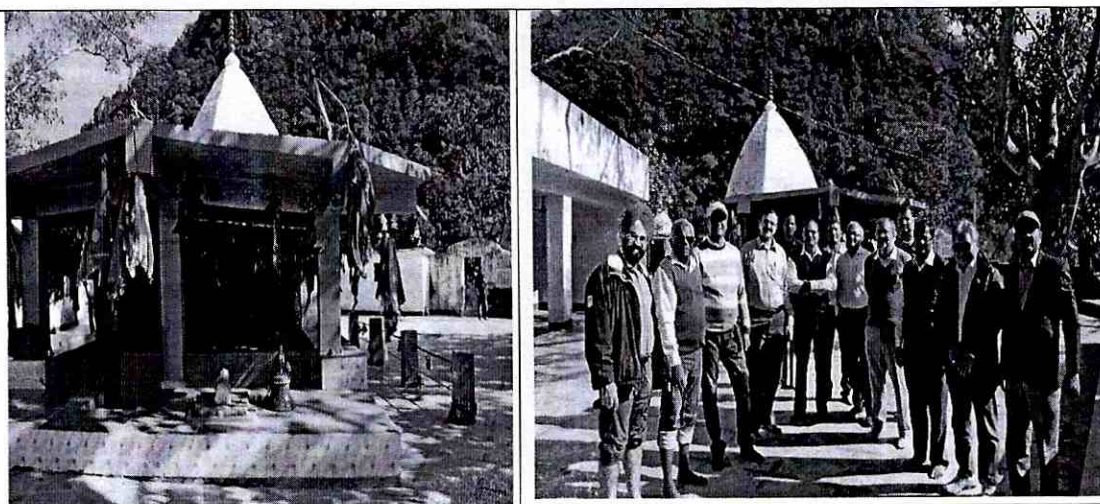
Plate No. 1



1- A view of the proposed Pancheswar Dam Site



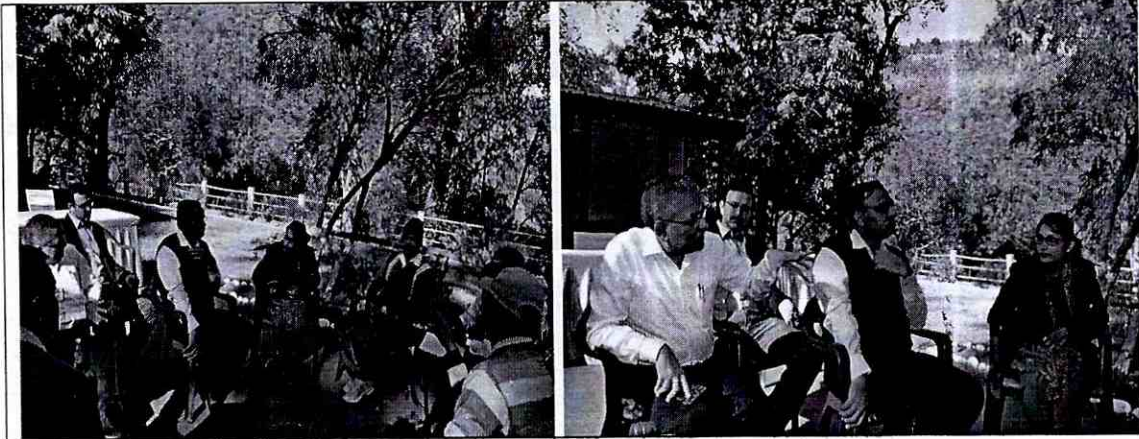
2- Drift site of Indian Portion visiting the Sub-committee



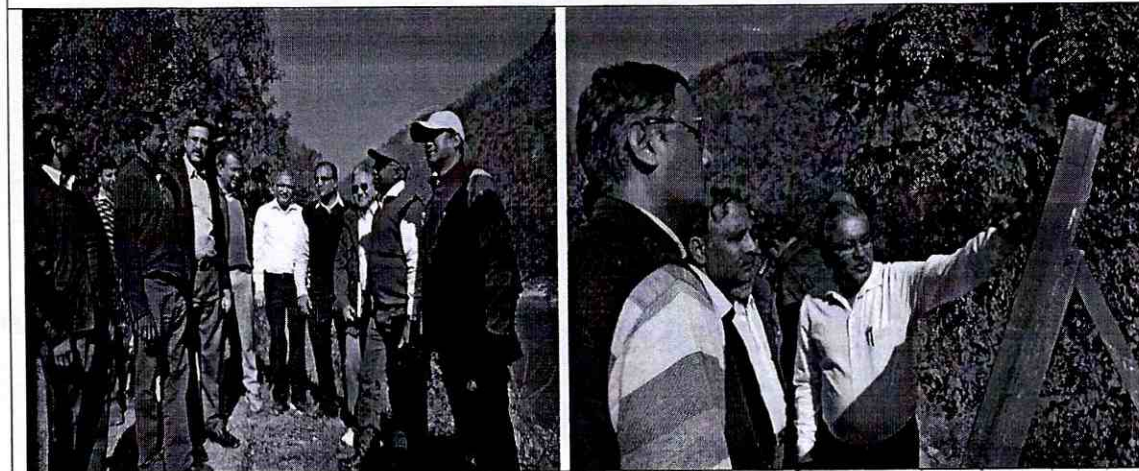
3-Pancheswar Temple, to be shifted

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Plate No. 2



4- Discussion with District Officials by the Sub-Committee



5- Team discussing about the project with Project Proponent



6- Land Lizards while trekking in the project site by the Team

he

Subject: **Re: Draft Minutes of 10th EAc meeting for River Valley Projects- approval reg.**
To: Dr S Kerketta <s.kerketta66@gov.in>

Date: 12/16/17 12:08 AM
From: Sharad Jain <s_k_jain@yahoo.com>
Reply-To: Sharad Jain <s_k_jain@yahoo.com>

10th_EAC_Meeting_05.12.2017_Chairman.pdf (305kB)

10th_EAC_Meeting_05.12.2017_Chairman.doc (287kB)

Dear Dr Kerketta,

I am sending the approved minutes of the meeting. Before issue, please ensure that all the data and facts mentioned in the minutes are correct.

Regards,

Sharad Jain
Chairman

On Friday 15 December 2017, 4:30:12 PM IST, Dr S Kerketta <s.kerketta66@gov.in> wrote:

Sir,

Correction made. Data have been reconciled. Draft report enclosed again for approval please.

regards,

kerketta

On 12/15/17 03:02 PM, **Sharad Jain** <s_k_jain@yahoo.com> wrote:

Dear Dr Kerketta,

I am sending the edited minutes with a few comments.

Pls address these so that the minutes can be finalized. Also check the figures mentioned in the report.

Thanks

Sharad Jain
NIH Roorkee

On Wednesday 13 December 2017, 10:20:48 AM IST, Dr S Kerketta <s.kerketta66@gov.in> wrote:

Dear Sir,

Please find the draft Minutes of 10th EAC meeting for River Valley Projects held on 05.12.2017. The draft minutes have been prepared after including the comments from the Members.

If the draft minutes are in order, kindly approve the same for uploading the same in the website of the Ministry.

--

regards,

Dr. S. Kerketta
Director- IA (Thermal, River Valley & HEP)
MoEF&CC, New Delhi
Phone: 011-24695314 (O), 26113096 (R)

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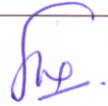
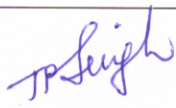



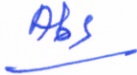

regards,

Dr. S. Kerketta
Director- IA (Thermal, River Valley & HEP)
MoEF&CC, New Delhi
Phone: 011-24695314 (O), 26113096 (R)

LIST OF MEMBERS

10th MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) FOR RIVER VALLEY & HYDROELECTRIC PROJECTS

DATE : 5th December, 2017
TIME : 10:00 AM to 5:30 PM
VENUE : TEESTA HALL, INDIRA PARYAVARAN BHAWAN,
NEW DELHI

Sl.No.	Name of Member	Signature
1.	Prof. Sharad Kumar Jain, Chairman	
2.	Shri. T. P. Singh Member	
3.	Shri. Sharvan Kumar, Member,	
4.	Shri N. N. Rai, Member	
5.	Dr. J.A.Johnson, Member	
6.	Dr. B. K. Das/ Dr. AK Sahoo Member	
7.	Dr. Vijay Kumar, Member	

8.	Prof. Govind Chakrapani, Member	<u>abs</u>
9.	Dr. Chetan Pandit, Member	<u>[Signature]</u>
10.	Dr. Dinkar Madhavrao More, Member	<u>[Signature]</u>
11.	Dr. R. Vasudeva, Member	<u>abs</u>
12.	Prof. S.R. Yadav, Member	<u>[Signature]</u> 5/12/2017
13.	Dr. Jai Prakash Shukla, Member	<u>[Signature]</u> 5/12/2017
14.	Dr. Poonam Kumria Member	<u>[Signature]</u> 5-12-17
15.	Dr. S. Kerketta, Member Secretary Director (IA-1)	<u>[Signature]</u> 3/12/2017

Ministry of Environment, Forest & Climate Change
[IA-I Division]

Agenda for the 10th meeting of Expert Appraisal Committee (EAC)
for River Valley & Hydroelectric Projects

DATE : 5th December, 2017

TIME : 10.30 AM onwards

VENUE : TEESTA CONFERENCE HALL, 1st FLOOR, VAYU WING, INDIRA
PARYAVARAN BHAWAN, JOR BAGH ROAD, NEW DELHI - 110003

Item No.10.0	Confirmation of the minutes of 9 th EAC meeting.
Item No. 10.1 10:30-10:50 AM	Shivasamudram Run Off the River Power Project (2x100 MW) Phase-1 in Chamarajnagar district, Karnataka by M/s Karnataka Power Corporation Ltd- For Fresh ToR File No. J-12011/37/2017-IA.I (R), Appl. No. IA/KA/RIV/70932/2017
Item No. 10.2 10:50-11.10 AM	Construction of Chikan Dam for Irrigation purpose, Minor Irrigation Department, Haryana – For Fresh ToR File No. J-12011/34/2017-IA.I (R), Appl. No. IA/HR/RIV/70753/2017
Item No. 10.3 11:10-12.10 PM	Pancheswar Multipurpose (5,600 MW) Project in Uttarakhand by Pancheswar Development Authority – Discussion of the site visit & reconsideration of EC File No. J-12011/10/2015-IA.I(R), Appl. No. IA/UK/RIV/70163/2015
Item No. 10.4 12.10-01:10 PM	Kaleswaram Project in Karimnagar District of Telengana by Irrigation and CAD Department, Govt. of Telengana – For Fresh EC File No. J-12011/1/2017-IA.I(R), Appl. No. IA/TG/RIV/61225/2016
Item No. 10.5 01.10-01:30 PM	Kalisindh Major Multipurpose Irrigation Project Jhalawar, Minor Irrigation project, Rajasthan – For fresh ToR File No. J-12011/1/2017-IA.I, Appl. No. IA/TG/RIV/61225/2016
Lunch break (01:30 – 02:00 PM)	
Item No. 10.6 02:00-02:20 PM	Kundah Pumped Storage HEP (500 MW) Project in Nilgiri District of Tamil Nadu by M/s. TNGEDCO – For extension of validity of EC File No. J-12011/62/2006-IA.I(R), Appl. No. IA/TA/RIV/22335/1910
Item No. 10.7 02.20-02.40 PM	Shiggaon Lift irrigation Scheme, Karnataka Neeravari Nigam Ltd., Karnataka – For reconsideration of EC File No. J-12011/7/2010-IA.I, Appl. No. IA/KA/RIV/19763/2013
Item No. 10.8 02:40-03:00 PM	Dam Project with Canal system to irrigate a CCA of 2,958 ha of the proposed Hidising Irrigation Project at Karadarsing in Angul district, Odisha (GC Conditions Applies) – For Fresh ToR File No. J-12011/35/2017-IA.I (R), Appl. No. IA/OR/RIV/71177/2017

Item No. 10.9 03:00-03:20 PM	Indrapuri Reservoir Scheme by Water Resources Department, Bihar - For Fresh ToR File No. J-12011/36/2017-IA.I (R), Appl. No. IA/BR/RIV/70369/2017
Item No. 10.10 03:20-04.20 PM	Lower Kopili HEP (120 MW) in Karbi Anglog & North Cachar Hill, Assam by M/s Assam Power Generation Corporation Ltd.- Discussion of the site visit report & reconsideration of EC File No. J-12011/26/2012-IA.I, Appl. No. IA/AS/RIV/60987/2013
Item No. 10.11 04:20-04.50 PM	Standardization of Environmental Clearance conditions of River Valley projects - For reconsideration before EAC
Item No. 10.12 04:50 PM -	Any other items with the permission of the Chair

Note:

1. Project Proponents are required to submit all documents both in hard and soft form to all the Members, within 2 days of uploading this notice.
2. **A 2-3 page Brief Summary of the project to be submitted within 2 days of the uploading of Agenda in the website of the Ministry to the Member Secretary at s.kerketta66@gov.in & n.subrahmanyam@gov.in. Non-submission of the same will lead to deferment of project, etc.**
3. Project Proponents are requested to attend the above meeting and give detailed presentation(s) on their proposal(s). For proposals from the Private Sector Organizations, Director or above level and for proposals from the Government, the Chief Engineer concerned or above level officer/s should lead the team. Officers should come and respond to explain the project and respond to queries from the Committee Members.
4. The project proponents may kindly treat this as official communication and may not wait for separate letter(s) from MoEFCC although, letters are being issued separately. For any clarification, **Dr. S Kerketta, Director-IA.I at 011-24695314 may be contacted.**
5. A short duration videography of the project area is to be presented before the EAC for better understanding of the project site. The project proponents may therefore, ensure that they carry out videography before the meeting.
6. Mobile Phone should be kept on switched off/silent mode during the meeting.
7. Distribution of writing pads, pens, plastic folders and unnecessary stationery items during the meeting is not permitted. Distribution of color print out may be avoided unless it is stated specifically.
8. Use both sides of papers, to the extent possible, for presentation material, etc. Do not distribute any color print out unless it is stated specifically.
