Minutes of the 4th meeting of the Expert Appraisal Committee for River Valley and Hydroelectric Projects held during 12th April, 2017 at Teesta Meeting Hall, Vayu Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 3.

The 4th meeting of the EAC for River Valley & Hydroelectric Projects was held on 12th April, 2017 under the Chairmanship of Dr. Sharad Kumar Jain in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, Vayu Wing, 1st Floor, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi. The following Members were present:

1.	Dr. Sharad Kumar Jain	-	Chairman
2.	Shri Sharvan Kumar	-	Representative of CEA
3.	Shri N.N. Rai	-	Representative of CWC
4.	Dr. J. A. Johnson	-	Representative of WII
5.	Dr. Vijay Kumar	-	Representative of Ministry of Earth Science
6.	Dr. Dinakar Madhavrao More	-	Member
7.	Dr. Jai Prakash Shukla	-	Member
8.	Dr. S. Kerketta	-	Member Secretary

Prof. Govind Chakrapani, Shri Chetan Pandit, Dr. R. Vasudeva, Dr. A.K. Sahoo and Prof. S.R. Yadav could not be present. As requested by Prof. P Mujumdar, his name has been deleted as one of the EAC Members.

Item No. 4.0 Confirmation of minutes of 3rd EAC Meeting.

The Minutes of the 3rd EAC (River Valley & Hydroelectric Projects) Meeting, held on 2-3rd March, 2017 were confirmed.

Item No. 4.1 Water Re-circulation and Environmental Sustainability Project for Jog Falls in Shivamogga District of Karnataka M/s Jog Management Authority, Government of Karnataka - for ToR clearance.

The Project Proponent (PP) and the Consultant, M/s Environmental Health & Safety Consultants Pvt. Ltd, Bangalore made a presentation about the project and *inter-alia*, provided the following information:

The project proposes to restore the natural beauty of Jog Falls and improve ecology of river Sharavathi. The project is funded by a private organization. The project involves water re-circulation by pumping of 400 cusecs of water in the non-monsoon months (November to June) from Sharavathi River for Jog falls and use of reversible flow in the pipeline for generating 33.22 MW of power during monsoon season (July -October). The construction activities for the project include pump house, laying pipeline, tunnel of about 2.6 km long, weir across the Sharavathi River and retaining walls (5 km long and 5.5 m height) on either side of the river to avoid submergence in the forest area during rainy season. Total land requirement is about 2 ha of forestland. This project site (Pump House) is 6.69 km and 3.6 km from Sharavathi Valley Wildlife Sanctuary and Aghanashini Lion Tailed Macaque Conservation Reserve, respectively. Therefore, according to EIA Notification, 2006 and its subsequent amendments, in view of applicability of General Conditions, the project becomes Categorized 'A' project. The total cost of the project is about Rs. 408 Crores.

After deliberations and considering all the facts of the project as presented by the PP, the EAC observed the following:

i. No Government funding is involved in execution of the projects.
ii. Baseline data of two seasons, i.e. Pre-Monsoon & Monsoon, will be collected and used to prepare the EIA report. This has been considered based on the fact that there is no flow during the November-June period in the Jog falls.
iii. Provision of minimum e-flow to be maintained throughout year.
iv. Detailed hydrology of the Sharavathi river in respect of the proposed project shall be studied.
v. Cascading effect of water drawl for the proposed project on downstream projects shall be worked out.
vi. Construction of retaining wall in the upstream reaches is expected to act as a barrier between river and riparian vegetation/wildlife. Hence, suitable alternatives shall be explored.
vii. Permission for construction of weir across Sharavathi river shall be obtained from the concerned authority and the same will be included in the EIA report.
viii. Details of forest and non forestland required for the scheme shall be provided along with EIA report.
ix. Necessary Forest and Wildlife Clearance shall be obtained from MoEF & CC and copy of the same shall be included in EIA/EMP report.
x. EAC decided that a Sub-committee consisting of the following members would visit the project site before finally considering the grant of ToR for the project. They would submit a report on the viability of the scheme, etc.:

1. Shri Sharvan Kumar	-	Representative of CEA
2. Dr. R. Vasudeva	-	Member
3. Dr. J. A. Johnson	-	Representative of WII
4. Dr. S. Kerketta	-	Director & Member Secretary

Therefore, the committee **deferred** the proposal and it shall be reconsidered after submission of site visit report by the Sub-committee.

Item No. 4.2 Sindh (Seondha) Barrage project in Datia District of Madhya Pradesh by M/s. Water Resources Department, Government of Madhya Pradesh – for reconsideration of Scoping/ ToR.

This project was earlier considered by the EAC in its meeting held on 11-12th August, 2016. The PP made a presentation about the project and *inter-alia*, provided the following facts:

The project envisages construction of 22 m high barrage across river Sind near Seonda town of Datia District of Madhya Pradesh. The gross command area (GCA) is 66,575 ha and Culturable Command Area (CCA) is 43,275 ha. The PP had earlier requested for deferment of appraisal before the EAC due to some anticipated changes in the project.

The project proponent submitted a fresh application for re-consideration. The PP presented the proposal with certain changes before the EAC. The committee noted that the project envisages construction of 29 m (instead as envisaged 22 m earlier) high barrage across river Sind near Seonda town of Datia District of Madhya Pradesh. The gross command area (GCA) is 66,575 ha and Culturable Command Area (CCA) is 43,275 ha. The total land requirement for the project is 2311.42 ha, of which 525 ha is forestland. Total submergence area is envisaged to be about 2211.42 ha, of which 425 ha is forestland, 1100.42 ha is Government revenue land and 686 ha is private land. An area of 100 ha which is part of forestland has been envisaged for construction of buildings and roads. Total 23 villages are coming under submergence. Out of these, 8 villages are coming under full submergence. A total of 766 families are likely to be affected due to this project. The total cost of the project is about Rs. 1,696.82 Crores.

After deliberations and considering all the facts of the project as presented by the PP, the EAC **recommended** for scoping clearance for the project with following additional conditions:

i. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines.
ii. PP has proposed use of micro irrigation. A detailed irrigation management plan should be worked out.
iii. Surplus water is available in the project, but there is not much land to be irrigated. Therefore, the cropping pattern may be reviewed and water should be utilized optimally.
iv. An earthen dam shall be constructed for which soil shall be taken from the submergence area. As per the rules, necessary permission shall be obtained for getting the borrow materials from the submergence area. Care should be taken to ensure that the groundwater table is not intersected during mining of minor minerals.
v. Information regarding borrowing boulders, etc. should be obtained and accordingly permission be obtained as per the Rules.
vi. The lift involved is 70 m. Economic viability of the project should be worked out based on the guidelines issued by CBIP, New Delhi, in April 2002 or so in regard to the planning and design of large lift irrigation schemes. The true (not subsidized) cost of electricity is to be considered for economic analysis.
vii. Conjunctive water use should also be investigated for optimal water use in the command area.

Item No. 4.3 Veerabhadreshwara Lift Irrigation Scheme Bagalkot District in Karnataka by Karnataka Neeravari Nigam Limited - for Environmental Clearance.

The Project Proponent (PP) and the Consultant, M/s Environmental Health & Safety Consultants Pvt. Ltd, Bangalore made a presentation of the project and *inter-alia*, provided the following information:

The project involves lifting of 2.5 TMC water from Ghataprabha River near Chikkur Thanda village, Mudhol Taluk in Bagalkot District (Karnataka), to provide irrigation to 17,377 ha of land. This project is likely to benefit 34 villages during Kharif season (June - September). The 2.5 TMC of water is proposed to draw through an intake canal for a length of 100 m on Ghataprabha River near Chikkur Thanda Village, Mudhol Taluka and is 21 km away from Mudhol town. Thereafter, the water is proposed to be pumped to delivery chamber through MS raising main of 17.6 km length. The project has two major gravity canals, viz. Hosakoti canal of

13 km long to irrigate 5,900 ha & Sallahalli canal of 20 km long to irrigate 11,477 ha. The project also proposes to fill 10 Minor Irrigation Tanks within the command area. The total land requirement is about 125 ha. The estimated project cost is Rs. 544 crores.

The Scoping /ToR clearance was granted on 17.11.2015 for a period of 3 years. The Public Hearing was conducted at Killa Hosakoti Village, Mudhol Taluk, Bagalkot District on 13.1.2017 and at Boodaanur Village, Belagavi District on 7.2.2017 of Karnataka state. PP informed that all the issues raised during the Public Consultation have been incorporated in the EIA/EMP report. The socio-economic impact assessment was carried out separately and report was also submitted. Thereafter, the final EIA/EMP reports were submitted to the Ministry for environment clearance.

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 seasons' 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 other salient features of the project reported in the EIA/EMP reports are as under:

i. The major concerns expressed during the Public Hearing were to extend the irrigation facilities to other areas and to complete the project in a time bound manner. All the issues discussed during the public consultation were considered in the EIA/EMP report. Thereafter, final EIA/EMP report was submitted for environmental clearance.
ii. The project is likely to generate 13.03 lakh m^3 of muck due to excavation. Out of which, 3.90 lakh m^3 of muck is to be utilized for Service road & Inspection path, 1.95 lakh m^3 to be used for construction of embankment, 1.30 lakh m^3 to be used for land leveling and remaining 5.21 lakh m^3 to be used for filling trenches.
iii. Greenbelt will be developed around intake canal and in and around the jack well pumps of the project. A total of 34 different local plant species shall be planted for which a grant of Rs. 13.03 crores has been allocated for the purpose.
iv. Fishery development and management plan is proposed for the conservation of fish in river and reservoir. Under this programme, development of Indian major carps viz., *Catla catla, Labeo rohita* and *Cirrhinus mrigala* shall be included for conservation of fish species. A grant of Rs. 10 lakhs has been proposed for the same.
v. The EMP has been prepared based on predicted impact, actual requirement and incorporating suggestions of local people, stakeholders with the details as provided in next page:

Table: Cost estimates for EMP in the project

Sl. No.	Environmental Management Plan	Cost (Rs. in lakhs)
A. Construction Phase		
1	Air Pollution Control	28.6
2	Noise Pollution Control	0.25
3	Water Pollution Control	1.75
4	Solid & Hazardous Waste Management	2.45
5	Greenbelt Development	1273.00
6	Agro Forestry Activities	17.40
7	Fisheries Development	10.00
8	Socio-economic Environment	1977.00
9	Environmental Monitoring during construction phase	45.88
B. Operation Phase		
10	Environmental Monitoring during operation phase	10.74
11	Greenbelt maintenance	30.00
12	Catchment Area Treatment	1,885.00
Total		**5282.02**

After detailed deliberations, and considering all the facts of the project as presented by the PP including the Public Representation, the EAC **deferred the proposal** for next EAC meeting. The information to be submitted by the PP for reconsideration of the project by the EAC:

1. Economic viability of the project should be worked out based on the guidelines issued by CBIP, New Delhi, in April 2002 or so in regard to the planning and design of large lift irrigation schemes. The true (not subsidized) cost of electricity is to be considered for economic analysis.
2. Concept of conjunctive irrigation should also be introduced to derive its benefit for enhancing the command area.
3. Clearance of CWC with respect to Hydrology, Inter State Matter Aspects as per CWC Guidelines "Submission, Appraisal and Acceptance of Irrigation and Multipurpose Projects 2017" should be provided.
4. Data on surface water quality of all the stations should be verified once again with regards to all the seasons.
5. Inventorization of flora and fauna be updated based on IUCN classification.
6. Total requirement of power to be provided and its firm linkage to be supported with document.
7. Cost on green belt development plan to be revised and local indigenous plant species to be included for development of green belt.
8. For cutting down the cost, this Scheme may be designed for 70 to 75% of the peak water requirement. The provision of standby pumps could be omitted from the design of LISs as an inbuilt flexibility in LIS exists to take care of the standby requirement of pumps.

Item No. 4.4 Basaveshwara (Kempawada) Lift Irrigation Scheme Belgaon District in Karnataka by Karnataka Neeravari Nigam Limited - for Environmental Clearance.

The Project Proponent (PP) and the Consultant, M/s Environmental Health & Safety Consultants Pvt. Ltd, Bangalore made a presentation of the project and *inter-alia*, provided the following information:

The project involves lifting of 4 TMC water from Krishna River in Belgaon District to provide irrigation facility to 27,462 ha benefiting 22 villages Kharif season. The 2.5 TMC of water is proposed to drawn through an intake canal for a length of 1.25 m on Krishna River near old Ainapura village in Athani Taluka, which is 20 km away from Athani town. Thereafter, water is to be pumped to the delivery chamber through MS rising main of 15.9 km long. The project has two major gravity canals viz. south canal of 3.68 km long to irrigate 1313 ha & North canal of 59.92 km long to irrigate 26,149 ha. The total land requirement is about 420 ha. No submergence is envisaged in the project. Interstate boundary with Maharashtra is located at a distance of 1 km from the boundary of the command area. The estimate project cost is about Rs. 1,120 Crores.

The Scoping /ToR clearance was granted on 17.11.2015 for a period of 3 years. The Public Hearing was conducted in Ainapur village, Athani Taluk, Bagalkot District on 10.2.2017. PP informed that all the issues raised during the Public Consultation have been incorporated in the EIA/EMP report. The socio-economic impact assessment was carried out separately and report was also submitted. Thereafter, the final EIA/EMP reports were submitted to the Ministry for environment clearance.

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 seasons' 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 salient features of the project reported in the EIA/EMP reports are as under:

i. The Public Hearing was conducted in Ainapur village, Athani Taluk, Bagalkot District on 10.2.2017 of Karnataka state. The major concerns expressed during the Public Consultation were on land Acquisition, seepage of water, land treatment of affected area, road access etc. All the issues discussed during the public consultation were considered in the EIA/EMP report. Thereafter, final EIA/EMP reports were submitted for environmental clearance.
ii. The project is likely to generate 20.59 lakh m^3 of muck due to excavation. Out of which, 6.17 lakh m^3 is to be utilized for Service road & Inspection path, 3.08 lakh m^3 to be utilized for formation of embankment, 2.05 lakh m^3 to be utilized for land levelling and remaining 8.23 lakh m^3 to be for filling trenches.
iii. Greenbelt will be developed around intake canal and jack well of the project and is proposed with 34 different local plant species. A grant of Rs. 2.43 crores has been allocated for this purpose.

iv. Fishery development and management plan is proposed for the conservation of fish in river and reservoir. Under this programme, development of Indian major carps viz., *Catla catla, Labeo rohita* and *Cirrhinus mrigala* have been proposed. A grant of Rs. 10 lakhs has been allocated for this purpose.

v. The EMP has been prepared based on predicted impact, actual requirement and incorporating suggestions of local people, stakeholders with the details as under:

Table: Cost estimates for EMP in the project

Sl. No.	Environmental Management Plan	Cost (Rs. in lakhs)
	A. Construction Phase	
1	Air Pollution Control	26.00
2	Noise Pollution Control	0.50
3	Water Pollution Control	1.50
4	Solid & Hazardous Waste Management	3.00
5	Greenbelt Development	243.77
6	Agro Forestry Activities	27.46
7	Fisheries Development	10.00
8	Socio-economic Environment	9395.00
9	Environmental Monitoring during construction phase	55.40
	B. Operation Phase	
10	Environmental Monitoring during operation phase	11.52
11	Greenbelt Maintenance	30.00
12	Catchment Area Treatment	968.00
	Total	

After detailed deliberations and considering all the facts of the project as presented by the PP, the EAC **deferred the proposal** for next EAC meeting. The information to be submitted by the PP for reconsideration of the project in the EAC:

1. Economic viability of the project should be worked out based on the guidelines issued by CBIP, New Delhi, in April 2002 or so in regard to the planning and design of large lift irrigation schemes. The true cost (not subsidized) of electricity is to be considered for economic analysis.
2. Concept of conjunctive irrigation should also be investigated to reap its benefits for optimal water use.
3. Clearance of CWC with respect to Hydrology, Inter State Aspects as per CWC Guidelines "Submission, Appraisal and Acceptance of Irrigation and Multipurpose Projects 2017" is to be obtained.
4. Data on surface water quality of all the stations should be verified once again with regards to all the seasons.
5. Inventorization of flora and fauna be updated based on IUCN classification.
6. Total requirement of power to be provided and its firm linkage to be supported with document.
7. Cost on green belt development plan to be revised and local indigenous

plant species to be included for development of green belt.

8. For cutting down the cost, this Scheme may be designed for 70 to 75% of the peak water requirement. The provision of standby pumps could be omitted from the design of LISs as an inbuilt flexibility in LIS exists to take care of the standby requirement of pumps.

Item No. 4.5 Luhri Stage-I HEP (219 MW) Project in Shimla District of Himachal Pradesh by M/s. Satluj Jal Vidyut Nigam Limited - For Amendment of ToR.

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

The project envisages construction of 86 m high concrete gravity dam across the river Satluj to generate 219 MW of hydropower. The total land requirement is about 149.08 ha. Out of this 50.98 ha is forestland and 98.10 ha is private land. Earlier, a surface dam-toe powerhouse was proposed on the right bank with 3 units of 66.67 MW capacity each and a dam-toe powerhouse of 2x9.50 MW capacity each is proposed on the left bank of the river. A total of 767 numbers of families are likely to be affected due to this project. There is no Wildlife Sanctuary/National Park/Eco-sensitive Zone within 10 km radius of the study area. An ancient Surya Narayan Temple is located near dam site. The total estimated cost of the project is about Rs. 2274 Crores.

The Scoping/ToR clearance was accorded on 21.12.2015 and it was valid for a period of 4 years. Now, the project proponent has informed that in order to maintain a free flow of 1 km between this project and the Rampur HEP, located at the upstream, the dam height has been reduced and accordingly the install capacity of the project has come down to 210 MW with some changes in project parameters, however no change in dam location has been proposed. The details are presented below:

Head	**Original outlay**	**Revised outlay**
Installed Capacity (MW)	219 MW (3x66.67 + 2x9.5)	210 MW (2x80 + 2x25)
Dam height (m)	86 m	80 m
No of Tunnels	2 Nos.	1 No.
Full Reservoir Level (FRL) (m)	EL 862.9	EL 857.0
Power House	Surface	Surface
Total land required	120.21 ha	149.08 ha
Forest Land	65.87 ha	98.10 ha
Private Land	54.34 ha	50.98 ha
Affected Families	767	767
Total Project Cost	Rs. 2,274 crore	Rs. 2,208.34crore

After deliberations and considering all the facts of the project as presented by the PP, the EAC agreed to the proposal of the PP and **recommended to change the Configuration of the Project** with the same terms and condition as provided vide letter dated 21.12.2015.

Item No. 4.6 Majhgaon Medium Irrigation project in Panna District of Madhya Pradesh by Water Resources Department, Madhya Pradesh for Scoping/ToR Clearance.

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

The project envisages construction of 3 dams on Bada Nala, a tributary of Ken River (1 main dam + 2 saddle dam) to provide irrigation facility in Panna District of Madhya Pradesh. The Culturable Command Area (CCA) is 9,900 ha. The total land requirement for project 1489.39 ha. The total submergence area is 1489.39 ha, out of which 426.76 ha is forestland, 500 ha is Government land and 989.39 ha private land. About 7 villages consisting of about 280 families are likely to be affected due to development of this project. The total cost of the project is about Rs. 358.99 Crores.

The project was considered by EAC in its meeting held on 2-3rd June, 2016. The EAC noted that CCA is 9,900 ha and therefore didn't consider the same for appraisal at central level as it falls as Category "B" project.

The PP has now submitted a fresh application for ToR Clearance. The PP informed that the Panna Gagau Sanctuary and Ken Ghariyal Sanctuary are situated at a distance of 8.25 km and 5.25 km, respectively. Therefore, the application has been submitted to central level for consideration.

After deliberations and considering all the facts of the project as presented by the PP, the EAC recommended **for grant of ToR to the project** with the following additional conditions:

1. Clearance of CWC with respect to Hydrology, Inter State Aspects as per CWC Guidelines "Submission, Appraisal and Acceptance of Irrigation and Multipurpose Projects 2017" will be obtained and submitted.
2. Benefit cost ratio is found to be not calculated based on actual expenditure of the project. It should be recalculated considering all the expenditures.
3. Total power requirement to be provided and its firm linkage to be supported with document.

Item No. 4.7 Shutkari Kulan HEP (84 MW) Project in Ganderbal District of Jammu & Kashmir by M/s. J&K Power Development Corporation - For Amendment of ToR.

The Project Proponent (PP) and the Consultant, M/s R.S. Environlink Technologies Pvt. Ltd, Gurgaon, made a presentation of the project and *inter-alia*, provided the following information:

The project envisages construction of a barrage across river Sindh near Shutkari Village in Ganderbal District of Jammu & Kashmir to generate 84 MW of hydropower. This is a run-of-the-river scheme. Total land requirement is about 65.5 ha. Total submergence area is about 22.5 ha. A surface powerhouse is proposed on the left bank of river near Kulan village with 2 units of 42 MW capacity each. The project is close to Baltal Thajwas Wildlife Sanctuary and Overu-Aru Wildlife Sanctuary is about 7 km away from the project area. Total cost of the project is about Rs. 714 Crores and it is proposed to be completed in 70 months.

The Scoping/ToR clearance was accorded on 26.9.2014. During, 2015 the PP informed the Ministry that while conducting the study and survey, the submergence area is encroaching Wildlife Sanctuary. In ordered to avoid submergence of Wildlife Sanctuary, the project layout was changed and PP requested for a revision in ToR. This was considered by EAC in its meeting held on 20-21st July, 2015. EAC mentioned that the PP should first consult State Wildlife Department and review the work done on Hangul conservation including areas to be protected for this purpose. The project proponent should bring adequate and authentic information on this before the project is discussed for the extension of the validity or revised/fresh scoping clearance.

The PP informed that the matter was taken up with the Principal Chief Conservator of Forest (WL) and Chief Wildlife Warden, J&K. The PCCF-cum-Chief Wildlife Warden vide letter dated 15.2.2017, clarified the following:

i. The Shutkari area where Shutkari Kulan Hydro project is proposed by the JKSPDC is located outside the Thajwas Wildlife Sanctuary on western side downstream near Shutkari Village.
ii. The presence of Hangul has not been reported in the area proposed under the said project nor any Hangul Conservation project is under implementation in the proposed projects site.
iii. The proposed project site falls within 10 km from the boundary of the Thajawas Wildlife Sanctuary but falls outside the proposed Eco-Sensitive Zone boundary.

After detailed deliberations and considering all the facts of the project as presented by the PP including the Public representations, the EAC **recommended for grant of ToR to the Project** with standard ToR.

Item No. 4.8 Cumulative Impact Assessment and Carrying Capacity Study of Beas River Basin in Himachal Pradesh – Discussion on Interim report

The Consultant, M/s R.S. Environlink Technologies Pvt. Ltd, Gurgaon, made a presentation on the Cumulative Impact Assessment and Carrying Capacity Study of Beas River Basin in Himachal Pradesh and *inter-alia*, provided the following information:

The Directorate of Energy (DoE), Government of Himachal Pradesh initiated Cumulative Environmental Impact Assessment (CEIA) Study for Beas river sub basin which was later taken over by Ministry of Environment, Forest & Climate Change (MoEF&CC), who awarded the study to RSET. MoEFCC provided the Scope for the study, which was initiated in February 2016. Time frame for the study was discussed in EAC meeting held in May, 2016; it was recommended by EAC to collect three seasons' baseline data and complete the study in 15 months. Inception report was submitted in June, 2016 to capture the progress made during first four months of the study period and highlight proposed approach and methodology to be adopted for the study. Rapid CIA report was to be submitted at the end of 8 months.

Consultant made a presentation on the progress made till date on primary & secondary data collection covering various environmental attributes along with description of basin characteristics and planned hydro development. Study area for CEIA study has been defined as the catchment of Beas River falling in the State of Himachal Pradesh from its origin at Rohtang Pass up-to upstream of Pong Dam,

which is about 12591 sq. km and total length of the river is 274 km. Study area is divided into 11 sub-basins for assessment of baseline data.

Data have been collected from Directorate of Energy, Government of Himachal Pradesh about various hydropower projects in the basin. There are 45 hydropower projects in Beas Basin – 20 projects are already commissioned totaling 2711.90 MW; 7 projects are under construction totaling 1,056 MW and 18 projects are in various stages of survey and investigation totaling 988.10 MW.

Consultant discussed the progress made so far and explained that secondary data have already been collected on all the required aspects of the basin. For primary data collection, three seasons field data collection for flora and faunal survey has been completed along with water sampling and analysis as per the scope. Data interpretation and analysis is under progress. Most of the data required for cumulative impact assessment from project developers have been obtained, however, some project information is still pending for which they are following up with developers. MoEF&CC has already issued letters/email in this regard and if required will follow up to ensure timely completion of the study.

The way forward to complete the study covers the following:

- Compilation and analysis of baseline primary and secondary data for impact assessment
- Longitudinal profiles have been prepared, recommendation on free-flowing river stretch will be worked out during cumulative impact assessment
- E-flow assessment/Modeling (MIKE 11) to establish environmental flow requirement for projects of more than 20 MW capacity is under progress.
- Overall cumulative impacts of the hydropower development in the basin and recommendations for sustainable development including preclusion or modification of certain projects/projects' features.

Committee expressed satisfaction on the progress made so far and asked the consultant to ensure the timely completion of the study. It was also suggested that a sub-committee shall visit some of the projects (pre-projects/commissioned) falling in Beas River Basin and understand the implication of CIA and CCS.

Item No. 4.7 Any other item with the permission of the Chair

As, there being no agenda item left, the meeting ended with a vote of thanks to the Chair.

Attendance Sheet

LIST OF MEMBERS

4th MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) FOR RIVER VALLEY & HYDROELECTRIC PROJECTS

DATE : **12th April 2017**

TIME : **09:30 AM to 5:30 PM**

VENUE : **TEESTA MEETING HALL, VAYU WING, GROUND FLOOR, INDIRA PARYAVARAN BHAWAN, NEW DELHI**

Sl.No.	Name of Member	Signature
1.	Prof. Sharad Kumar Jain, Chairman	
2.	Sh. Sharvan Kumar Representative of CEA	12.4.17
3.	Sh. N. N. Rai Representative of CWC	12.4.17
4.	Dr. J.A.Johnson Representative of W.I.I.	
5.	Dr. A.K. Sahoo Representative of the Director, CIFRI, Barrakpore, Kolkata	
6.	Dr Vijay Kumar Representative of Ministry of Earth Science	

7.	Prof. Govind Chakrapani, Member	Abs.
8.	Dr. Chetan Pandit, Member	Abs.
9.	Dr. Dinkar Madhavrao More, Member	
10.	Dr. R. Vasudeva, Member	Abs.
11.	Prof. S.R. Yadav, Member	Abs.
12.	Dr. Jai Prakash Shukla, Member	12/4/2017
13.	Dr. S. Kerketta, Member Secretary Director (IA-1)	12/4/2017

Approval of Chairman of the EAC –RV&HEP

Subject: **Minutes of 4th EAC meeting held on 12.04.2017.**
To: Dr S Kerketta <s.kerketta66@gov.in>
Cc: S Kerketta <suna1466@rediffmail.com>

Date: 05/09/17 10:09 AM
From: Sharad Jain <s_k_jain@yahoo.com>
Reply-To: Sharad Jain <s_k_jain@yahoo.com>

EAC-RVH minutes fourth meeting.pdf (316kB) Final_4th_MoM_EAC_Hydro.doc (159kB)

Dear Dr Kerketta,
I am sending the approved final minutes (DOC and PDF version) of the fourth meeting of EAC. It is understood that all the data reported in the minutes have been cross checked by the secretariat of the committee and are correct.

Regards,

Sharad Jain