

Minutes of the 1st Meeting of the reconstituted Expert Appraisal Committee for River Valley and Hydroelectric Projects held on 29th July, 2020 through video conference

In the 1st meeting of the re-constituted EAC for River Valley & Hydroelectric Projects which was held on 29/07/2020 under the Chairmanship of Dr. K. Gopakumar in the Ministry of Environment, Forest & Climate Change through video conference (VC). The following members participated in the video conference:

| | | | |
|-----|-------------------------|---|--|
| 1. | Dr. K. Gopakumar | - | Chairman |
| 2. | Dr. N. Lakshman | - | Member |
| 3. | Dr. Mukesh Sharma | - | Member |
| 4. | Dr. B.K. Panigrahi | - | Member |
| 5. | Dr. Chandrahas Despande | - | Member |
| 6. | Dr. A.K. Malhotra | - | Member |
| 7. | Dr. Uday Kumar R.Y. | - | Member |
| 8. | Dr. Narayan Senoy K. | - | Member |
| 9. | Shri. Balraj Joshi | - | Member |
| 10. | Shri Sharvan Kumar | - | Representative of CEA |
| 11. | Shri A. K. Singh | - | Representative of CWC |
| 12. | Dr. J.A. Johnson | - | Representative of WII |
| 13. | Dr. A.K. Sahoo | - | Representative of CIFRI |
| 14. | Dr. Vijay Kumar | - | Representative of Ministry of Earth Sciences |
| 15. | Dr. S. Kerketta | - | Member Secretary |

Item No. 1.0 Confirmation of the minutes of 33rd EAC meeting.

In the EAC meeting, the contents of minutes of the 33rd meeting has been agreed by all the members and confirmed accordingly.

Item No. 1.1 Discussion on Court Case

I PREAMBLE

An application has been filed in Hon'ble NGT, Southern Zone Chennai by Shri Gavinolla Srinivas that State of Andhra Pradesh has initiated a Major water pumping scheme namely Rayalaseema Lift Scheme to extract huge quantity of water from the Srisaillam reservoir by flouting environment laws. The water from Srisaillam reservoir is shared by both states Telangana and Andhra Pradesh. According to the applicant the project requires Environmental Clearance. It is mentioned in the application that in order to avoid getting environmental clearance, the Rayalaseema lift scheme is moulded in such a way that they are going to draw less water from Srisaillam reservoir, but in fact the intention behind the project is to exploit water resources of Andhra Pradesh affecting the interests of the people of Telangana. So in order to ascertain as to whether the Environmental Clearance (EC) is required or not and what are all the precautions to be taken to protect environment and what prior clearances or

permissions to be obtained for purpose of implementing the scheme, Hon'ble NGT constituted a joint committee vide order dated 20.05.2020.

II Orders of the Hon'ble Tribunal

In the matter of O.A No. 71/2020 (SZ), The Hon'ble NGT, Southern Bench vide order dated 20.05.2020 has directed “ *we appoint a joint committee comprising of the Expert Appraisal committee of Ministry of Environment Forest and Climate Change (MOEF&CC) on irrigation project (number of members as required and deemed fit for this purpose can be identified by MoEF&CC and they can be made as members of the committee of EAC), Central Pollution Control Board , Regional Office Bangalore, on who's jurisdiction State of Andhra Pradesh and Telangana fall, Indian Institute of Technology (IIT) Hyderabad and a Senior Officer from Krishna River Management Board to examine the scheme and submit a report as to whether all required clearances, permissions, recommendations, have been obtained by the State of Andhra Pradesh for the purpose of launching the scheme and whether, what is the purpose for which the project is intended and whether it requires prior environmental clearance before starting the project and whether the precautions taken by them will be sufficient to protect interest of both the State of Telangana and Andhra Pradesh as the water from Srisailem project is being shared by both the states*”. Copy of the Hon'ble NGT order is placed as **Annexure-I**.

The case was again taken up for hearing and Hon'ble NGT vide order dated 13.07.2020 has directed “*MoEF & CC is directed to submit their views as to whether the present project requires any prior Environment Clearance before the same is put on execution. They will have to give their opinion on the basis of EIA Notification, 2006 on this aspect in order to help this Tribunal to come to a proper conclusion as to whether this project requires prior Environment Clearance before starting the work and whether the project can be allowed to start on ground before adjudication of the case and dispose of the case in accordance with law. Except this modification we don't propose any modification at this stage. The committee shall submit its report as directed. Post the case on 11.8.2020 of completion of service on other respondents getting their response and consideration of the report. Registry is directed to communicate this order to the concerned authorities through e-mail immediately so as to enable them to comply with the direction of this Tribunal*”. Copy of the Hon'ble NGT order is placed as **Annexure-II**.

III Composition of the Committee

As directed by the Hon'ble Tribunal, the committee was constituted comprising of following members:

1. Nominated Members, Expert Appraisal Committee (River valley Projects) of Ministry of Environment Forest and Climate Change (MOEFCC)
2. Dr. Shashidhar, Professor, Department of Civil Engineering, IIT, Hyderabad
3. Shri Harikesh Meena- Member Krishna River Management Board
4. Smt. Mahima T, Scientist-D, Central Pollution Control Board, Regional Directorate, Bengaluru (Nodal agency)

IV Scope of the Committee

The committee to examine and submit report on the following:

1. To submit the views as whether the project requires prior Environment Clearance before starting the project on the basis of EIA notification, 2006
2. To verify Whether all required clearances, permissions, recommendations have been obtained by State of Andhra Pradesh for the purpose of launching the scheme
3. Whether the precautions taken by State of Andhra Pradesh will be sufficient to protect interest of both the state of Telangana and Andhra Pradesh as the water from Srisaillam project is being shared by both the states
4. To submit the likely Social & Environmental impacts on the members of the sharing states in terms of availability of water from Srisaillam reservoir to sharing states

V Committee Meeting

MOEFCC convened a meeting online with members of EAC-(River valley projects), CPCB, IIT-Hyderabad, KRMB and officials of Water Resource Department (WRD)- Andhra Pradesh on 29.07.2020 from 10:30 AM to 12:30 PM. The Chief Engineer & DWRO (district Water resource officer), Water Resources Department, Government of Andhra Pradesh and Consultant (Project Proponent-PP), made presentation of the case, *inter-alia*, informed the Committee about the petition filed by Shri Gavinolla Srinivas, resident of Telangana in NGT, Southern Zone apprised the Committee about the proposed scheme and other required details of projects linked to Srisaillam dam. The minutes of the meeting along with members who attended the meeting is placed as **Annexure-III**.

V About the project-Rayalaseema Lift Scheme presented by project proponent

The Rayalaseema Lift Scheme is part of Srisaillam Project. The Neelam Sanjeeva Reddy Sagar Srisaillam Project formerly known as Srisaillam Dam is a Major Multi-Purpose Project

Constructed across river Krishna in the District of Kurnool & Mahabubnagar. It is the main source of supply of water for various schemes in Andhra Pradesh and Telangana states.

Four lift schemes are presently operational/proposed from the foreshore of Srisailem Reservoir namely; 1. Kalwakurthy Lift Irrigation Scheme (LIS) (Telangana), 2. Palamuru Rangareddy and Dindi LIS (Telangana), 3. Malyala LIS (Andhra Pradesh) and 4. Mutchumarri LIS which supplements KCC (Andhra Pradesh) and Handri Neeva Sujala Sravathi (HNSS) AP. Rayalaseema region is dependent on Telugu Ganga Project (TGP), Srisailem Right Bank Canal (SRBC), Galeru Nagari Sujala Sravanthi (GNSS) and Kurnool Cuddapah Canal (K.C. Canal) Supplementation. These schemes utilize the floodwaters of River Krishna through foreshore of Srisailem Reservoir through Pothireddypadu Head Regulator (PRP). The water allocated for the Rayalaseema region based on Krishna Water Disputes Tribunal-I (KWDT-I) award and subsequent orders issued by the erstwhile Government of Andhra Pradesh for the various schemes is given below:

Table 1: Allocated water under various schemes to Rayalaseema region

| | | | |
|--|----------|----------------|---|
| Telugu Ganga Project | : | 29 TMC | Fed through Srisailem Right Main Canal (SRMC) through Pothyreddypadu head regulator. The water can be released to SRMC only after the level of the reservoir is beyond +854 ¹ ft level |
| Srisailem Right Branch canal | : | 19 TMC | |
| Galeru Nagari Sujala Sravanthi | : | 38 TMC | |
| Chennai Drinking Water supply | : | 15 TMC | |
| KCC supplementation (Mutchumarri) | : | 10 TMC | |
| Total allocated water to Rayalaseema region | : | 111 TMC | |

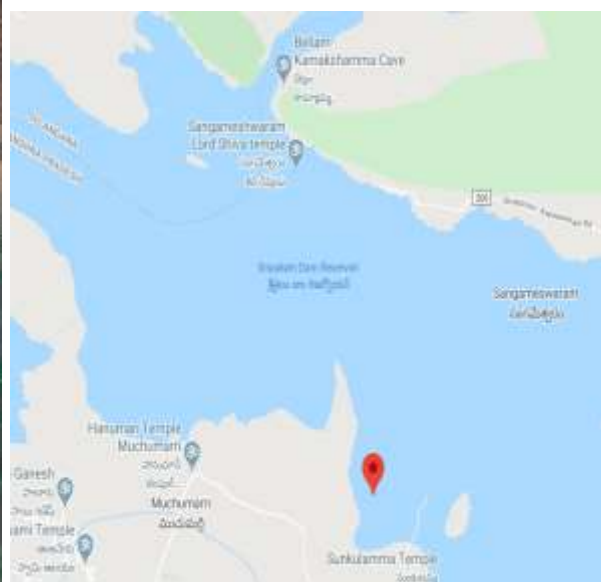
Though three systems namely TGP, SRBC and GNSS are granted to draw 86 TMC of water at 854 feet level from the foreshore of Srisailem reservoir but the, the period of days of water availability above 854 feet level is limited and allocated water cannot be drawn from the existing Pothireddypadu (PRP)regulator under gravity. For this purpose, State of AP has proposed a lift to draw from 800 feet level to ensure allocated water to the Rayalaseema region can be drawn into the existing system. The lift scheme is not for new drawls. The very purpose

is to guarantee the drawl to the existing operational schemes by pumping when the water is not being drawn by gravity. The project consists of -

- Approach channel: From Sangameswaram to Mutchumarri of length about 4.50 km
- Pump house : Near Mutchumarri village 364 m x 43 m area
- 12-delivery ‘penstock’ lines of 4.5 m Dia and 125 m length
- Excavation of Canal : For about 22 Km from Pump House delivery cistern to SRMC at km 4.000

The Rayalaseema lift will work from 800 to 850 feet level at 3 TMC per day. Once the level is beyond 854 feet level; lift will stop and water will be drawn by gravity through Pothireddypadu. The scheme is proposed to bridge the gap between the allocated water and water that can be drawn in the flood days to ensure supply of drinking water to the drought prone Rayalaseema region in the lean flow year in Krishna river. No new ayacut is proposed under this scheme. It is for augmentation of the existing schemes of SRBC, TGP, GNSS and Chennai water supply. No fresh water allocation is required. The operational lift schemes from foreshore of Srisailam and technical details of pump house is enclosed as **Annexure-IV**.

The land acquisition required for pump house is 1.5 hectares/3.71 acres, for Electrical Sub Station is 25 hectares/62 acres and for Link channel Station is 220 hectares. The project proponent has already acquired 100 hectares of land and total land required for acquisition is 146.5 hectares/365 acres. There is no displacement of population, however, private land to be acquired shall be compensated as per the RFCT_LARR Act, 2013.



Satellite image of the location of project site (15°58'17.0"N 78°20'43.0"E) indicating that no construction has started

VI Committee Views

VI. a Purpose of the Rayalaseema Lift Scheme

The existing TGP, SRBC and GNSS schemes are presently receiving water from PRP through gravity beyond 854 feet level due to which the Rayalaseema region is not getting allocated share. The purpose of the scheme is to feed water by pumping to three existing schemes viz. TGP, SRBC and GNSS by adding water to Srisailam right main canal (SRMC) at +4 km from PRP. These three schemes TGP, SRBC and GNSS have been constructed at different times and have got Environment Clearances separately from MoEF & CC, as detailed below:

| Sl. No. | Project | E.C. details | Copy enclosed as |
|----------------|----------------|--|-------------------------|
| 1. | TGP | P&F Dept. vide letter No. J-11016/70/83-IA dated 19/09/1988. | Annexure-V |
| 2. | SRBC | MoEF, GOI vide letter No. J.12011/7/95-IA.I dated 07/07/1995. | Annexure-VI |
| 3. | GNSS | MoEF, GOI vide letter No. J-12001/18/2006-IA-I dated 21/06/2006. | Annexure-VII |

TGP and SRBC, EC letters were granted prior to EIA notification, 1994; there is no mention of the capacity/method of supply i.e. pumping/gravity. EC letter of GNSS was granted under EIA Notification, 1994 and has mentioned the capacity of the scheme as 38 TMC.

There is no change in water drawl in any of the schemes and also there is no change in the ayacut/command area under any of the schemes. These schemes will continue to serve the purpose of providing irrigation and drinking water as planned and for which ECs were granted. The committee obtained reservoir water level information of Srisailam project. Table-2 shows the reservoir status of Srisailam project in water years of the past 20 years. The data clearly shows that water is drawn from the Srisailam reservoir by other schemes (both in Telangana and AP) below the proposed lowest level of the project. The existing scheme is drawing water at 854 feet level and proposed Rayalaseema project will draw water level 800 feet which is likely to guarantee allocated water share to Rayalaseema region. Further the committee submits

that KRMB shall examine the scheme on submission of detailed project report as to whether the drawing of water at level 800 feet will have social impact on existing projects.

Table 2: Reservoir status of Srisailam

| S.No. | Date / Water year | Water level in feet |
|-------|-------------------|---------------------|
| 1. | 2000-01 | 747.70 |
| 2. | 2001-02 | 811.90 |
| 3. | 2002-03 | 801.00 |
| 4. | 2003-04 | 762.71 |
| 5 | 2004-05 | 763.00 |
| 6 | 2005-06 | 794.50 |
| 7 | 2006-07 | 818.20 |
| 8 | 2007-08 | 809.10 |
| 9 | 2008-09 | 822.40 |
| 10 | 2009-10 | 801.50 |
| 11 | 2010-11 | 802.40 |
| 12 | 2011-12 | 809.50 |
| 13 | 2012-13 | 799.90 |
| 14 | 2013-14 | 812.9 |
| 15 | 31.07.2014 | 831.8 |
| 16 | 06.09.2015 | 794.8 |
| 17 | 28.05.2016 | 775.0 |
| 18 | 07.06.2017 | 775.5 |
| 19 | 09.06.2018 | 799.7 |
| 20 | 31.07.2019 | 804.1 |

VI.b. Social Impacts on member states sharing the water from Srisailam Reservoir

1. The proposed scheme will be lifting water from the foreshore of Srisailam reservoir. KWDT has fixed the sharing of water and KRMB is monitoring its implementation. KRMB has installed metering system at +12 km on PRP, the lifted water will join at +4 km on PRP and pass through the metering system. Keeping this in view, it was concluded that as long as Andhra Pradesh is restricted to draw only its allocated share of water by means of proposed Rayalaseema lift scheme, environmental & social

impacts of the availability of water on other member states drawing water from Srisailem reservoir are not envisaged. As per the claims made by the state of Andhra Pradesh, the scheme will only guarantee to provide the allocated share of water to Rayalaseema region. KRMB may strengthen its monitoring and metering system to restrict the states of Andhra Pradesh and Telangana draw only their allocated share of water.

2. IIT, Hyderabad submits that lift scheme may result in land subsidence in Rayalaseema region since the natural geologic formations contain limestone and lime may dissolve in water and may cause subsidence.
3. IIT, Hyderabad submits that when the water is pumped, there is possibility of more water may be displaced and during pumping, there may not be complete control on the measuring. In order to avoid, the state of A.P. does not draw more water, KRMB shall strengthen its monitoring and metering mechanism.
4. IIT, Hyderabad submits that scheme is planned to draw 3 TMC per day from Srisailem reservoir from a much lower level i.e. +800 feet. This deprives the flows to other projects on the same reservoir and other downstream existing and ongoing projects. Hence the committee submits to Hon'ble NGT that KRMB shall examine the project on submission of detailed project report by state of Andhra Pradesh. The committee also submits that in Telangana state i.e. Kalwakurthy LIS will draw water at 802 feet and Palamuru Rangareddy will draw water at 777 feet. Therefore, downstream as well upstream users shall not have any kind of water use competitions. The submissions made by IIT, Hyderabad is enclosed as **Annexure-VIII**
5. The state of A.P. in order to ensure that only allocated water of 3TMC/day is drawn, shall install pumps of capacity capable of pumping 3 TMC water (excluding the safety margins).

VI.c. Environmental Impacts of the project (likely to arise during construction phase) and mitigative measures

1. Construction of approach channel and Pump house will generate dust during excavation, loading and transportation operations, movement of vehicles may cause air pollution (dust). Fugitive emissions from various construction activities may pose health concerns (respiratory problems) on the neighbouring village residents and on construction workers. The project proponent shall take measures like covering the trucks carrying the constructions materials with tarpaulins, water sprinkling at regular intervals to

suppress dust emission and providing Personal protective Equipment (PPEs) to construction workers to mitigate air pollution.

2. The construction and demolition waste generated from project site shall be either reused or handed over to authorized C&D waste operator. The project proponent shall prevent haphazard and improper disposal of construction debris. The project proponent shall identify suitable locations and earmark the same for storing excavated earth, muck, boulders etc. The excavated earth shall be fully utilized in the project site for stabilization of embankment, levelling of land etc.
3. Hazardous wastes such as used oil generated from the project site shall be collected in leak proof drums, stored in dedicated storage shed and then disposed to Pollution Control Board's authorized waste oil recycler.
4. Sewage generated from project site/ labour camps shall be treated properly and untreated sewage shall in no case be disposed into rivers or streams.

VI.d. Other clearances, permissions, recommendations to be obtained by State of Andhra Pradesh for the purpose of launching the scheme

1. The project has obtained administrative approval from Government of Andhra Pradesh; estimate has been prepared and tendering process has been initiated.
2. Clearances to be obtained from Krishna River Management Board. As per the proposal, the project requires total land of 246.5 hectares and currently has acquired 100 hectares of land. Based on the land use pattern, necessary applicable Clearances shall be obtained by the project proponent before acquiring the land. If any project component is falling in forest land, diversion of forest land should be initiated,
3. Land acquisition process be made as per the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 and
4. If any project components is falling in Protected Area/Eco-sensitive Zone, Tiger zone then Wildlife Clearance will be applicable.

VII Clearances to be obtained from Krishna River Management Board- Submissions of KRMB

KRMB submits that any water resources Project/scheme to be taken up by any State should be appraised for techno-economical aspects, water availability (from interstate angle also), social impact on the member states etc.

So far, the Detailed project Report of the Rayalaseema Lift Scheme has not been submitted by the State Government of Andhra Pradesh to KRMB/Central Water Commission for appraisal. Hence, GoAP shall not go ahead with the projects, till the same are appraised by KRMB/CWC and sanction of Apex Council is obtained. The Project authorities are requested to submit its DPR at earliest to KRMB/CWC so that the project report can be examined and processed.

Though the Project is a pumping scheme to supplement the existing scheme but following few important components are involved in the scheme which may change the scope of the existing scheme.

- A separate pumping station will be constructed to pump the water from a level lower than 854 feet which may adversely affect the other pumping schemes already in operation below 854 feet
- A delivery channel will be excavated for about 22 km to deliver the pumped water at 4.0 km of Srisailam Right Branch Canal (SRBC)
- Further, GoAP is enhancing the capacity of existing (SRBC) from 44,000 Cusecs to 80,000 Cusecs.

Therefore, Project authorities are required to submit its DPR at earliest to KRMB/CWC for appraisal so that the project report can be examined and processed further. The State Govt. shall not go ahead with the project till the DPR is not submitted and appraised by the Board/Central Water Commission and sanctioned by the Apex Council The submissions made by KRMB is enclosed as **Annexure-IX**.

VIII Requirement of Prior Environment Clearance- Submissions by EAC (River valley projects)- MOEFCC

The Expert Appraisal Committee of MOEFCC after reviewing the EC,s granted to TGP, SRBC and GNSS and detailed discussions submits that the Rayalaseema Lift Scheme does not attract the provisions of the EIA Notification, 2006; therefore, the proposed project does not require prior environmental clearance. The EAC deliberated on the above submission based on the mandate as provide by the Hon'ble NGT and the following conclusion arrived:

Requirement of EC:

With regard to the matter related to the requirement of prior environment clearance for Rayalaseema Lift Scheme, the committee noted that the project is not a new project and do not fall under any of the category listed in the Schedule of EIA notification, 2006. It is neither a new irrigation project nor power generation component is involved; therefore, it will not be

covered under item 1(c) of the EIA Notification, 2006. Further, the project will also not qualify under the expansion and modernization of existing project; as expansion or modernization is for activities listed in the Schedule to the notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization. In this case, there is no change in culturable command area, which qualifies an irrigation project to be covered under the EIA notification. Further, EC letters of 3 schemes to which the project will be feeding water have been taken by Government of Andhra Pradesh and a review of the EC conditions listed in the letters reveals that changing from gravity discharge to pumping should not be considered as change in scope as the environmental clearances issued to these schemes do not restrict them to gravity discharge only. Keeping these in view, **committee opined that prima facie requirement of prior environment clearance is not applicable in this case** (Copy of MOEFCC minutes is submitted as Annexure-III).

IX Overall Conclusions of the Committee

1. The Expert Appraisal Committee of MoEFCC opined that *prima facie* requirement of prior environment clearance is not applicable in the case of Rayalaseema Lift Scheme.
2. As long as Andhra Pradesh is restricted to drawing its allocated share of water, environmental impacts of the availability of water on other users are not envisaged. Further, state of A.P. in order to ensure that only allocated water of 3 TMC/ day is drawn, shall install pumps of capacity capable of pumping only 3 TMC of water (excluding the safety margins).
3. The project proponent shall obtain all applicable clearances/ sanction before launching the scheme.

Item No. 1.2 Discussion on Project Proposals

Item No. 1.2.1: Proposed Brahmagavhan Lift Irrigation Scheme (10, 000 CCA) in Aurangabad District of Maharashtra by Minor Irrigation Division No. 1 Aurangabad – regarding ToR. [Proposal No. IA/MH/RIV/162989/2020, File No. J-12011/12/2020-IA-1 (R)]

Project Proponent (PP) along with the Consultant (Sd Engineering Services limited) made the detailed presentation and *inter-alia*, provided the following information:

M/s Brahmagavhan Lift Irrigation Scheme- III a major project is being undertaken by Godavari Marathwada Irrigation Development Corporation (GMIDC) on Jayakwadi reservoir in Godavari Basin for Drought Prone Areas. This scheme is proposed on backwater of Jayakwadi Project near old Lakhmapur village of Gangapur Taluka in Aurangabad District (Latitude: 19° 38'50.28'' N and Longitude: 75°07'27.08'' E).

It is planned to bring around 10000 Ha ICA and 12500 ha CCA of Gangapur Taluka in Aurangabad District under irrigation using drip irrigation system. The project falls within 10 Km distance in Jaikwadi Bird Sanctuary. As Per Gazette Notification issued on 12th July, 2017 which is protected area notified under the Wildlife (Protection) Act, 1972; hence as per EIA Notification 2006, General Conditions, the project shall be appraised at central level.

This scheme comprises lifting of water in two stages. First pump house is to be located on the upstream of Jayakwadi Dam at a distance of about 50 km. Rising main of Stage-1 is designed as 21.78 km long rising main of 1580 mm diameter to carry the water at the first Delivery Chamber, which will irrigate 4,500 ha of CCA. Rising main of Stage-2 is designed as 13.02 km long of 1170 mm diameter and will supply water to the second Delivery Chamber to irrigate 5500 ha of CCA. Design discharge of Rising main of stage-1 is 4.09 cumecs whereas for rising main of stage-2 design discharge is 2.25 cumecs. Thus, the total length of rising main comes out to be 34.80 km.

Static head for Stage-1 is taken as 33.71 m and that of Stage-2 is 35.40 m. It is proposed to install 5 pumps of 1016 H.P. to convey the water at the first Delivery Chamber which will irrigate 4500 ha of CCA. It is proposed to install 4 pumps of 650 H.P. in Stage-2. The water carried through Stage-2 rising main is supplied at the second Delivery Chamber so as to irrigate 5500 ha of CCA. From these delivery chambers onwards, the water is proposed to be supplied using pipe distribution network (PDN) up to the predefined command areas. The water to the individual fields is decided to be supplied using drip irrigation system.

Previously nearly about 40 co-operative lift irrigation schemes were sanctioned and allowed to lift water from Jayakwadi reservoir for farmers in Gangapur taluka. Out of these 40 schemes, 11 schemes are permanently shut down and hence their approvals are cancelled. For these 11 schemes around 105.42 Mm³ of water was allocated. Similarly, other 25 such schemes out of 40 mentioned above, are inoperative since past 10-12 years for which 144.64 Mm³ of water was allocated. As of now, this reserved water is unused and thus is available as surplus quantum in Jayakwadi reservoir which could be further useful for Gangapur taluka. Out of this surplus quantum of water, 85.00 Mm³ of water is allocated to Brahmagavhan Lift Irrigation Scheme Part-II, construction work of which is in progress in Paithan taluka. Owing to all such allocations, (105.42 + 144.64 – 85.00 = 165.06 Mm³) of water is remaining, which can be utilized for Brahmagavhan Lift Irrigation Scheme Part-III. Water requirement for this scheme

as per Modified Penman Method is 54.80 Mm³. Government of Maharashtra has sanctioned the use of this water for irrigation under this LIS in Gangapur taluka. Chief Engineer, Planning and Hydrology, Nashik has issued a non-objectionable certificate to use 55 Mm³ of water for Brahmagavhan Lift Irrigation Scheme Part-III from the above calculated unutilized sanctioned water quantity (165.06 Mm³) vide letter dated on 31/05/2017.

PP further apprised EAC that the proposed project will be on Jayakwadi Backwater so there will be no new Submergence Area. After commencement of this scheme, drought relief measures will not be required in future resulting the indirect benefit towards the scheme. It is lift Scheme hence no independent catchment is being harnessed. There is no court case against PP. Total cost of the project is Rs. 426.26 Crores.

EAC in the present meeting (1st meeting) deliberated on the information submitted (Form 1, PFR, .kml file, etc.) and as presented in the meeting and observed that the instant project falls under Jaikwadi Wildlife Sanctuary. EAC has been intimated that the PFR submitted to the Ministry is not as per the Ministry's OM dated 30/12/2010. In the instant project, forestland is not involved. EAC after detailed deliberation on the information submitted and as presented, **recommended** for grant of Standard ToR to the proposed project with the following additional ToR conditions:

1. 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 provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
2. Three season (Pre-monsoon, Monsoon and winter season) baseline data of all the environmental attributes including biological environment as mentioned in the Standard ToR shall be collected for preparation of EIA/EMP report. Soil characteristics shall be studied at minimum 10 locations, however, the sampling numbers should be increased depending on the command area.
3. Wildlife Clearance from Standing Committee of National Board of Wildlife shall be obtained.
4. Impact of developmental activity/project on the wildlife habitat under Jaikwadi Wildlife Sanctuary shall be studied.
5. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/EMP report in the relevant chapter.
6. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.
7. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
8. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.

9. Pre-DPR Chapters viz., Hydrology and Layout Map duly approved by CWC shall be submitted
10. Environmental matrix during construction and operational phase needs to be submitted.
11. Both capital and recurring expenditure under EMP shall be submitted.
12. Environmental Cost benefit analysis shall be done.
13. Submission of Pre-feasibility report to the Ministry as per the Ministry OM dated 30/12/2010 prior to grant of ToR.
14. It is a lift Scheme hence, no independent catchment is being harnessed therefore CAT plan is not required to be prepared under the Environment Management Plan.
15. Undertaking regarding water allocated to this scheme shall not be diverted to other inoperative lift irrigation scheme.

Item No. 1.2.2: Rammam Hydro Power Project, Stage-III (3 x 40 MW) in the district Darjeeling Tehsil Darjeeling Pulbazar West Bengal by M/s NTPC Limited. - regarding ToR. [Proposal No. IA/WB/RIV/162957/2020, Old File No. J-12011/42/2007- IA-I (R); New File No. J-12011/11/2020-IA-1 (R)]

Project proponent (NTPC) made the detailed presentation and *inter-alia*, provided the following information:

NTPC Ltd is constructing Rammam Hydro Electric Power Project (HEPP), Stage-III (3x40 MW) in Darjeeling District of West Bengal. The project is located on Rammam River, which flows along the border of West Bengal and Sikkim at about 50 km from Ghoom and 130 km from Siliguri on Siliguri-Darjeeling Road in District Darjeeling of West Bengal. The nearest rail head is New Jalpaiguri (at about 115 km) and the nearest airport is Bagdogra (at about 110 km). All the major project components are located in the State of West Bengal except the right abutments of the Barrage structure and a portion of submergence area in Siktam Block of West Sikkim.

The proposed Rammam Stage-III project is a run of the river scheme utilizing power potential of Rammam River from elevation El. 900.0 m to El. 385.0 m. The main components of projects are Barrage/dam as a diversion structure, HRT (Head Race Tunnel), Surge Shaft, Surface Penstock, Vertical Pressure Shaft, Power House, Tail Race Channel (TRC), Intake tunnel, Underground desilting chamber. The Latitude and Longitudes of the Diversion Structure and Barrage are as follows:

| Project Component | Latitude | Longitude |
|--------------------------|-----------------|------------------|
| Diversion Structure | 27°06'47" N | 88°08'39"E |
| Township | 27°07'47" N | 88°12'55"E |
| Power House | 27°07'25" N | 88°13'20"E |

The project consists of 122.5 m long Barrage near Lodhama Village and approximately 10.75 km of water conductor system (8.2 km long 3.5 m dia. horseshoe shape head race tunnel, 1.6 km long Penstock and 0.74 km long tail race channel etc). It has also a 14.5 m dia. 53.75 m high surge shaft and a deep-seated surface powerhouse near Barbatia village on right bank of the Rammam River. 6. The project is envisaged to use water from catchment area of 247 km². The Full Reservoir Level (FRL) of the pondage behind the Barrage structure has been fixed at EL 903 m with a view to provide sufficient storage capacity above Minimum Draw Down Level to provide optimum peaking operation of more than 2 hrs. at a time. The Minimum Draw Down Level (MDDL) is fixed at El. 892 m. The storage at FRL is 0.27 MCM and at MDDL is 0.05 MCM. Storages between FRL and MDDL is 0.22 MCM. About 474.36 MU will be generated using 28.31 cumec of discharge excluding a 4.69 cumec of water to flush silt and 1 cumec of water as environmental flow.

The total land required for the project is 74.077 ha of which 66.777 ha is acquired in West Bengal and the balance 7.3 ha is acquired in Sikkim. Catchment Area: 5273 ha (WB side 3808 Ha + Sikkim side: 1465 ha) and Submergence area is 3.852 ha. Entire land required for the project has been acquired and in physical possession of NTPC. None of the project components is located within National Parks, Wildlife Sanctuary or other protected area.

| Description of Land | Acquired | |
|----------------------------|----------------|---------------|
| | Acres | Hectares |
| Government Land | 25.561 | 10.344 |
| Private Land | 152.725 | 61.806 |
| Diverted Forest Land (ROU) | 4.761 | 1.927 |
| Total Land | 183.047 | 74.077 |

R&R details: Total approved cost is Rs. 4.03 crores. Rs. 2.41 crores (for Land) & Rs. 1.62 crores for House shifting. The details of PAPs are as follows;

| Villages | No. of PAPs | No. of PAFs (Land looser) | No. of HSOs |
|-----------------------|-------------|---------------------------|-------------|
| Karmi, Darjeeling | 500 | 222 | 60 |
| Kankebong, Darjeeling | 250 | 130 | 8 |
| Salangdong, Sikkim | 25 | 9 | 2 |
| Budhang, Sikkim | 5 | 2 | 2 |
| Total | 780 | 363 | 72 |

Implementation agreement signed on 28/04/2005. TEC accorded by CEA on 12/09/2006 and re-validated on 01/08/2013. Inter State Agreement between West Bengal & Sikkim signed on 26/06/2007. NOC obtained from Ministry of Defence on 20.01.2006. EC was accorded by MoEFCC on 17/08/2007, validity extended on 13/07/2017. Wildlife Clearance accorded by Directorate of Forest, GoWB on 01/02/2008. Final Forest Clearance accorded by MOEF&CC on 23/05/2008. Investment Approval Accorded. Construction Started in September, 2014. Scheduled Completion of the project was in September, 2019 and the anticipated completion is by November, 2022. NTPC has already spent Rs. 509.22 Crores (about 37%), out of total project cost of Rs. 1381.84 Crores on the project.

EC was accorded by MoEFCC vide letter No. J-12011/42/2007-IA.I dated 17/08/2007 with a validity period of 10 years and subsequently extended vide MoEFCC letter dated 13/07/2017, for a further period of 3 years i.e. up to 16/08/2020. The project is in advanced stage of construction and its all three units (Unit 1, 2, & 3) are expected to be commissioned (on full load) by November, 2022. The proposal for extension of validity of Environment Clearance (EC) was considered in 32nd EAC meeting held on 15/05/2020 through Video Conference. As per Minutes of Meeting posted on the MoEFCC website, EAC suggested to apply afresh for processing of fresh Environmental Clearance.

Project benefit: The project will be a boost to power generation status of the West Bengal & Sikkim. This will create opportunities of employment. The CSR associated activities will add social development and prosperity in area.

EAC in the present meeting (1st meeting) deliberated on the information submitted (Form 1, PFR, kml file, etc.) and as presented in the meeting and observed that the instant project as per the DSS located at a distance of 7.97 km from the Barsey Rhododendron Wildlife Sanctuary of Sikkim state. As the project could not be completed within the span of 13 years and there is no provision in the EIA Notification to further extend the validity beyond 13 years, therefore, as suggested by the then EAC in 32nd meeting, PP applied the proposal *de-novo* for Terms of Reference. Further, NTPC has already spent Rs. 509.22 Crores (about 37%) out of total project cost of Rs. 1381.84 Crores on the project. EAC also deliberated on the following request of the PP:

- The construction activities may be allowed for a period of one year w.e.f. 16/08/2020 so as to achieve the commissioning as per proposed schedule.
- The Terms of Reference (TOR) may kindly be issued for carrying out an EIA Study based on one season's fresh environmental data.
- As the Project is already in advanced stage of construction, the exemption from fresh Public Hearing and Public Consultation may be accorded.

EAC in view of the fact that project already in construction stage, recommended for the collection of **one season baseline data** for the preparation of the EIA/EMP report. EAC observed that no additional land is required and the project is already under construction for which the Public Hearing has already been done, therefore repeat Public Hearing may not be required. However, EAC opined that **a separate call may be taken up by the Ministry for giving exemption conduct of Public Hearing (PH) and permission for carrying out construction activities for a period of one year.** EAC after detailed deliberation on the information submitted and as presented, **recommended** for grant of Standard ToR to the proposed project with the following Additional ToR conditions:

1. 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 provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
2. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.
3. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.

4. One season base line data shall be collected for all the environmental attributes including biological environment.
5. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.
6. DPR on Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA shall be submitted.
7. Dam break analysis, Disaster Management Plan and Fisheries Management Plan be prepared and submitted in the EIA/EMP report.
8. Environmental matrix during construction and operational phase needs to be submitted.
9. Both capital and recurring expenditure under EMP shall be submitted.
10. Environmental Cost benefit analysis shall be done.
11. Impact of developmental activity/project on the wildlife habitat within 10 km of the project boundary shall be studied.
12. Detailed Social Impact analysis along with status of R&R plan shall be submitted in the EIA/EMP report.
13. Certificate from the Chief Wildlife Warden that project components are outside the Eco Sensitive Zone of Barsey Rhododendron Wildlife Sanctuary of Sikkim.
14. Compliance report from the Regional Office of MoEFCC for the earlier EC issued vide letter dated 17/08/2007.

Item No. 1.2.3: Rongnichu HEP (115 MW) in Tehsil- Gangtok, Dist.- East Sikkim, Sikkim by Madhya Bharat Power Corporation Limited – regarding Environmental Clearance. [Proposal No. IA/SK/RIV/159493/2019, File No. J-12011/14/2019-IA I (R)]

Project proponent along with the consultant (M/s EQMS India Pvt. Ltd., New Delhi) made the detailed presentation and *interalia* provided the following information:

Rongnichu Hydroelectric Project (96 MW) on Rongnichu stream in East Sikkim district of Sikkim, being developed by M/s. Madhya Bharat Power Corporation Ltd. (MBPCL). The present project having an installed capacity of 96 MW will generate approximately 384 GWh of electricity (gross) per annum in a 90 % dependable year with 95 % machine availability. The EC was accorded for 96 MW on 04.04.2007 for a period of 10 years as per the provisions of EIA Notification, 2006. After obtaining the EC in April 2007, there has been an initial delay of more than 3 years to start the actual construction. The geological difficulties of lower Himalayan region resulted in slower pace of excavation of underground works. Viewing the delays being encountered, M/s. Madhya Bharat Power Corporation Ltd., had applied for

extension of validity of EC for 3 years. The Ministry vide letter dated 16.6.2017 granted extension of validity of EC initially for six months and vide letter No J-12011/56/2006-IA-I dated 09.11.2017 accorded extension of validity for two and half year i.e. up to 3.4.2020. M/s. Madhya Bharat Power Corporation Ltd. intends to enhance the installed capacity of power house from 96 MW to 115 MW owing to higher inflows available and in the light of enabling provision of running machines at 20% overload as stipulated in power potential studies carried earlier.

The civil works are either completed or near completion. The balance works are erection of hydro mechanical component besides erection of electro-mechanical equipment/plant. MBPCL would require another 10-12 months to complete the project. The catchment area is 190 sq. km. Total land requirement is 59.872 ha of which entire private land (11.3895 ha) has been acquired. There were 62 affected families of which none was displaced. The Techno-Economic Clearance for the revised capacity of 115 MW at an estimated cost of Rs.1453.34 Crores has been accorded by the Energy and Power Department, Government of Sikkim vide letter No. 91/GoS/E&P/2004-05/PART-IV/20, dated 16.6.2020. Fresh Terms of Reference was issued vide Ministry letter dated 16.01.2020 for 115 MW. Project Proponent submitted the EC application for enhanced capacity (115 MW) on 23.06.2020.

The project envisages construction of a 14 m high barrage with 3 barrage bays fitted with gates (12.2m x 6.5m); surface desilting basin; one gated power intake, 12.581 km long D-shape lined HRT, vertical surge shaft; underground steel lined pressure shaft and surface powerhouse for housing 2 vertical shaft Pelton turbine of capacity 57.5 MW each. The barrage is located (27°16' 6.859" N/88° 35'20.058" E) about 2 Km downstream of Namli village and 16 Km south of Gangtok along NH-31A. The powerhouse is located (27°10'42.339" N/88°32'21.577" E) on the right bank of Rangpo River 2.5 km from Rangpo Town on Rangpo-Rongli SH.

Total land requirement for the project has been assessed as 59.872 ha of which forest land is 48.4825 ha and private land is 11.3895 ha which has been totally acquired. The submergence area at FRL is 10.70 ha. Fambonglho Wildlife Sanctuary exists within 3.79 km from the project area but no part of the project falls within the ESZ of WLS as per map authenticated by the Chief Wildlife Warden and Environment, Sikkim, communicated by DFO Wildlife East vide letter No. 360/WL/E, dated, 20.12.2019.

Based on catchment area proportional method and available discharge data sets for Rongni chhu, Rangpo chhu and Rangit river, a long-term stream runoff series (31 years) at the Rongnichu barrage site was derived. Yield for 50%,75% and 90% dependability has been assessed as 600.56 MCM, 548.47 MCM and 488.20 MCM, respectively.

Baseline Environment:

Air: The maximum concentration of PM₁₀, NO_x and SO₂ was 61.0 µg/m³, 15.7µg/m³ and 9.5 µg/m³, respectively which shows that concentration of pollutants was within the limits of standards prescribed by CPCB as there are no industries in the area and the density of vehicular traffic is not alarming.

Noise: The noise monitoring shows that the highest noise levels recorded during daytime are at powerhouse site being 50.3 dB (A) L_{eq} and during nighttime 41.9 dB (A) L_{eq} and both are within the CPCB limits. The major source of the noise in the study area is the flow of river,

community noise and vehicular movement. The noise levels for the rest of the stations are within the prescribed limits.

Water: The pH for surface water ranged between 6.88 to 7.42, within the specified standard of 6.5 to 8.5 limit. TDS ranged between 80 to 158 mg/l and was within the tolerance limits (1500 mg/l). Chlorides were within the tolerance limits (600 mg/l) as it ranged between 21.5 -32.8 mg/l. Sulphates were within the tolerance limits (400 mg/l) as it ranged between 5.2-8.5 mg/l. Fluorides recorded ranged between 0.10 to 0.22 mg/l and were within the tolerance limit (1.5mg/l). All physical and general parameters were observed within the tolerance limit at all sampling locations as per IS 2296:1982 for class 'C' water.

Soil: The results of the soil analysis show that the soil is neutral to slightly basic at all the locations having pH varying from 5.32 to 6.84, thereby indicating the soils are strongly acidic to neutral. The most commonly observed soil textures are silty clay. Available nitrogen content in the surface soils ranges between 275.4 to 315.6 kg/ha thereby indicating that soils are low to medium in available nitrogen. Available phosphorus content ranges between 9.4 to 13.5 kg/ha thereby indicating that soils are low to medium in available phosphorus. Available potassium content in these soils ranges between 156.5 to 178.5 kg/ha, thereby indicating medium in potassium content in the area. The organic carbon varies from 0.66% to 0.88%, thereby implying that soils are medium to high in organic carbon.

Flora and Fauna: In the study area 121 species of plants were recorded which include 82 trees, 11 shrubs, 28 species of herbs and climbers. Ten economically important plant and 24 important medicinal/ethnobotanical importance plant species were recorded. No RET species falling under IUCN Red List was recorded/reported from study area. The faunal study reveals that 43 mammalian species of which Red Panda and Clouded leopard are the Schedule-I species as per the wildlife Act 1972; 91 bird species; 14 species of herpetofauna were recorded /reported. Twenty-five fish species belonging to 4 families were recorded in the project area.

Brief on Anticipated Environment Impacts and Mitigation Measures: Habitat loss due to diversion of 48.4825 ha forestland for mitigation of which compensatory afforestation (Rs 606 lakh) shall be carried out by the Forest Department. Reduction in reservoir capacity and water available for the designated use which shall be addressed through implementation of Biological and engineering measures in 2071 ha area under CAT Plan (Rs 578.00 lakh). Fragmentation of habitat and consequent increase in temporary stress levels of wildlife during construction phase for mitigation of which Wildlife and Bio-diversity Management Plan (Rs 110 lakh) has been proposed. Due to construction and increased transportation fugitive dust emission shall increase by $9.3 \mu\text{g}/\text{m}^3$ for mitigation of which various steps shall be undertaken which include periodical air quality monitoring (Rs 28 lakh) and copious sprinkling at barrage site and on roads for dust suppression shall be done under Air Pollution Control (Rs 9.60 lakh). Ambient air noise levels are expected to increase only during the project construction phase only. Movement of fish across barrage shall be stopped but the reservoir on upstream shall continue a habitat for the indigenous species as well as reservoir species for which Fisheries Management Plan (Rs 170 lakh) has been provided. The flows downstream of the barrage shall be reduced to a maximum diverted discharge of 31.56 cumec carried through water conductor system to surface power house for power generation. During lean season (Dec, Jan, Feb and March) 0.71 cumec; during monsoon (June, July, Aug and Sept) on an average 4.31 cumec; during October -November about 1.35 cumec and during April and May regular e- flow of 1.43 cumec shall be released on downstream.

Disaster Management: The problem likely to be encountered during construction/operation inter alia includes (i) accidents due to explosives/blasting, (ii) accidents due to HEMM, (iii) sabotage in case of magazine. Most of accidents during operation of HEMM can be significantly averted by periodical maintenance and operation. In case of barrage break the flood peak discharge as it propagates through valley shall inundate downstream stretch of first km within 2.0 minutes. Therefore, disaster management plan is based on such measures, which are purely preventive in nature.

Social Impact Assessment and Rehabilitation and Resettlement Plan: For execution of the project permanent acquisition of private land 11.3859 ha land was carried out before 2013. Now no further acquisition of private land is involved. There were 62 affected families (whose land was acquired) of which none was displaced. The cost of implementing Rehabilitation and Resettlement Plan and the cost of local area Development worked out to Rs 284.00 lakh.

Environmental Management Plan with Budget Breakup (Capital & Recurring cost):

| | Plans | Cost (Rs. Lakh) | Capital Cost (Rs lakh) | Recurring (Rs lakh) |
|-----|--|------------------------|-------------------------------|----------------------------|
| 1. | Catchment Area Treatment Plan | 578.00 | 488.00 | 9.00 |
| 2. | Compensatory Afforestation Scheme | 606.00 | 591.00 | 1.50 |
| 3. | Wildlife and Bio-diversity Management | 110.00 | 90.00 | 2.00 |
| 4. | Resettlement & Rehabilitation Plan | 284.00 | 284.00 | 0.00 |
| 5. | Green Belt Development Plan | 15.00 | 5.00 | 1.00 |
| 6. | Reservoir Rim Treatment Plan | 11.00 | 11.00 | 0.00 |
| 7. | Landscape and Restoration Plan | 12.00 | 3.00 | 0.90 |
| 8. | Fisheries Management Plan | 170.00 | 110.00 | 6.00 |
| 9 | Muck Management Plan | 128 | 117.00 | 1.10 |
| 10. | Restoration Plan for Quarry Sites | 16.00 | 11.00 | 0.50 |
| 11. | Disaster Management Plan | 65.00 | 60.00 | 0.50 |
| 12. | Water, Air and Noise Management Plan | 20.00 | 10.00 | 1.00 |
| 13. | Public Health Delivery Plan | 155.00 | 35.00 | 12.00 |
| 14. | Labour Management Plan | 16.00 | 3.00 | 1.30 |
| 15. | Sanitation and Solid Waste Management | 39.00 | 19.00 | 2.00 |
| 16. | Corporate Environmental Responsibility | 531.00 | 506 | 2.50 |
| 17. | Environmental Safeguards | 10.00 | 0.00 | 1.00 |
| 18. | Energy Conservation Measures | 46.00 | 0.50 | 4.55 |
| 19. | Environmental Monitoring Plan | 90.00 | 5.00 | 8.50 |
| | Grand Total | 2902.00 | 2348.50 | 55.35 |

Project Benefit: Project benefits inter alia shall include the benefits like (i) Additional annual generation of 413.78 MU of energy in a 90% dependable year; (ii) 12% free power of total generation will be given to state, which will help in regular power supply in the area; (iii) Access to improved infrastructure facilities; (iv) Employment Potential (About 1000 people)

Corporate Environment Responsibility (CER) Details:

| Sl No | Description | Qty | Unit | Rate (Rs. Lakh) | Amount (Rs. Lakh) | Year wise Break-up of budget | | |
|--------------|---|------|------|-----------------|-------------------|------------------------------|--------------|--------------|
| | | | | | | I-Y | II-Y | III-Y |
| 1 | Health Care | | | | | | | |
| (i) | Health checkup camps; awareness | 18 | No. | 0.25 | 4.50 | 1.50 | 1.5 | 1.5 |
| (ii) | Renovation of male and female wards & OPD and Laboratories in District | 1 | Job | LS | 7500 | 0 | 40 | 35 |
| (III) | Organizing veterinary camps | 18 | No. | 0.20 | 3.60 | | 1.8 | 1.8 |
| 2 | Education | | | | | 0 | 0 | 0 |
| (i) | Books to district/block/village & | 1 | Job | LS | 5.00 | 0 | 3 | 2 |
| (ii) | Support for infrastructure devel in | 1 | Job | LS | 50.00 | 20 | 20 | 10 |
| 3 | Infrastructure Development | | | | 0.0 | 0 | 0 | 0 |
| (i) | Providing 15 Watts Solar Street Light | 100 | No. | 0.30 | 30.00 | 0 | 15 | 15 |
| (ii) | Setting up of Recreation Facilities | 10 | No. | 3.00 | 30.00 | 15 | 10 | 5 |
| (iii) | Support for developing playgrounds | 2 | No. | 5.0 | 10.00 | 4 | 4 | 2 |
| (iv) | Supporting school with game | 10 | No. | 0.30 | 3.00 | 2 | 1 | 0 |
| 4 | Sanitations and drinking water | | | | 0.0 | 0 | 0 | 0 |
| (i) | Providing flush composite toilet | 20 | No. | 0.25 | 5.00 | 2 | 2 | 1 |
| (ii) | Iron Storage Vat (3.1m x 1.25m x | 20 | no. | 0.75 | 15.00 | 0 | 5 | 10 |
| (iii) | Door- steps plastic dustbin | 2000 | no. | 0.005 | 10.00 | 0 | 5 | 5 |
| (iv) | Renovation of storm water drainage | 1 | job | LS | 50.00 | 10 | 20 | 20 |
| (v) | Setting up of STP 10 kld capacity | 7 | No. | 18 | 126.00 | 0 | 72 | 54 |
| 5 | Skill Development and Training | | | | | 0 | 0 | 0 |
| (i) | Vocational training like goat /poultry | 500 | man | 0.01 | 5.00 | 2 | 2 | 1 |
| (ii) | Promotion of SHG by proposing livelihood activities in goatry, poultry, bee keeping, tailoring. | 6 | No. | 1.5 | 9.00 | 2 | 4 | 3 |
| (iii) | Women empowerment by way of training in Kitchen garden sewing and providing kits | 400 | No. | 0.10 | 40.00 | 0 | 20 | 20 |
| 6 | Environment Enhancement | | | | 0.0 | 0 | 0 | 0 |
| (i) | Plantation in Village Panchayat | 10 | ha | 3.00 | 30.00 | 10 | 10 | 10 |
| (ii) | Horticulture development in Village | 10 | ha | 3.00 | 30.00 | 0 | 15 | 15 |
| Total | | | | | 531.10 | 68.50 | 251.3 | 211.3 |

Public Hearing Details: In compliance with ToR, the draft report was uploaded by SPCB, Sikkim, on website on 11.2.2020 for inviting opinion/suggestion from stakeholder. The SPCB, Sikkim, vide their letter No.952/SPCB/2385 dated 14.5.2020 intimated that 14 written suggestion/objections were received. Compliance of these suggestions has been incorporated in the report.

Details of Consultant: M/s EQMS India Pvt. Ltd., 304-305, 3rd floor, Rishabh Corporate Tower, Community Centre, Karkardooma, Delhi-110092, has conducted the Environment Impact study.

EAC in the present meeting (1st meeting) deliberated on the information submitted (Form 2, EIA/EMP reports, Public Hearing details, kml file, etc.) and as presented by the PP. EAC

observed that the instant project Fambonglho Wildlife Sanctuary exists within 3.79 km from the project area but no part of the project falls within the ESZ of WLS as per map authenticated by the Chief Wildlife Warden and Environment, Sikkim. EAC further noted that in the instant project forestland is 48.4825 ha and has been acquired by the PP. EAC, however, also noted deficiencies in the submission of PP. EAC after detailed deliberation on the information submitted and as presented, **deferred** the project for want of following information:

- (i) E flow assessment shall be done as per the ToR condition and what arrangement has been proposed to meet the e flow.
- (ii) Land requirement details do not matches with a ToR. Clarification shall be submitted in this regard.
- (iii) Form 2, Sr. No. 18.1: Under Air quality impact prediction table, base line concentration of PM, NO_x and SO₂ is mentioned zero.
- (iv) In Form 2, Sr. No. 24 it is mentioned that No forest land is involved whereas as per the report forestland is involved
- (v) Ambient air quality monitoring was done for two seasons. Instead of six locations, five locations were taken and PM_{2.5} monitoring was not done.
- (vi) Noise monitoring was done at five stations instead of six, groundwater sample analysis was done for one location and Surface water sample analysis was done for five locations instead of six.
- (vii) Meteorological data reported is more than three years (2010) and seasonal variation is not studied especially wind pattern.
- (viii) Compliance report from the regional office of MoEFCC for the earlier EC granted vide letter dated 04.04.2007.
- (ix) Pre-DPR Chapters viz., Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA shall be submitted

Item No. 1.2.4: Sirkari Bhyol Rupsiabagar HEP (120 MW) in Pithoragarh District of Uttarakhand by M/s UJVN LTD– regarding Amendment of ToR. [Proposal No. IA/UK/RIV/148821/2020; File No. J-12011/12/2015-IA I (R)]

Project proponent along with the consultant (M/s EQMS India Pvt. Ltd., New Delhi) made the detailed presentation and *inter-alia*, provided the following information:

Sirkari Bhyol-Rupsiabagar HEP, conceived as R-O-R scheme across Goriganga, a tributary of Kali river (Sarda) in Tehsil Munsiyari, District Pithoragarh, Uttarakhand, envisages utilization of gross head of about 357.83 m for annual power generation of 529.12 MU in a 90% dependable year. The proposed barrage site on river Goriganga shall be located about 470 m downstream of the confluence of river Goriganga with Jaulchidda gad, near a place called Rargari in village Sain Polo with intake structure proposed on the right bank. On right bank of river, near village Rupsiabagar, an underground Powerhouse (3X40 MW) has been proposed.

The project envisages construction of a 12m high and 80m long barrage with 4 barrage bays (14m x 9m); one auxiliary bay (6mx9m)) ; one gated power intake ; two reservoir intakes structures with bell mouth entries located just upstream of the barrage on the right bank which lead to 2 circular shape, 3m dia., 80m feeder tunnels; 2 circular shape, 3m dia., 66 m long connecting tunnels to HRT ; 4.2m dia. and 1316.30m long circular Head Race Tunnel; 8 m diameter underground surge shaft with 2.3m diameter orifice; a steel lined pressure shaft of

3.4m dia. bifurcating for 3 branch penstocks of 2m diameter; an underground powerhouse complex of 120 MW (3x40 MW) located on right bank and 4.2m diameter tail race tunnel with normal tail water level of EL 1721.50m. The catchment area is 957 sq.km. Total land requirement is 30 ha which forest land is entirely. There shall be no displacement of any person. The cost of the project, as per January, 2020 price level is about Rs. 879.43 Crores. The project has been planned to be completed in four and half years' time frame from the date of start including the period required for testing and commissioning of the power plant equipment.

The MoEF&CC, New Delhi, vide letter no. J-12011/12/2015-IA-1, dated 20-1-2016 prescribed "Terms of Reference" (TOR) for preparation of EIA/EMP report for the project with installed capacity 168MW (4x42 MW). M/s EQMS India Pvt. Ltd., has conducted the baseline study of environmental parameters during pre - monsoon, monsoon and post-monsoon 2018. As the validity of ToR had expired on 19.1.2020, draft EIA/EMP report could not be submitted for conducting public hearing. MoEF&CC vide letter vide J-12011/12/2015-IA-I(R), dated 17.4.2020, granted extension of validity of ToR up to 19.1.2021.

PP submitted that total land requirement is 30 ha which forest land is entirely. There is no requirement of private land and thus no R&R issue is involved. There shall be no displacement of any person due to submergence as the pond shall extend to about 405m in the river section falling in forest land. Approval of Central Water Commission, New Delhi, on hydrological aspects and virgin flow series to be adopted for planning purpose, were accorded vide letter No. 1/UTT/60/2014/Hyd. (N)/131-33, dated, 21.02. 2017. The CEA, New Delhi, vide letter No:207/1/2014/HPA/846, dated, 21.7.2017, has examined the power potential studies and observed that the Installed Capacity of 120 MW may be adopted for framing DPR. No National Park, Sanctuary, Defense Establishments, Archeological Monuments, Notified Eco-sensitive areas or protected area under Wildlife (Protection) Act exists within the project area or within 10 km distance from it.

PP apprised EAC that due to mandatory requirement of release of environmental flow, downstream of barrage, for three flow regimes, installed capacity of the project by the Central Electricity Authority has been reduced from 168 MW (4x42MW) to 120MW (3x40MW) and consequent design energy from 662.08 MU to 529.12MU. Therefore, M/s UJVN Ltd, has submitted the present application for seeking amendment in ToR for reduced installed capacity 120MW (3X40MW), so that the EIA/EMP Report for project (120MW) could be submitted for conducting public hearing within the validity period The comparative statement with reference to earlier proposal and revised proposal is tabulated below:

| S.N. | Details | Original Proposal | Revised Proposal |
|------|-------------------------|---------------------------|---------------------------|
| 1 | Barrage | | |
| (i) | Height/Length | 12 m (H) /118.3 m (L) | 12m (H) /80 m (L) |
| (ii) | Spillway Design | 2742 cumec | 2501 cumec |
| 2 | Reservoir | | |
| (i) | FRL/MDDL | 2084.9 masl/2082 masl | 2080 masl/2078 masl |
| (ii) | Live Storage | 0.05 MCM | 0.0409 MCM |
| 3 | Intake | | |
| (i) | Number of intakes | 4 | 2 |
| (ii) | Design discharge Intake | 66 cumec | 43.60 cumec |
| 4 | Feeder Tunnel | | |
| (i) | Number/length/Diameter | 2 No /200 m/3.4 m | 2 No /80 m/3.0 m |
| 5 | Desilting Chambers | 2 No./180 m x13.0 m x16.0 | 2 No./165 m x10.0 m x12.0 |

| | | | |
|-------|------------------------|--------------------|--------------------|
| 6 | HRT | | |
| (i) | Design Discharge | 52.90 cumec | 37.90 cumec |
| (ii) | Length | 1200 m | 1316.3 m |
| 7 | Surge Shaft | | |
| (i) | Type | Restricted orifice | Restricted orifice |
| (ii) | Diameter / height | 10.0 m/34.5 m | 8.0 m/38.5 m |
| (iii) | Diameter of Orifice | 2.80 m | 2.30 m |
| 8 | Underground Powerhouse | 4 x 42 MW | 3 x 40 MW |

EAC in the present meeting (1st meeting) deliberated on the information submitted (Form 3, revised Form 1 and revised PFR) and as presented by the PP during the meeting. EAC observed that ToR to the instant project was granted vide letter dated 20.01.2016. MoEF&CC vide letter vide J-12011/12/2015-IA-I(R), dated 17.4.2020, granted extension of validity of ToR up to 19.1.2021. Present application is for amendment in Tor for reduced installed capacity 120 MW (3x40 MW). EAC after detailed deliberation on the information submitted and as presented **recommended** for an amendment of ToR dated 20.01.2016 with following additional ToR:

1. Status of Forest Clearance shall be submitted to the Ministry at the earliest.
2. Pre-DPR Chapters viz., Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA shall be submitted.
3. Detailed CAT plan shall be prepared to arrest the soil erosion, floods and siltation of the river and its tributaries and consequent reduction of siltation in the reservoir of the project, Mitigation of landslide landslip and rock falls etc.
4. Impact of developmental activity/project on the wildlife habitat, if any, within 10 km of the project boundary shall be studied
5. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
6. Environmental Cost benefit analysis shall be done.
7. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.
8. Environmental matrix during construction and operational phase needs to be submitted.
9. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.

Item No. 1.2.5: Vishnugad Pipalkoti Hydro-Electric Project (444 MW) in Chamoli district, Uttarakhand by M/s THDC India Limited- regarding ToR. [Proposal No.

IA/UK/RIV/164607/2020; Old File No. J-12011/29/2007-IA-I (R); New File No. J-12011/10/2020-IA-1 (R)]

Project proponent along with the consultant (M/s WAPCOS Ltd.) made the detailed presentation and *interalia* provided the following information:

THDC India Limited (THDCIL), formerly Tehri Hydro Development Corporation Ltd., is constructing Vishnugad Pipalkoti Hydro- electric Power (VPHEP) plant of 444MW capacity, on river Alaknanda, a major tributary of river Ganga. The project is situated in district Chamoli, Uttarakhand. The project envisages a run of the river scheme with construction of a diversion dam of 65 m height near village Helong (79°29'30" E and 30°30'50" N). An underground power house is proposed at village Haat (79°24'56" E and 30°25'31" N), 3 km from Pipalkoti.

The project comprises the following main components: (i) Dam Site: A 65m high concrete diversion. The reservoir will have a gross storage capacity of 3.63 million cum, out of which 2.47 million cum shall be live storage. A diversion cum spill tunnel of 10.5 m dia. shall divert the discharge of 725 m³/sec during the construction period; (ii) Powerhouse Site: The powerhouse site is located inside a hill in right bank of Alaknanda River downstream of Haat village. It will comprise of two separate underground caverns for installation of turbines and transformers. The dimensions of power house will be 146 m x 20.3 m x 48 m. The size of transformer cavern is 140.3 m x 15 m x 25.5 m. The powerhouse will have 4 units of 111 MW. The project would afford an annual energy generation of 1677.40 GWh on 90% dependability basis; (iii) Head Race Tunnel: 13.4 km long & 8.8 m dia. modified horse shoe shaped headrace tunnel has been proposed on right bank of the Alaknanda River. Design Discharge is 228.86 m³/sec; and (iv) Tail Race Tunnel: 3.07 km long and 9.1 m dia. modified horseshoe shaped tail race tunnel has been proposed on right bank of the Alaknanda River.

- Intake structure with 3 No. modified horse shoe shaped intake tunnel of 6.2 m diameter
- 3 No. underground sedimentation chambers
- Silt flushing tunnel of size 3.6 m x 4.0 m
- Tunnel Boring Machine for the portion of Head race tunnel operations. This will reduce the use of identified muck disposal sites.

Land requirement:

| S. No. | Land Type | Area (ha) | Present Status |
|--------|-----------|-----------|---|
| 1 | Forest | 100.36 | All the requisite land for the project has already been acquired. |
| 2 | PWD | 9.54 | |
| 3 | Private | 31.64 | |

The boundaries of Kedarnath Wildlife Sanctuary (KWLS), located within the 10 km aerial radius of the project, has distance about 5.20 km from dam site and 2 km from powerhouse site. The sanctuary area is not accessible from main construction site i.e. Dam site and Power house site. NBWL has accorded wildlife clearance to the project on 20.12.2012.

Project benefit:

- Capacity addition of 444 MW in the Northern Region and reducing peaking power shortage in the region. Annual Energy Generation of 1677.4 MU (considering the E-flow of 15.65 cumec throughout the year). Subsequent to GoI Gazette Notification dated 09.10.2018 on e-flows, the Annual Energy Generation shall be around 1460 MU (which is yet to be approved by CEA).
- Integrated development of Chamoli / Garhwal region, in the areas of employment, communication, education, health, tourism and development of Flora & Fauna etc.
- Out of 13% free power to the home state Uttarakhand, 1% shall be utilized for contribution towards local area development.

Status of other statutory clearances: Status of various applicable statutory clearances is as under:

| SN | Statutory clearances and Status |
|----|--|
| 1 | Environment Clearance (EC) EC accorded for 10 years vide letter J-12011/29/2007-IA-I dt. 22.08.2007. Extension of EC accorded for 03 years vide letter No. J-12011/29/2007-IA-I dt. 25.04.2018 which is going to expire on 21.08.2020 |
| 2 | Forest Clearance (FC) Stage I- FC accorded vide letter no. F-865/2009-FC dt. 03.06.2011. Stage II- FC accorded vide letter no. F-865/2009-FC dt. 28.05.2013 for 30 years. |
| 3 | Wildlife Clearance (WC) WC accorded by NBWL vide letter F.No. 6-43/2007 WL-I(27 th Meeting) dated 20.12.2012 |
| 4 | Consent to Establishment (CTE) CTE has been taken from UKPCB vide letter No. UEPPSB/HO/NOC-CH-15/07/13 dt. 10.04.2007 |

Project cost: The Revised Cost Estimate as approved by CEA at February 2019 price level is Rs. 3860.35 crore (Including IDC& FC). Around 94% of Compensation amount has been disbursed through Special Land Acquisition Officer (SLAO), GoUK and approx. 88% R&R grant has been disbursed by THDCIL

Current Progress on Project works: Physical progress of major works including Financial progress as on 30th June, 2020 is as under:

- 25% of Civil & Hydro Mechanical works completed.
- 28% of Electro Mechanical works completed.
- More than 90% in rehabilitation activities completed.
- Overall investment is Rs. 1971.95 Cr.

EAC in the present meeting (1st meeting) deliberated on the information submitted (Form 1, PFR, kml file, etc.) and as presented in the meeting and observed that the instant project as per the DSS located within 5 km of the Kedarnath wildlife sanctuary and Wildlife

Clearance has been granted to the project . EAC also noted that the EC was accorded for 10 years vide letter J-12011/29/2007-IA-I dt. 22.08.2007. Extension of EC was accorded for 03 years vide letter No. J-12011/29/2007-IA-I dt. 25.04.2018 which is going to expire on 21.08.2020. As the project could not be completed within the span of 13 years and there is no provision in the EIA Notification to further extend the validity beyond 13 years, PP applied the proposal *de-novo* for Terms of Reference. Further, EAC observed that THDC has already spent Rs 1971.95 Cr out of total project cost of Rs. 3860.35 crores on the project. EAC also deliberated on the following request of the PP:

- The construction activities may be allowed uninterrupted.
- The Terms of Reference (TOR) may be issued for carrying out an EIA Study based on one season's fresh environmental data.
- Exemption from fresh Public Hearing and Public Consultation may be accorded.

EAC in view of the fact that project already in construction stage, recommended for the collection of **one season baseline data** for the preparation of the EIA/EMP report. EAC observed that no additional land is required and the project is already under construction for which the Public Hearing has already been done, therefore repeat Public Hearing may not be required. However, EAC opined that **a separate call may be taken up by the Ministry for giving exemption of the Public Hearing (PH) and permission for carrying out construction activities uninterrupted.** EAC after detailed deliberation on the information submitted and as presented, **recommended** for grant of Standard ToR to the proposed project with the following Additional ToR conditions:

1. 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 provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
2. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.
3. One season baseline data shall be collected for all the environmental attributes as mentioned in the standard ToR of hydro projects
4. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
5. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.
6. Approved DPR by CWC/CEA shall be submitted.
7. Dam break analysis, Disaster Management Plan and Fisheries Management Plan be prepared and incorporated in the EIA/EMP report.
8. Environmental matrix during construction and operational phase needs to be submitted.
9. Environmental Cost benefit analysis shall be done.

10. Both capital and recurring expenditure under EMP shall be submitted.
11. Impact of developmental activity/project during the construction and operation phase on the wildlife habitat within 10 km of the project boundary shall be studied.
12. Detailed Social Impact Analysis along with R&R plan status shall be submitted in the EIA/EMP report.
13. Compliance report from the Regional Office of MoEF&CC for the earlier Environmental Conditions issued vide letter dated 22.08.2007 and 25.04.2018.
14. Status of all the pending Court Cases shall be submitted.

Item No 1.2.6: Sela Urthing HEP (202 MW), Near Village Sela Pithoragarh, District in Uttarakhand by M/s UJVNL Ltd. – regarding further consideration of ToR. [Proposal No. IA/UK/RIV/145628/2020, File No. J-12011/08/2016-IA-1(R)]

Project proponent along with the consultant (M/s. R S Envirolink Technologies Pvt. Ltd. (RSET), NABET Accredited Consultant Organization, 403, Bestech Chambers, Block-B, Sushant Lok Phase I, Sector 43, Gurugram, Certificate No: NABET/EIA/1619/SA075) made the detailed presentation on the proposal and *inter-alia*, provided the following information:

Sela Urthing Hydro Electric Project (202MW) is proposed on Dhauliganga river a tributary of River Kali (Sarda) with barrage at FRL 2470 m near village Sela & Power house near Urthing in Pithoragarh District of Uttarakhand. The ROR scheme, allotted by Govt. of Uttarakhand to UJVNL Ltd. (A GoU Enterprise) in December, 2004 for implementation. The total land requirement for the project is about 65 ha., of which 4.0 ha. is private land and remaining 61 ha. is forest land. Catchment area at diversion structure is 907 sq km.

Project was envisaged in 2004 during preliminary studies under Prime Minister initiative for 50000 MW Hydro power. Pre-feasibility report was prepared by M/s WAPCOS in February 2004 for Installed capacity of project as 230 MW (2x115 MW). Project was allotted to UJVNL Ltd. by GoU vide its letter no 760/I/2004-05/51/03; Dated: 09/12/2004. Project cost including IDC was Rs. 696.73 crore on June 2003 PL & Construction schedule of project is 60 months while the cost of the project has been revised to Rs.1904.32 crore as per Jan 2020 PL. MoEF&CC in its 92nd meeting held on 28-29/03/2016 accorded Scoping Clearance (230 MW) for EIA Study along with clearance to carryout pre-construction activities at project site vide letter no J-12011/8/2016-IA-I (R); Dated: 05/05/2016.

As per the condition of Scoping Clearance issued by MoEF&CC, provisions were made for release of Environmental flow (20%, 25% & 30% respectively), and Power Potential studies have been revised accordingly. On basis of revised Power Potential studies the project capacity has been reduced to 202 MW after consideration of MoEF&CC recommendations on

Environmental flow & free flowing river stretch. As the four-year validity of TOR is expiring in May, 2020 and survey and investigation activities including EIA study and Public Hearing cannot be completed in one year; a fresh TOR with five-year validity is requested for revised capacity of 202 MW.

Project envisages construction of barrage across river Dhauliganga with FRL at 2470 m and River bed level at 2455m; Three number of intake tunnel of length 340m each to carry water from diversion structure to desilting chamber; three number of desilting chamber of length 230 m long to remove silt; a 3.43km long and 5.3 m dia. HRT terminating in surge shaft; a 70m high and 10m dia. open to air surge shaft; 270m long penstock and The underground power house with 4 units of Francis T urbine driven generating units of 50.5 MW each operating under a rated head of 247 m is proposed and TRT to carry the power house water back to river.

The total land requirement for the project is about 65 ha, of which 4.0 ha is private land and remaining 61 ha is forestland. The underground powerhouse with gross head of 267 m is proposed on the right bank of the river with 2 units of 101 MW each. Application for diversion of forestland is yet to be initiated. The project falls within 10 km of Askot Musk Deer WLS. Eco-sensitive Zone of WLS is still in draft stage and project is likely to fall inside the ESZ once the notification is finalized. Due to project falling within 10 km of WLS, a proposal was submitted by the PP for NBWL clearance. The project proposal was recommended by the Standing Committee of NBWL in its 36th meeting held on 04th November, 2015 for carrying out survey and investigation works.

Cumulative Impact Assessment & Carrying Capacity study (CIA&CCS) for the Dhauliganga river (Sarda basin) has been taken up by UJVNL on instructions from Govt. of Uttarakhand and the work is in Progress. The outcome & recommendations of the study shall be taken care of during implementation of the project.

Project benefit: Project will provide all the benefits of a hydropower projects such as:

- a. Electricity generation.
- b. Employment opportunities.
- c. Socio-Economic development of the region.
- d. Strengthening of existing and new infrastructure.

Status of other statutory clearances: Clearance from NBWL in 36th standing committee meeting held on 4.11.2015 for Survey & Investigation works.

Detail of court case, If any: NIL

EAC in the present meeting (1st meeting) observed that the Project was considered by the then EAC for ToR in 31st meeting held on 5th March 2020; and recommended for grant of Scoping Clearance. Minutes of the meeting uploaded on website of MoEF&CC mentions project parameters of the older scheme with installed capacity of 230 MW, due to the fact that while applying for scoping clearance, in the executive summary of the project, PP had

inadvertently mentioned the older project features, which got reflected in the minutes also. Therefore, the project is reconsidered for Scoping Clearance in the present meeting. EAC in the present meeting noted that now PP has presented the project parameters as per the PFR prepared for 202 MW. EAC after detailed deliberation on the information submitted and as presented, once again **recommended** for grant of Standard ToR to the proposed project (202 MW) with the following additional ToR conditions:

1. 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 provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
2. The project involves diversion of 61 ha of forestland. Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980.
3. Application to obtain prior approval of Central Government under the Forest (Conservation) Act, 1980 for diversion of forestland required should be submitted as soon as the actual extent of forestland required for the project is known, and in any case, within six months of issuance of this letter.
4. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/EMP report in the relevant chapter.
5. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.
6. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
7. Environmental Cost benefit analysis shall be done.
8. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.
9. Pre-DPR Chapters viz., Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA shall be submitted.
10. Dam break analysis and Disaster Management Plan be prepared and submitted in the EIA/EMP report.
11. Environmental matrix during construction and operational phase needs to be submitted.

12. Both capital and recurring expenditure under EMP shall be submitted.
13. Impact of proposed project activity on the nearest wildlife habitat, if any shall be studied and conservation plan shall be prepared accordingly.
14. Environmental Cost benefit analysis shall be done.
15. As the Askot Musk Deer Wildlife Sanctuary is located within 10 km of the project boundary, NBWL clearance shall be obtained.

Item No. 1.2.7: Sillahalla Pumped Storage Hydroelectric Project Stage-I (4x250 MW), in district Nilgiris, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation regarding further consideration of ToR. [Proposal No. IA/TN/RIV/120761/2019, File No. J-12011/17/2019-IA-1(R)]

Project proponent along with the consultant M/s WAPCOS Limited, 76-C Institutional Area, Sector-18, Gurgaon-120015, Haryana (India) presented the proposal before the EAC and inter alia, provided the following:

The proposed Sillahalla Pumped Storage Project (PSP) Stage I (4x250 MW) is located in the Nilgiris District of the southern Indian state of Tamil Nadu. The upper reservoir is planned in Udthagamandalam & Kundah taluk and lower reservoir is planned in Kundah taluk of the Nilgiris district. The Upper dam is located on Sillahalla stream which is a tributary of Kundah River. The Sillahalla River joins Kundah River about 1.4 km upstream of Kundah Palam dam of existing Kundah Powerhouse-I project. The installed capacity of existing Kundah Powerhouse-I is 60MW and the inflows of Sillahalla, Kanarhalla and other small tributaries are stored in Kundah Palam dam. The water stored in Kundah Palam dam is discharged to Kundah Powerhouse-II (5x35 MW) through tunnel and 5 nos. penstocks and let into Pegumbahallah dam across Kundah river. The Kundah River ultimately joins Bhavani River near Pillur in Coimbatore.

Due to increase in demand of peak power, TANGEDCO envisages the Sillahalla Pumped Storage project utilizes the water of Sillahalla River, a perennial stream, a tributary to River Kundah and in turn to River Bhavani, remains unutilized till date. TANGEDCO contemplates to utilize the water by constructing an upper dam across Sillahalla stream and lower dam across Kundah River downstream of existing Kundah Palam Dam. Both the dams are interconnected by the tunnel to generate electricity for peak hours and recycle the water from lower to upper dam at the time of non-peak hours. The annual energy generation is 6,000 MWh and pumping energy is 7,000 MWh of 85.7% cycling efficiency.

The proposed project envisages construction of:

- i. Concrete gravity upper dam of 82 m height and 327 m length across Sillahalla River (Latitude: 11°18'53.72" & Longitude: 76°38'56.34").
- ii. 1 no. Power intake with trash rack having mechanical raking arrangement and gate shaft.
- iii. 1 no. 2862 m long, 9 m dia. Circular concrete lined head race tunnel.
- iv. 1 no. 70 m high, 20 m dia. circular concrete lined HRT surge shaft.
- v. 2 nos. 533 m long, 6.5 m dia. Inclined circular steel lined pressure shaft.
- vi. 4 nos. 55 m long, 4.75 m dia. circular steel lined Penstocks.
- vii. An underground powerhouse cavern of size of 160m X 24m X 55m to house 4 no. Francis reversible pump turbine generating units of 250 MW capacity each.
- viii. 1 no. Transformer cavern 130mx18mx22.5m to house 4 nos. generator transformers.
- ix. 4 nos. of draft tube tunnels of 5 m dia. and 81 m length.
- x. 1 no. TRT surge chamber of size 85mx10mx88m.
- xi. 1 no. 1567 m long, 9.75 m dia. circular concrete lined tail race tunnel to carry the water from powerhouse to lower reservoir.
- xii. 1 no. of Tail Race outlet with 1 no gate shaft and trash rack having mechanical raking arrangement.
- xiii. Construction of concrete gravity lower dam of 112 m height and 470 m length across Kundah River ((Latitude: 11°16'25.81" & Longitude: 76°40'13.00").
- xiv. 1 no. Main Access Tunnel (MAT) D- shaped of 1240 m long 8m width & 8m height.
- xv. 3 nos. construction adits-1 no. adit 1 to HRT, 1 no. adit 2 to HRT surge shaft, 1 no. adit 3 to butterfly valve.

The total land required for various appurtenances is 315 ha, out of which, about 123.3 ha. Forest land, 57 ha Government land and 134.7 ha is private land. About 170 ha of land shall come under submergence at FRL for Upper Reservoir (135 ha) and Lower Reservoir (35 ha). Additional land is to be acquired for dam, water conductor system, power house and other project appurtenances works out to 145 ha. The total land proposed to be acquired for the project is 315 ha. Total Catchment area of the upper reservoir and lower reservoir are 65 and 183.48 sq km, respectively. About 1600 labor and technical staff will be employed during construction phase.

Proposal was earlier considered in the 28th EAC meeting held on 31st October, 2019. EAC in the said meeting observed that as per records available on DSS portal, the instant project is located at a distance of 3.49 km from the Mukurthi National park and 4.18 km from the Mudumalai-mukurthi Tiger corridor. After detailed deliberation, EAC proposed to take up a **site visit** for prescribing the additional Terms of Reference for preparing EIA studies including the prevailing Environmental settings including necessity of any specific measures to be taken up during construction work as the area falls within Western Ghat Ecosensitive Areas. Accordingly, Sub-Committee for site visit was formed. Further, in the aforesaid meeting, the EAC discussed and opined that the PP may not be called in the subsequent EAC meeting for clarification on the project. EAC shall deliberate the recommendations of the Sub-committee and if any, additional ToR is to be prescribed, that shall be a part of the standard ToR. Accordingly, proposal was **recommended** for grant of ToR but shall be processed only after

the review of the EAC on the site visit report of the Sub-committee. Besides, EAC in 28th meeting also sought the following additional information for further consideration:

1. Status of application of Forest clearance for diversion of forestland shall be submitted.
2. QCI & NABET Accredited certificate of the consultant for the period during which baseline data and other EIA/ EMP studies carried out.
3. Alternate sites to be proposed instead of one location of different underground powerhouse cavern to ensure reduction of submergence area, acquisition of forestland, etc.
4. This project is located at a distance of 3.49 km from the Mukurthi National park and 4.18 km from the Mudumalai-mukurthi Tiger corridor. Therefore, list of Schedule-I species including RET Species be provided during the site visit of the Sub-Committee.
5. Pre-DPR Chapters viz., Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA.

The Sub Committee was constituted vide Ministry's letter No. J12011/17/2019-IA.I (R) dated 02.12.2019. The following were the Members: 1. Shri Chetan Pandit - Chairman 2. Prof. S.R. Yadav - Member 3. Shri N.N. Rai - Member 4. Dr. J.A. Johnson - Member 5. Dr. S. Kerketta - Member Secretary Subsequently, Shri Chetan Pandit and Shri N.N. Rai opted out of the site visit due to preoccupation and in their places, Dr. D.K. More and Shri Sharvan Kumar were nominated, respectively. Due to pre-occupation, Shri Sharvan Kumar, Member could not accompany the Sub-committee.

The Sub-committee visited the proposed site on 06.12.2019 and held discussion on 07.12.2019 with the project officials at the project site. The site visit report was presented before the EAC in the 30th meeting held on 27.01.2020 under Any other item of the 30th EAC meeting. Following Way forward/recommendations were suggested by the EAC Subcommittee:

- As proposed by PP and considering the overall lower project cost, Alternate-1 has been agreed by the Sub-committee.
- Secondary data may also be collected on flora, fauna, aquatic life, etc. from the local sources of the area and may also form part of the modified EIA/EMP report.
- Once the draft Western Ghat Eco-sensitive (WGE) Area Notification is approved by the Competent Authority, necessary conservation measures shall be taken up in the area that is falling within WGE area in consultation with the Ministry by duly incorporating all the environmental parameters

Recommendations of the Sub-Committee were discussed in detailed in the 30th EAC meeting and the EAC agreed to the recommendation of the Sub-committee.

Member Secretary in the present meeting (1st meeting) apprised EAC that the project was already recommended for ToR by the then EAC. However, recommendation of the 28th and 30th EAC meeting could not be processed on file due to some technical procedure to be followed in the Parivesh Portal, as the matter was discussed under agenda item "Any other item" in the 30th

EAC meeting. Further, PP vide letter dated 08.07.2020 submitted the additional information as sought by the then EAC in the 28th meeting.

Project is therefore again considered in the present meeting (1st meeting), PP apprised to the reconstituted EAC about the project background along with subsequent developments on the project. PP also made the presentation before the EAC on the additional information as sought in the 28th meeting.

EAC in the present meeting (1st meeting) noted that some representations were received by them from the Ecologist, Scientist, NGOs of Nilgiris. EAC advised PP to address the issues raised in the representation and submit the detailed reply to the Ministry. EAC further noted that this project has been recommended for ToR after the detailed discussion on the project during the 28th meeting and Site visit. EAC after detailed deliberation on the project, reiterated the recommendations of the then EAC and **recommended** for grant of standard ToR to the proposed project with the following additional ToR:

1. 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 provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, if any.
2. Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980, if any.
3. In case Forest land is required, application to obtain prior approval of Central Government under the Forest (Conservation) Act, 1980 for diversion of forest land required should be submitted as soon as the actual extent of forest land required for the project is known, and in any case, within six months of issuance of this letter.
4. Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.
5. Mukurthi National park and the Mudumalai-mukurthi Tiger corridor are present the distance of 3.49 Km and 4.18 Km, respectively from the project boundary. Therefore, NBWL clearance shall be obtained, if the project site is falling inside the notified ESZ.
6. A detailed MAP regarding distance of the project boundary from the nearest wildlife sanctuary, duly authenticated by the Chief Wildlife Warden shall be submitted with EIA/EMP report
7. Impact of the proposed project on the nearest Wildlife sanctuary shall be studied and proper conservation plan/mitigation measures shall be included in the EIA/EMP report.
8. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.

9. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.
10. Pre-DPR Chapters viz., Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA shall be submitted.
11. Environmental Cost benefit analysis shall be done.
12. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/EMP report in the relevant chapter.
13. An undertaking as part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.
14. Environmental matrix during construction/operational phase needs to be submitted.
15. Environmental Management Plan with budget breakup (Capital as well as recurring) shall be submitted.
16. Secondary data may also be collected on flora, fauna, aquatic life, etc. from the local sources of the area and may also form part of the modified EIA/EMP report.
17. Once the draft Western Ghat Eco-sensitive (WGE) Area Notification is approved by the Competent Authority, necessary conservation measures shall be taken up in the area that is falling within WGE area in consultation with the Ministry by duly incorporating all the environmental parameters

Item No. 1.3 Any other items with the permission of the Chair

Item No. 1.3.1: Parwan Major Multipurpose Irrigation Project, Jhalawar (Phase II) by Parwan dam division-I, Government of Rajasthan-regarding discussion in pursuant to Ministry notification dated 14.08.2018.

Member Secretary apprised EAC that Parwan Project was accorded environmental clearance on 25.11.2011 to provide irrigation facility in the 1.31 lakh ha of Cultural Command Area (CCA) through flood irrigation technique. Aforesaid project proposed to switch over to micro irrigation techniques which resulted in the saving in the irrigation water and increase in the CCA. Accordingly, PP applied for an expansion (0.70 lakh Ha CCA) in command area from 1.31 lakh ha to 2.01 lakh ha. Terms of Reference was granted to the expansion project vide Ministry's letter dated 21st August 2018. Expansion does not involve forestland and wildlife area.

Now Project proponent vide letter dated 21.07.2020 in pursuance to the Ministry's Notification 14th August 2018 requested Ministry to withdraw the ToR issued and exempt from the revised

EC for the project. PP informed that there is no change in dam height (38m) and submergence area (9810 Ha)

Member Secretary, apprised EAC that as per the Ministry vide Notification dated 14th August 2018, existing irrigation projects which proposed to undergo change in irrigation technology having environment benefits (e.g. From flood irrigation to Drip irrigation etc.), leading to an increase in Cultural Command Area but without increase in dam height and submergence, will not require amendment/ revision of EC.

EAC in the present meeting deliberated on the PP request in light of the Ministry Notification dated 14th August 2018 and recommended that in an instant case, increase in CCA is due to the change in technology (from flood irrigation to drip) without increase in submergence area and dam height, therefore, revision of existing EC is not required hence environmental clearance to an expansion project is not applicable. EAC therefore **recommended to withdraw** the Terms of Reference issued to the project vide letter dated 21st August 2018 subject to submission of affidavit by the Project Proponent stating that increase in CCA is due to change in technology from flood to drip without increase in dam height and submergence and no forestland and wildlife area is involved in Phase II, Parwan Major Multipurpose Irrigation Project, Jhalawar.

Item No. 1.3.2: General discussion

It has been observed that in the agenda, items were discussed under Para no. 34.0 though this is a first meeting of the reconstituted EAC for River Valley Projects. Therefore, it was suggested that to have item numbers starting with 1.0 instead of 34.0

From: kgopa@iisc.ac.in
To: "Dr S Kerketta" <s.kerketta66@gov.in>
Cc: suna1466@rediffmail.com
Sent: Thursday, August 6, 2020 10:36:30 AM
Subject: Re: Draft MoM of 1st EAC meeting of RVP - reg

Dear Kerketta

Yes I approve this. good work

With warm regards
Prof. K.Gopakumar, FIEEE, FNAE
DESE, Indian Institute of Science
Bangalore-560012, INDIA

From: Dr S Kerketta <s.kerketta66@gov.in>
Sent: Wednesday, August 5, 2020 1:57 PM
To: Gopakumar K <kgopa@iisc.ac.in>
Cc: Dr. S Kerketta <suna1466@rediffmail.com>
Subject: Draft MoM of 1st EAC meeting of RVP - reg

External Email

Dear Sir,

PFA. It is revised after including the comments/suggestions of the other EAC members. May please approve the same for uploading in the Website of MoEFCC.

regards,

(Dr. S. Kerketta)

Director- IA (Thermal, River Valley & HEP)

MoEF&CC, New Delhi

Phone: [011-24695314](tel:011-24695314) (O), 26113096 (R)

**Name of the project
Addressed detailed
e-mail/contact No.**

Undertaking

(To be provided by the PP)

This is to certify that the information provided in Form-.... in physical form and/or in .pdf format (as applicable to the project and remaining be removed) in PARIVESH, to the Ministry/EAC members and PPT presentation during the EAC meeting held on 29.07.2020 have no deviation in respect of the proposal of ToR/EC/EC validity extension/EC amendment for establishing “.....MW Thermal Power Project at village, Taluk, District....., State.....by M/s.

2. It is further certified that there are no data entry errors in the information uploaded in PARIVESH system including names/email-id/mobile numbers/address of the project proponent, authorized person, etc. It is also certified that the supporting documents uploaded on PARIVESH portal are correct and duly authenticated by the Authorized Signatory.

3. In case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC.

Authorized Signature

date