



एन एच पी सी लिमिटेड
(भारत सरकार का उद्यम)
NHPC Limited
(A Govt. of India Enterprise)

क्षेत्रीय कार्यालय, इटानगर
Regional Office, Itanagar
जिला: पापुमपारे, अरुणाचल प्रदेश
District: Papumpare,
Arunachal Pradesh
Tel: 03602292830
email: ro-itanagar@nhpc.nic.in

No. GEM/2024/B/4627685/ 68

Date: 17/08/2024

Letter of Award

To,

M/s RS Envirolink Technologies Pvt Ltd.,
402, Bestech, Chamber, B-Block,
Sushant Lok Phase-I,
Gurugram 122002, Haryana
(T) 0124-4295383, (M) 9810136853
E-mail: ravi@rstechnologies.co.in

Subject: Letter of Award for GeM Bid for "EIA Studies and preparation of EMP of Subansiri Upper Project".

- Reference:**
1. GeM BID NO: GEM/2024/B/4627685 दिनांक : 23-02-2024
 2. Your bid dt. 15.03.2024
 3. NHPC letter No. NH/SUP/SM(C)/2024/71 Dt. 26-07-2024.
 4. Your letter dt. 29-07-2024

Dear Sir,

Please refer the GeM bid and your tender offer under reference. In this connection NHPC Ltd., RO-Itanagar is pleased to place award order for the above work for an amount of Rs.47,20,000.00 (Rupees Forty Seven Lakh Twenty Thousand only) including GST@18% including all applicable taxes & duties as per the terms and conditions detailed herein under. The Bill of Quantity is enclosed as Annexure- I.

Terms and Condition

- 1.0 The contract sum for entire Scope of work under the Contract shall be **Rs.47,20,000.00 (Rupees Forty Seven Lakh Twenty Thousand only)** including GST@18% and any other taxes as applicable & inclusive of all expenditure towards transportation of equipment, movement to and from sites, installation / erection, if any, insurance, all applicable taxes, watch & ward at site, schedule of field work, report submission etc., required till completion of the study and submission of final report to MoEF&CC, Presentation before EAC and obtaining Environmental Clearance from MoEF&CC on the Terms & Conditions of Tender Documents / Approved TOR of Subansiri Upper Project issued by MoEF &CC vide

Save Energy for Benefit of Self and the Nation

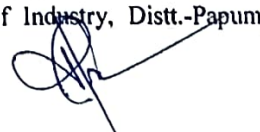
Corres.Address: RO, Itanagar, C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111 Email: ro-itanagar@nhpc.nic.in

MoM ID: EC/MOM/EAC/596917/7/2024 Dt. 02-08- 2024 (Annex-II) as per Schedule of Quantities & Prices enclosed herewith.

- 2.0 **Time Schedule:** The Contract Period for subject work shall be **Eighteen (18) Months** from the date of issue of Letter of Award as mentioned in Clause No. 3.0 of Section-II 'Conditions of Contract' and Clause No. 3.0 of Section-III of 'Special Conditions of Contract' of Tender Document.
- 3.0 During the course of entire contract period of EIA studies and preparation of EMPs, Public hearing, presentation before EAC etc., if MoEF&CC/NABET takes any penal action / disqualify the consultant, which in turn if negatively impacts obtaining Environmental Clearance of the Subansiri Upper Project, in that case, the consultant has to submit all the baseline data/ survey reports /EIA EMP reports etc. collected and prepared up to the date of disqualification of the consultant to NHPC. Apart from the payment already released as per the payment schedule, no extra payment / claims shall be entertained in this regard by NHPC and the performance security submitted shall be forfeited.
- 4.0 The Consultant will be responsible for taking any appropriate insurance coverage including Professional Liability insurance coverage for performance of services under the contract before start of the work.
- 5.0 **Engineer in Charge:** Senior Manager (Civil.), Subansiri Upper Project shall be the Engineer-in-charge for the above work. Email: subansiriupper@nhpc.nic.in
- 6.0 **Paying Authority:** DGM (Finance)/ Senior Manager (Finance), RO Itanagar shall be the paying authority.
- 7.0 a) Income Tax: Income Tax shall be deducted from the bill as per income tax rules.
b) TDS as applicable shall be governed by applicable GST rule.
- 8.0 These 'Terms and Conditions', 'Special Condition of Contract' and 'Bill of Quantities' shall form the part of this LOA. Rest all other terms and conditions of GTC of GeM portal remain the same.
- 9.0 You are requested to attend the office of undersigned within 28 (twenty eight) days from the date of issue of this letter along with Non Judicial Stamp Paper of the requisite value for signing the agreement of the said service. The letter of award shall also be the part of the agreement. Without the 'Agreement' no payment shall be released. Agreement will be signed between NHPC Limited and your firm after the performance security deposit (as per clause No.5.0 of Conditions of Contract) amounting to **Rs.2,36,000/-** (Rupees Two Lacs Thirty Six Thousand only).

Save Energy for Benefit of Self and the Nation

Corres.Address: RO,Itanagar,C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111Email: ro-itanagar@nhpc.nic.in 2



10.0 Please acknowledge the receipt of this letter of Award and return duplicate copy of this letter within 7 (seven) days duly signed on each page as a token of acceptance of the order and terms & conditions of this offer. If the duplicate copy is not received, it will be presumed that the same has been accepted.

Yours faithfully,

Senior Manager (Civil)
(Procurement & Contract)

Enclosure: 1. Schedule of Quantities and Prices.
2. Special Conditions of Contract.
3. Format of PBG & Integrity Pact
4. Approved TOR by MoEF & CC vide MoM ID: EC/MOM/EAC/596917
/7/2024 Dt. 02-08- 2024 (Annex-II).

NOO

Copy To:-

1. The Executive Director (RO- Itanagar) – for kind information please
2. GGM(C), HOP, Subansiri Upper Project - for kind information & necessary action please
3. General Manager (Env.), Corporate Office – for kind information please
4. General Manager (EDM), Corporate Office – for kind information please
5. The DGM/SM (Finance), RO-Itanagar - for kind information please
6. Work File

Save Energy for Benefit of Self and the Nation

Corres.Address: RO, Itanagar, C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111 Email: ro-itanagar@nhpc.nic.in 3

SCHEDULE OF QUANTITIES AND PRICES(BILL OF QUANTITIES)

Name of Work: "Hiring of Environmental Consultant for carrying out EIA/EMP studies in respect of Subansiri Upper Project"

Sl. No.	Description of Activities	Unit of Measure	Quantity	HSN / SAC Code	Unit Rate including GST(In Rs) (18% GST)	Total Amount including GST (in Rs)
1	2	3	4	5	6	7
1.	<p>To carry out Environmental Impact Assessment studies and formulation of Environmental Management Plans(EIA & EMP) & reports thereof and any other reports / observation (s) desired by EAC for grant of Environment Clearance as per EIA Notification 2006 and subsequent amendments, along with the approved Terms of Reference issued by the MoEF& CC as mentioned in the Tender Documents; presentations before EAC and during public consultation process. This shall include any additional study (ies) / condition(s) imposed during the EC process by MoEF&CC and observations thereof.</p> <p>(Including all expenditure towards transportation of equipment, movement to and from sites, installation / erection, if any insurance all applicable taxes, watch & ward at site, schedule of field work, report submission etc., required till completion of the study and submission of final report to MOEF & CC)</p>	Job	01	998393	<p>47,20,000/-</p> <p>(Rs. 40,00000 + 18% GST)</p>	47,20,000/-
	(Rupees Forty Seven Lakh Twenty Thousand only)					Rs.47,20,000/-


 Senior Manager (Civil)
 (Procurement & Contract)

Save Energy for Benefit of Self and the Nation

Corres.Address: RO,Itanagar,C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111Email: ro-itanagar@nhpc.nic.in 4

Note:

All expenditure towards transportation of equipment, movement to and from sites, installation / erection, if any insurance all applicable taxes, watch & ward at site, schedule of field work, report submission etc. required till completion of the study and submission of final report to MOEF & CC are included in the Contract Price at Col. 6&7.

Taxes, duties, income tax, GST and other impositions as may be levied under the Applicable Law & regulations including those assessed on the client, the amount of which is applicable as on 28 days prior to last date of submission of bid is deemed to have been included in the Contract Price. However, change in rates of existing tax or levy of New Tax applicable on service of this contract announced after 28 days prior to last date of submission of bid, shall be paid/ adjusted/ reimbursed by the Client in addition to contract price. The Client will reimburse the same to the Consultant on production of satisfactory proof of payment/ other documentary evidence, if any. Changes in the advance tax rates of Income Tax and GST (on Service) payable to appropriate authorities will not be subject to adjustment.

SPECIAL CONDITIONS OF CONTRACT (SCC)

These Special Conditions of Contract shall be read and construed along with the General Conditions of Contract. In case of any conflict or inconsistency between Special Conditions of Contract and General Conditions of Contract, provisions of the Special Conditions of Contract contained herein shall prevail.

1. SCOPE OF WORK:

- i) EIA&EMP studies of Subansiri Upper Project is required to be prepared keeping in view, based on the prescribed Standard Terms of Reference issued by MoEF & CC and any additional conditions / studies to be undertaken if communicated by MoEF&CC in the approved TOR during the course of studies for the purpose of obtaining Environmental Clearance of Subansiri Upper Project (1500 MW), in accordance with the provisions of the Environmental Impact Assessment notification, 2006 and subsequent amendments thereof. Standard TOR is annexed (Annexure-A).
- ii) Consultant shall support Project by providing data to apply for approval of TOR and shall present the case before the EAC if required.
- iii) Three seasons (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.
- iv) Requisite studies like simulation study for the E-flow shall also be undertaken.
- v) CAT, Dam break analysis, Disaster Management Plan and Fisheries Management Plan be prepared along with other EMPs and submitted in the EIA/EMP report.
- vi) The EIA report should also describe the cumulative environmental effects due to proximity to other existing or planned projects with effects, if any.
- vii) 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.
- viii) 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 EIA report pertaining to a project have not been copied from other EIA reports.

- ix) Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in EIA Notification, 2006.
- x) 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.
- xi) Environmental matrix during construction and operational phase needs to be submitted.
- xii) Both capital and recurring expenditure under EMP shall be submitted.
- xiii) Environmental Cost-benefit analysis.
- xiv) All the documents should be properly indexed, page numbered.
- xv) The EIA/EMP report should contain the information in accordance with provisions & stipulations as given in the Standard ToR for Hydro Projects (Please visit the following link to download the Standard ToR. <http://environmentclearance.nic.in/writereaddata/standardtorreference.pdf>).
- xvi) Period/date of collection should be clearly indicated.
- xvii) Authenticated English translation of all material provided in regional languages.
- xviii) The contractor / consultant shall file application in PARIVESH 2.0 portal of MoEF&CC for obtaining Environmental Clearance and shall make presentation before Expert Appraisal Committee (EAC) of MoEF & CC for grant of Environmental Clearance (EC).
- xix) The Contractor / consultant shall prepare Catchment Area Treatment (CAT) Plan in consultation with State Forest Department for areas requiring treatment. After preparation & formulation of the CAT Plan, the same should be duly approved by the Competent Authority of State Forest Department before incorporating the same in the final report.

2. Additional Scope of work as per Standard TOR:

- i) The consultant organization shall include a "Certificate" in EIA & EMP report regarding portion of EIA & EMP prepared by them and data provided by other organization(s) /laboratories including status of approval of such laboratories as per requirement of MoEF & CC.
- ii) The EIA & EMP Report must contain an Index showing details of compliance of all TOR conditions. The Index will comprise of page no. & other the details etc., vide which compliance of a specific TOR is available.
- iii) The consultant should prepare the presentation and attend the Public Hearing meeting conducted by SPCB for giving replies to the queries related to the EIA & EMP report. All issues discussed in Public Hearing/Consultation should be addressed and incorporated in the EIA & EMP Report.
- iv) The consultant will give presentation before authorities of NHPC/ State/Central Govt. including Expert Appraisal Committee (EAC) of MoEF & CC, and will take up any additional study(ies) within the scope of work or other demanded/prescribed by MoEF & CC during the process of Environment Clearance (EC).
- v) The data collected in each discipline/ head will be analyzed and presented in the forms of tables, charts, graphs, photographs, maps etc. and the discussion under each discipline/head shall be supported by data to establish baseline environmental scenario. Any parameter critical to the study will be identified and incorporated in the study.
- vi) All basic/raw data collected w.r.t flora, fauna, GPS coordinates of sites and other environmental parameter(s) over and above that included in the EIA & EMP report, will be provided by the consultant as and when asked by NHPC. The consultant should preserve all the data collected by him up to a period of five years after the date of submission of final EIA & EMP report.
- vii) EIA & EMP report shall be the sole property of NHPC. Any matter or content of this report shall not be published/ shared without prior permission or approval of NHPC.
- viii) The consultant has to make its own arrangement to obtain data from various Govt./Pvt agencies as may be required for completion of the study. However, an introductory letter from NHPC may be issued, if required.

- ix) After completion of the study the consultant shall submit a utilization certificate well in time in respect of the expenditure incurred on the study.
- x) In case of unperformed services/negative deviation, termination, foreclosure of work etc., the consultant shall refund the amount of advance paid by NHPC unconditionally for the portion of services not rendered by them due to premature termination.
- xi) The consultant shall provide a Geo-tagged map of project area carrying reservoir, TRT, HRT, Powerhouse, etc. as well as of study area.
- xii) Some of the details like general layout, salient features, topography, geological and seismo-tectonic set up, hydrological data etc. shall remain available with the client. The bidder may approach NHPC for data sharing. These data/information can be referred by the consultant for preparation of EIA/EMP study report. The consultant shall abide by the confidentiality of the above data. However, the available data/information doesn't limit the consultant to prepare EIA/EMP study report as per standard TOR.
- xiii) Consolidated EIA / EMP report is to be submitted as per the generic structure (Appendix III of EIA Notification 2006) incorporating information as per the Standard ToR, should be submitted to the State Pollution Control Board concerned for conducting Public Consultation, district wise, as per the previous stipulated in EIA notification, 2006. Public Hearing, which is a part of Public Consultation, shall be held district wise at the site or in its close proximity as prescribed in Appendix (IV) of EIA Notification 2006. The draft EIA /EMP report is to be submitted to SPCB sufficient before the expiry of the ToR validity so that necessary amendments in EIA / EMP can be undertaken based on public hearing and the same is to be submitted to MOEF&CC before expiry of validity.
- xiv) Funds allocation for Corporate Environment Responsibility (CER) shall be made as per O.M. No. 22- 65/2017-IA.III dated 01.05.2018 for various activities therein. The details of funds allocation and activities for CER shall be incorporated in EIA/EMP report.
- xv) The EIA report should clearly mention activity wise EMP and CER cost details and should earmarked clear break-up of the capital and recurring cost along with the timeline for incurring the capital cost.

- xvi) Impact of developmental activity/project on the wildlife habitat, if any, within 10 km of the project boundary shall be studied.
- xvii) Base line data and public consultation shall not be older than 3 years, at the time of submission of the proposal, for grant of Environmental Clearance.
- xviii) Appropriate Biodiversity Conservation and Management plan for the Native, Rare & Endangered floral and faunal species getting affected due to the project shall be prepared.
- xix) Details of the name and number of posts to be engaged by the project proponent for implementation and monitoring of environmental parameters be specified in the EIA report.
- xx) The consultant involved in the preparation of EIA/EMP report after accreditation with Quality Council of India/National Accreditation Board of Education and Training (QCI/NABET) would need a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organizations/laboratories including their status of approvals etc. Notification of the MoEF dated 19th July 2013.

Note: In view of the special condition of this Project, EAC might seek some additional studies/information/data to be carried out. This will be added in the condition, as and when be issued by the EAC, of MoEF & CC.

3. COMPLETION SCHEDULE:

Total time period for submission of EIA & EMP studies report shall be **18 (Eighteen) months** from the date of issue of letter of award. An inception report will be submitted to NHPC within 30 days of issue of this letter of award of work for EIA & EMP studies which contain approach & methodology including formulation of screening checklist, work plan, time schedule and public & stake holders consultation plan for this assignment etc.

4. SUBMISSION OF REPORT:

The progress report of field work shall be submitted in every season after collection of data etc. required for the study along with photographs of the site.

Two copies of the draft EIA & EMP reports should be submitted by the consultant after completion of the studies both in hard as well as soft form for perusal.

The final EIA&EMP report should be submitted by the consultant within 30 days of conduct of Public Hearing meeting, incorporating all issues discussed in Public Hearing/Consultation. The consultant should submit 35 (Thirty-five) copies of the final EIA & EMP report and it's Executive Summary (soft copy as well). The Executive Summary report should be Bilingual Hindi and English).

5. STAGE WISE PAYMENT SCHEDULE: -

The payment to the consultant will be made in installments as per the schedule given below:

Stage	Description	Payment of Quoted Amount
1	First installment of 10% after submission of first (1 st) season study report	10 %
2	Second installment of 20% after submission of second (2 nd) season study report	20%
3	Third installment of 20% after submission of third (3rd) season study report.	20%
4	Fourth installment of 10 % after submission of two copies of draft EIA & EMP report	10%
5	Fifth (5 th) installment of 20% after the successful conduct of Public Hearing and subsequent addresses & incorporation of the issues discussed in the Public Hearing/Consultation in the EIA & EMP report.	20%
6	Sixth and Final installment of 20% after submission of final EIA & EMP along with Executive Summary report and after obtaining recommendations of EAC.	20%

The above remuneration includes all the cost related to carrying out the service, cost of transport for field surveys and boarding-lodging at the site & travel lodging, boarding or any other expenses for attending public hearing, meeting(s) with officials as per requirement of NHPC, printing of reports including overheads. TDS and banking charges, as applicable, shall be deducted from each payment released to the consultant for which certificate by NHPC shall be issued separately.

All payments shall be made in INR only. No payments shall be made in foreign currency. No additional amount shall be payable other than the details mentioned in "Schedule of Quantity & Price".

6. ENGINEER-IN-CHARGE:

Senior Manager (Civil), Subansiri Upper Project shall be the Engineer-in- charge for the above work.

7. PAYING AUTHORITY: DGM (Finance)/Sr. Manager (Fin.), RO Itanagar shall be paying authority.

8. LD: Any GST Liability on account of Liquidated damages shall be borne by the Contractor.

PERFORMANCE GUARANTEE FORM

Bank Guarantee

(To be stamped in accordance with Stamp Act
if any, of the Country of the issuing Bank)

Bank Guarantee No.

Date

To,

NHPC Ltd.,

Sector-33, Faridabad, Haryana -121003

Dear Sirs,

In consideration of the[*Employer's Name*] (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) having awarded to M/s [*Contractor's Name*] with its Registered/Head Office at (hereinafter referred to as the 'Contractor', which expression shall unless repugnant to the context or meaning thereof, include its successors administrators, executors and assigns), a Contract by issue of Employer's Letter of Acceptance No. dated and the same having been acknowledged by the Contractor, for [Contract sum in figures and words] for [*Name of the work*] and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to(*)..... of the said value of the aforesaid work under the Contract to the Employer.

We[*Name & Address of the Bank*] having its Head Office at (hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context of meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, on demand any and all monies payable by the Contractor to the extent of (*) as aforesaid at any time upto (@) [*days/month/year*] without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the Bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Employer and further agrees that the guarantees herein contained shall continue to be enforceable till the Employer discharges this guarantee or till[*days/month/year*] whichever is earlier.

The Employer shall have the fullest liberty, without affecting in any way the liability of the Bank under this guarantee, from time to time to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any

Save Energy for Benefit of Self and the Nation

Corres.Address: RO,Itanagar,C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111Email: ro-itanagar@nhpc.nic.in 13

right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would, but for this provision have the effect of relieving the Bank.

The Bank declares that this Bank Guarantee is issued by the Bank, utilizing the credit limit of M/s _____ (name of contractor) and also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee the Employer may have in relation to the Contractor's liabilities.

- i) Our liability under this Bank Guarantee shall not exceed
- ii) This Bank Guarantee shall be valid up to
- iii) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if Employer serve upon Bank a written claim or demand on or before@.....

Dated thisday of 20..... at

WITNESS

Signed for and on behalf of the Bank

1.
(Signature)

.....
(Signature)

.....
(Name)

.....
(Name)

.....
(Official Address)

.....
(Designation with Bank Stamp) Staff No.
Full Address of Bank with Tel., Fax. No.

2.
(Signature)

.....
(Name)

.....
(Official Address)

Communication address of the Bank

Name of the contact person

Tel. No.

Fax No.

Email:

Notes: 1. (*) This sum shall be **five percent (5%)** of the Contract Price denominated in the types and proportions of currencies.

(@) This date will be Six (6) months beyond the Contract period as specified in the Contract. The Bank Guarantee shall be released after completion of job and upon certification by Engineer/ Officer -in-charge.

2. The stamp papers of appropriate value shall be purchased in the name of guarantee issuing Bank.
3. Vendor's stamp with full details i.e. name of the Employer in whose favour for which this stamp paper has been purchased, should be invariable mentioned on the back side of the stamp paper.
4. Bank Guarantee is required to be submitted directly to the Employer by the issuing bank (on behalf of Contractor) under registered post (A.D). The contractor can submit an advance copy of Bank Guarantee to the Employer. However, in case of exceptional circumstances where efficient postal services are not in force, the Bank Guarantee may be submitted by the Contractor directly to the Employer and the issuing Bank shall submit an unstamped duplicate copy of Bank Guarantee directly under the registered post (A.D.) to the Employer, with a forwarding letter.

FORM OF AGREEMENT

(On Non Judicial stamp paper of appropriate value)

This AGREEMENT is made on theday of BETWEEN.....

(1) NHPC Ltd., a corporation incorporated under the laws of INDIA and having its Registered Office at NHPC OFFICE COMPLEX, SECTOR-33, FARIDABAD- 121003, HARYANA (hereinafter called "the Employer"), and which expression shall include its permitted successors and assigns.

and

(2) M/s and having registered office at (herein after referred to as "The Contractor") which expression shall include the permitted successors and assigns.

"WHEREAS the Employer is desirous of and have invited enquiry vide for the purpose of the said work.

AND WHEREAS the Contractor has submitted its tender AND WHEREAS the Employer has accepted the tender of the Contractor for execution of the said work upon the terms and subject to the conditions herein after mentioned below in the agreement.

This Contract comprises of the following component / parts, all of which form an integral part of this contract as shall if herein set out verbatim or if not attached as if here to attached.

- | | |
|------------------|----------------------------------------------------|
| i) Section-I | : Letter of Award |
| ii) Section-II | : Special Conditions of Contract |
| iii) Section-III | : Conditions of Contract |
| iv) Section - IV | : Any other documents forming part of the Contract |

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed above.

AND WHEREAS the Employer has accepted the tender of the Contractor and the execution of the said work for the sums as per Schedule of Quantities & Prices contained in the Section-I upon the terms and subject to the conditions hereinafter mentioned and more particularly described in Section I to IV respectively which shall form integral part of this Contract (hereinafter to be collectively referred to as 'Contract Documents').

NOW THESE PRESENT WITNESS AND the parties hereto hereby agree and declare as follows:

That is to say, in consideration of the payments to be made to the Contractor by the Employer as hereinafter mentioned, the Contractor shall duly provide the plant for the said works and shall do and perform all other works and things in the contract mentioned or described which are implied there from or herein respectively or may be reasonably necessary for the completion of the said work within and at the times and in the manner and subject to the terms & conditions and stipulations mentioned in the said contract document.

AND in consideration of the due provision and satisfactory supply, Installation, Commissioning and completion of the said supply thereof as aforesaid, the Employer will pay to the Contractor the sums as per the Schedule of Prices contained in Section-I or such other as may

Save Energy for Benefit of Self and the Nation

Corres.Address: RO,Itanagar,C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111Email: ro-itanagar@nhpc.nic.in 16

become payable to the Contractor under the provisions of this Contract, such payment to be made in time and in such manner as is provided by the Contract.

IN WITNESS WHEREOF The Parties hereto have signed this deed hereunder on the date respectively mentioned against the signature of each.

(For and on behalf of
the Contractor)

(For and on behalf of
the Employer)

In the presence of
1.

In the presence of
1.

(To be executed on Non-judicial stamp paper of appropriate value by Contractor prior to signing of Contract Agreement)

**(Format of Integrity Pact)
PRE- CONTRACT INTEGRITY PACT**

Between

NHPC Limited, a company incorporated under the Companies Act 1956 and having its registered office at NHPC Office Complex, Sector-33, Faridabad-121003 (Haryana), hereinafter referred to as "The Employer" which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns of the First Part.

And

M/s RS Envirolink Technologies Pvt Ltd., a company/ firm/ individual (status of the company) and having its registered office at **402, Bestech, Chamber, B-Block, Sushant Lok Phase-I, Gurugram 122002, Haryana**, represented by Shri._____, hereinafter referred to as 'The Bidder/Contractor' which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns of the Second Part.

WHEREAS the Employer proposes to procure under laid down organizational procedures, contract/s for **"EIA Studies and preparation of EMP of Subansiri Upper Project"** (Name of the work/ goods/services) and the Bidder/Contractor is willing to offer against **GeM BID NO: GEM/2024/B/4627685 Dated : 23-02-2024.**

WHEREAS the Bidder/Contractor is a private company/public company/Government undertaking/partnership/consortium/joint venture constituted in accordance with the relevant law in the matter and the Employer is a Public Sector Enterprise.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the Employer to obtain the desired said (work/ goods/ services) at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling the Bidder(s)/Contractor(s) to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Employer will commit to prevent corruption, in any form, by its officials by following transparent procedures.

1.0 Commitments of the Employer

- 1.1 The Employer undertakes that no official of the Employer, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Bidder/Contractor, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

- 1.2 The Employer will, during the pre-contract stage, treat all the Bidders/Contractors alike, and will provide to all the Bidders/Contractors the same information and will not provide any such information to any particular Bidder/Contractor which could afford an advantage to that particular Bidder/Contractor in comparison to other Bidders/Contractors.
- 1.3. All the officials of the Employer will report to the appropriate Authority .any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 2.0 In case any such preceding misconduct on the part of such official(s) is reported by the Bidder to the Employer with full and verifiable facts and the same is prima facie found to be correct by the Employer, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may .be initiated by the Employer or Independent External Monitor and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the Employer the proceedings under the contract would not be stalled.

3.0 Commitments of the Bidder(s)/Contractor(s)

The Bidder(s)/Contractor(s) commits themselves to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit themselves to observe the following principles during participation in the tender process and during contract execution:-

- 3.1. The Bidder(s)/Contractor(s) will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 3.2 The Bidder/Contractor further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with Employer for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with Employer.
- 3.3 The Bidder(s)/Contractor(s) shall disclose the name and address of agents and representatives and Indian Bidder(s)/Contractor(s) shall disclose their foreign principals or associates.
- 3.4 The Bidder(s)/Contractor(s) shall, when presenting their bid, disclose any /all payments made, is committed to or intends to make to agents, brokers or any other intermediaries, in connection with this bid/award of the contract
- 3.5 Deleted.
- 3.6 The Bidder, either while presenting their bid or during pre-contract negotiations or before signing the contract, shall disclose any payments made, is committed to or intends to make to officials of the Employer or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 3.7 The Bidder/Contractor will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

- 3.8 The Bidder/Contractor will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The Bidder/Contractor shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the Employer as part of the business relationship, regarding plans, technical proposals and business details, including information contained in electronic data carrier. The Bidder/Contractor also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The Bidder(s)/Contractor(s) commits to refrain from filing any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The Bidder(s)/Contractor(s) shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the Bidder/Contractor or any employee of the Bidder/Contractor or any person acting on behalf of the Bidder/Contractor, either directly or indirectly, is a relative of any of the officers of the Employer, or alternatively, if any relative of an officer of the Employer has financial interest/stake in the Bidder(s)/Contractor(s) firm(excluding Public Ltd. Company listed on Stock Exchange), the same shall be disclosed by the Bidder/Contractor at the time of filling of tender.
The term 'relative' for this purpose would be as defined in Section 2(77) of the Companies Act 2013.
- 3.13 The Bidder(s)/Contractor(s) shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Employer.
- 3.14 The representative of the Bidders/Contractors signing Integrity Pact shall not approach the Courts while representing the matters to IEMs and he/she will wait their decision in the matter.
- 3.15 In case of Sub-Contracting, the bidder shall take the responsibility of the adoption of Integrity Pact by the Sub-Contractor.

4.0 Previous Transgression

- 4.1 The Bidder(s)/Contractor(s) declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect on any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India.

5.0 Earnest Money (Security Deposit)

The provision regarding Earnest Money/Security Deposit as detailed in the Notice Inviting Tender (NIT) and Instruction to Bidders (ITB) section of the Bid Document is to be referred.

6.0 Sanctions for Violations

- 6.1 Any breach of the aforesaid provisions, before award or during execution by the Bidder/Contractor or any one employed by it or acting on its behalf such as to put their reliability or credibility in question. shall entitle the Employer to take action as per the procedure mentioned in the "**Guidelines on Banning of Business Dealings**" attached as Annexure-A and initiate all or any one of the following actions, wherever required:-
- (i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the Bidder/Contractor. However, the proceedings with the other Bidder(s)/Contractor(s) would continue.
 - (ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is Signed) shall stand forfeited either fully or partially, as decided by the Employer and the Employer shall not be required to assign any reason thereof.
 - (iii) To immediately cancel the contract, if already signed, without giving any compensation to the Contractor. The Bidder/Contractor shall be liable to pay compensation for any loss or damage

- to the Employer resulting from such cancellation/rescission and the Employer shall be entitled to deduct the amount so payable from the money(s) due to the Bidder/Contractor.
- (iv) Deleted.
 - (v) To encash the Bank guarantee, in order to recover the dues if any by the Employer, along with interest as per the provision of contract.
 - (vi) Deleted
 - (vii) To debar the Bidder/Contractor from participating in future bidding processes of NHPC Ltd., as per provisions of "Guidelines on Banning of Business Dealings" of NHPC Ltd. (Annexure-A), which may be further extended at the discretion of the Employer.
 - (viii) To recover all sums paid in violation of this Pact by Bidder(s)/Contractor(s) to any middleman or agent or broker with a view to securing the contract.
 - (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the Employer with the Bidder/ Contractor, the same shall not be opened/operated.
 - (x) Forfeiture of Performance Security in case of a decision by the Employer to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- 6.2 The Employer will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this Pact also on the Commission by the Bidder/Contractor or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder/Contractor}, of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 6.3 The decision of the Employer to the effect that a breach of the provisions of this Pact has been committed by the Bidder/Contractor shall be final and conclusive on the Bidder/Contractor. However, the Bidder/Contractor can approach the Independent External Monitor(s) appointed for the purposes of this Pact.

7.0 Independent External Monitor(s)

- 7.1 The Employer has appointed Independent External Monitors (hereinafter referred to as monitors) for this Pact after approval by the Central Vigilance Commission.
- 7.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 7.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently. The Monitors report to CMD, NHPC.
- 7.4 Both the parties accept that the Monitors have the right to access all the Contract documents relating to the project/procurement, including minutes of meetings, whenever required. The right to access records should only be limited to the extent absolutely necessary to investigate the issue related to the subject tender/contract.
- 7.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he I she will so inform CMD, NHPC and request NHPC Ltd. To discontinue or take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 7.6 The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction, to all Project documentation of the Employer including that provided by the Bidder/Contractor. The Bidder/Contractor will also grant the Monitor, upon his I her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Subcontractor(s). The Monitor shall be under contractual obligation to treat the information and documents of the Bidder/Contractor/Subcontractor(s) with confidentiality. The Monitor has also signed declaration on 'Non-Disclosure Agreement' and of 'Absence of Conflict of Interest. In case of any conflict of interest arising at an later date, the IEM shall inform CMD, NHPC and recuse himself/herself from that case.

- 7.7 The Employer will provide to the Monitor sufficient information about all meetings among the parties related to the project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings as and when required.
- 7.8 The Monitor will submit a written report to the CMD, NHPC Ltd., within 8 to 10 weeks from the date of reference or intimation to him by the Employer/Bidder and should the occasion arise, submit proposals for correcting problematic situations.
- 7.9 The word 'Monitor' would include both singular and plural.

8.0 Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the Employer or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder/Contractor and the Bidder/Contractor shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

9.0 Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the Registered Office of the Employer, i.e. Faridabad (Haryana). The arbitration clause provided in the tender document/contract shall not be applicable for any issue/dispute arising under Integrity Pact.

10.0 Other Legal Actions

- 10.1 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.
- 10.2 Changes and supplements as well as termination notice need to be made in writing.
- 10.3 If the Contractor is a partnership or a consortium or a joint venture, this pact must be signed by all partners of the consortium/joint venture.

11.0 Validity

- 11.1 The validity of this Integrity Pact shall be from date of its signing and expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from business dealings.
- 11.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intention.
- 11.3 Issues like Warranty/Guarantee etc. shall be outside the purview of IEMs.
- 11.4 In the event of any contradiction between Integrity Pact and its Annexure, the clause in the Integrity Pact will prevail.

For & On behalf of the Employer
Bidder/Contractor

For & On behalf of the

Employer

Bidder
(Authorized Person)

Name of the Officer:

Name of the Person:

Designation:

Designation:

Place: _____

Place: _____

Date: _____

Date: _____

Witness

Witness

1. _____

1. _____

(Name and address)

(Name and address)

2. _____

2. _____

(Name and address)

(Name and address)

Save Energy for Benefit of Self and the Nation

Corres.Address: RO,Itanagar,C-sector, Opposite of Directorate of Industry, Distt.-Papumpare, Arunachal Pradesh, Pin: 791111Email: ro-itanagar@nhpc.nic.in 22

Save Energy for Benefit of Self and the Nation

Corres.Address: RO,Itanagar,C-sector, Opposite of Directorate of Industry, Distt.-Papumpare,
Arunachal Pradesh, Pin: 791111Email: ro-itanagar@nhpc.nic.in 23



Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(River Valley and Hydroelectric Projects)



Minutes of 12TH MEETING OF EXPERT APPRAISAL COMMITTEE meeting R
iver Valley and Hydroelectric Projects held from 18/07/2024 to 19/07/2024 **Date: 02/08/2024**

MoM ID: EC/MOM/EAC/596917/7/2024
Agenda ID: EC/AGENDA/EAC/596917/7/2024
Meeting Venue: INDIRA PARYAVARAN BHAWAN
Meeting Mode: Physical
Date & Time:

18/07/2024	10:30 AM	05:30 PM
19/07/2024	10:30 AM	05:30 PM

1. Opening remarks

The 12th meeting of the EAC for River Valley & Hydroelectric Projects organized by the Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi, was held on 18th – 19th July, 2024 through Physical mode, under the Chairmanship of Prof. G. J. Chakrapani. The list of Members present in the meeting is at **Annexure**.

Before taking up the agenda for discussion the EAC deliberated upon improving the quality of EIA/EMP reports. The chairman suggested that the Project Proponents may get the reports vetted by a no conflict third party reputed consultant.

2. Confirmation of the minutes of previous meeting

The EAC confirmed the minutes of 11th EAC meeting held on 27th June, 2024.

3. Details of proposals considered by the committee

Day 1 -18/07/2024

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Subansiri Upper HE Project by NHPC LIMITED located at UPPER SUBANSIRI, ARUNACHAL PRADESH			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/AR/RIV/466971/2024	J-12011/59/2010-IA-I (R)	24/06/2024	River Valley/Irrigation projects (1(c))

3.2.2. Project Salient Features

12.6.1: The proposal is for grant of Terms of References (ToR) to Subansiri Upper HE Project (1605 MW) in an area of 2972 ha. located at Village Pairijo, Tehsil Gussar, District Upper Subansiri, Arunachal Pradesh by M/s NHPC Limited.

12.6.2: The Project Proponent made a detailed presentation on the salient features of the project and informed that:

- The proposal is for ToR to the project for Subansiri Upper HE Project located at about 1.5 km u/s of Menga village and about 25 km from Daporijo in Upper Subansiri District, Arunachal Pradesh by M/s NHPC Ltd.
- The geographical co-ordinate of the project are Lat. 28°06'34.05"N, Long. 94°09'20.45"E.
- The Project envisages construction of:** The Subansiri Upper HE Project envisages construction of 1605 MW hydroelectric project with the twin objectives of power generation and flood moderation.

- iv. **Demographic details in 10 km radius of project area:** About 27 nos. of villages comprising 982 families are likely to be affected due to the proposed Project. The socio-economic study aims to assess the overall impacts on various facets of socio-economic environment due to establishment of the project. The information on various aspects of the affected population viz., demographic details, socio-economic and cultural characteristics, enumeration of personal properties of the affected population, education level and occupational profile etc. shall be collected besides ethnographic assessment of PAFs during the EIA & SIA study.
- v. **Project Cost:** The estimated project cost is Rs. 21815.00 Crore. Total capital cost earmarked towards environmental pollution control measures is approx. **2% to 3%** of the estimated project cost. Detail allocation along with Recurring cost (operation and maintenance) shall be done after preparation of EIA/EMP study.
- vi. **Project Benefit:** Setting up of the project shall reduced dependence on fossil fuels and promote Clean Energy generation along with overall economic growth, and enhancing energy security for both the state and the nation as a whole. Besides providing flood control benefits, it shall also generate employment in the rural area, boost local economies such as small markets, shops etc. Total employment as direct & indirect shall be taken up during later stages of development of the Project.
- vii. **Environmental Sensitive area:** There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site.
- viii. **MoU/ any other clearance/ permission signed with State government:** Memorandum of Agreement signed on 12.08.2023 between Govt. of Ar. P and NHPC Ltd for development, commissioning, implementation, operation and maintenance of Subansiri Upper HEP on BOOT basis for a lease period of 40 years from the commercial operation date.
- ix. **Resettlement and rehabilitation:** A comprehensive R&R scheme shall be prepared for project affected families (PAFs) by the District Admin. as part of the land acquisition process under RFCTLARR Act, 2013. Also, community development activities of the Project under other heads (Local Area Development Plan, CSR scheme) are also expected to be beneficial for the local people residing in and around Project area.
- x. **Environmental Flow:** For sustainable hydropower development of Subansiri river basin, IA-1 Division of MoEF&CC vide their letter No. 2/18 (A)/ 2014-EIA dated 27.04.2016 has approved study report on Cumulative Impact Assessment & Carrying Capacity Study (CIA&CCS) of Subansiri river basin in Arunachal Pradesh for development of Hydroelectric Power Projects. The study outlines the recommended capacity, size and location of HEP's commensurate with basin environment carrying capacity conforming to the accepted cumulative impacts. As per recommendations, following environment flows are approved:

Seasons	Environment Flows (% age)
Monsoon Season (June- September)	20
Non-Monsoon Non-lean (March-May and October)	20
Lean Season (November-February)	20

- xi. **Alternative Studies:** Developing and assessing various alternative schemes is one of the first activities during the preparation of the DPR. Various alternative studies have been carried out for arriving at the most optimal location & layout of the Project. While carrying out the

River Subansiri originates from Tibet and after traversing 375 km joins the Brahmaputra river. It is one of the largest right bank tributaries of Brahmaputra. The total catchment area of Subansiri River up to the proposed dam site at Menga is 14665 Sq. Km. Brahmaputra Board had prepared Detailed Project Report (DPR) after conducting detailed survey and investigation of 257 m high Subansiri Dam Project (4800 MW) in April 1983 at Gerukamukh where the river debouches into the Assam plain. The proposal could not get through due to reservations from Government of Arunachal Pradesh on account of large submergence of land and townships like Daporijo, Dumporijo, Tamen etc. and consequent displacement of inhabitants.

1. Site A, 3.5 km upstream of Daporijo.
2. Site B, 31 km upstream of Daporijo.
3. Site C, a little upstream of Menga confluence.
4. Site D, a little upstream of Sippi Village.

Subsequent to taking over the Project by NHPC detailed field traverses were also undertaken to locate any other alternative suitable sites in upstream as well as downstream along the river course. But as evaluated by the technical team during Brahmaputra Board period investigation, the site upstream of Menga village is found to be relatively better site to host Project components because of strong to very strong dolomitic limestone. Accordingly, this was considered for detailed investigation. For better abutment condition the dam axis was reviewed and relocated at 75m d/s from Brahmaputra Board site “C”.

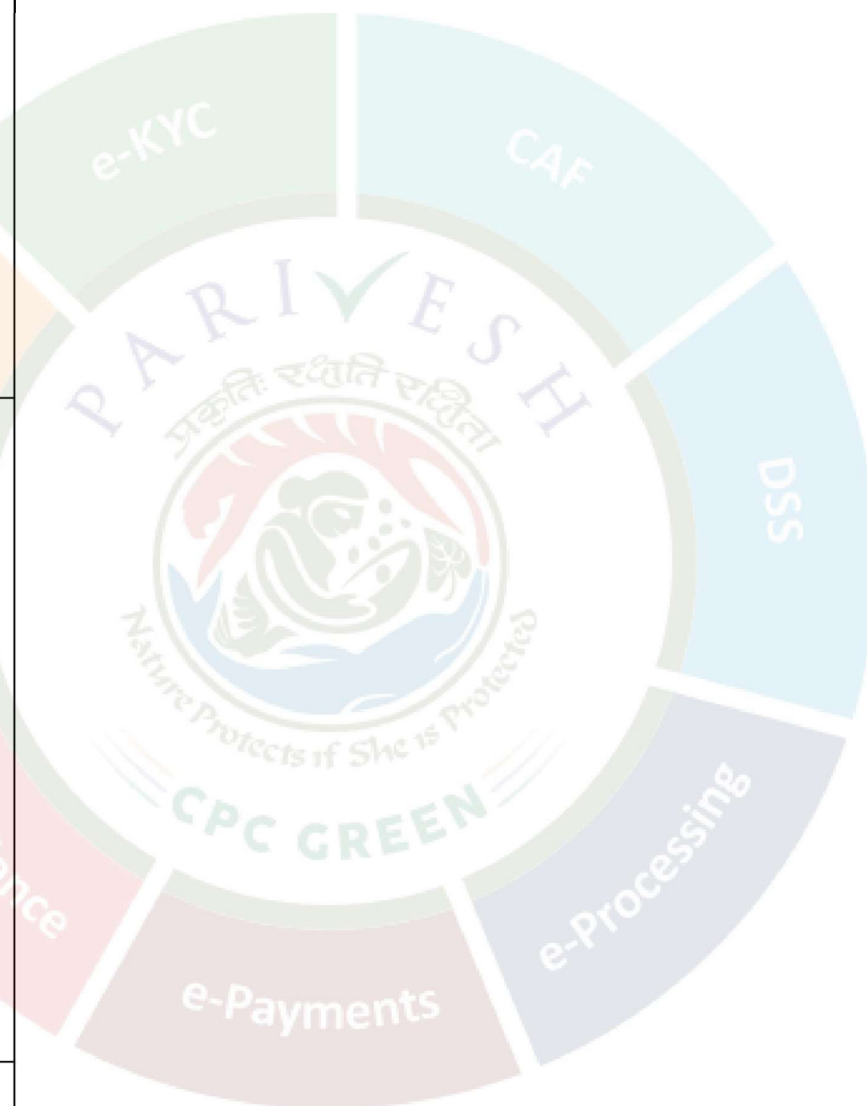
Sewage and solid waste shall be generated from project colonies during construction as well as operational phase.

Shall be handled as per Hazardous Waste Management Rules, 2016.

xiii. The salient features of the project are as under:

Category details:	
Name of the TOR App	TOR App
Purple	o
Orange	v
Green	al
Blue	f
Brown	
Black	
White	
Grey	
Yellow	
Pink	
Red	
Cyan	
Magenta	
Olive	
Slate	
Gold	
Silver	
Platinum	
Diamond	
Jade	
Garnet	
Opal	
Amethyst	
Emerald	
Ruby	
Sapphire	
Peridot	
Spinel	
Malachite	
Lapis Lazuli	
Turquoise	
Obsidian	
Onyx	
Jasper	
Agate	
Hematite	
Pyrite	
Quartz	
Flint	
Amber	
Jet	
Shells	
Metals	
Stones	
Crystals	
Gems	
Minerals	
Fossils	
Antiques	
Art	
Books	
Music	
Food	
Drinks	
Clothing	
Accessories	
Home Decor	
Travel	
Health	
Beauty	
Technology	
Automotive	
Agriculture	
Marine Life	
Wildlife	
Botany	
Zoology	
Geography	
History	
Science	
Mathematics	
Language	
Philosophy	
Religion	
Spirituality	
Psychology	
Sociology	
Economics	
Law	
Medicine	
Veterinary	
Astronomy	
Space Exploration	
Environmental Science	
Ecology	
Conservation	
Nature	
Landscapes	
Architecture	
Design	
Interior Design	
Exterior Design	
Urban Planning	
Transportation	
Infrastructure	
Energy	
Renewable Energy	
Non-Renewable Energy	
Power Generation	
Electricity	
Gas	
Oil	
Coal	
Nuclear	
Hydroelectric	
Solar	
Wind	
Geothermal	
Bioenergy	
Waste Management	
Recycling	
Water Treatment	
Sewage Treatment	
Sanitation	
Public Health	
Infectious Disease	
Chronic Disease	
Mental Health	
Physical Health	
Preventive Care	
Primary Care	
Specialty Care	
Hospital Care	
Long-Term Care	
End-of-Life Care	
Rehabilitation	
Therapy	
Counseling	
Support Groups	
Community Health	
Global Health	
International Health	
Development	
Human Rights	
Gender Equality	
Racial Justice	
Immigration	
Refugees	
Asylum	
Border Security	
Customs	
Taxation	
Finance	
Banking	
Insurance	
Investment	
Real Estate	
Construction	
Manufacturing	
Industry	
Commerce	
Trade	
Exports	
Imports	
Supply Chain	
Logistics	
Transportation Infrastructure	
Ports	
Airports	
Seaports	
Roadways	
Railroads	
Highways	
Bridges	
Tunnels	
Canals	
Dams	
Locks	
Levees	
Flood Control	
Disaster Preparedness	
Emergency Response	
Fire Safety	
Earthquake Safety	
Tsunami Safety	
Volcano Safety	
Wildfire Safety	
Aviation Safety	
Maritime Safety	
Aviation Security	
Maritime Security	
Border Security	
Customs Security	
Tax Security	
Financial Security	
Insurance Security	
Investment Security	
Real Estate Security	
Construction Security	
Manufacturing Security	
Industry Security	
Commerce Security	
Trade Security	
Exports Security	
Imports Security	
Supply Chain Security	
Logistics Security	
Transportation Security	
Ports Security	
Airports Security	
Seaports Security	
Roadways Security	
Railroads Security	

proposals	Upper HEP project
Location (Including coordinates)	<p>About 1.5 km u/s of Menga village and about 2.5 km from Dapori jo in District. Upper Subansiri, Arunachal Pradesh.</p> <p>Lat. 28°06'34.05" N, Long. 94°09'20.45"E</p>
Inter-state issues involved	No



d	
Seismic zone	Zone-V

Category of the project	1(c) River Valley/Irrigation projects Sector : RIV
Provisions	A Hydro Electric Project with the twin objectives of power generation and flood moderation.
Capacity / Cultural command area (CCA)	1605 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	Nil

Electricity generation capacity:

Powerhouse Installed Capacity	1605 MW
Generation of Electricity Annually	6131.55 MU
No. of Units	8 Units (Main Unit- 7 x 215 & Auxiliary Unit 1 x 100) = 1605 MW
Additional information (if any)	Nil

TOR/EC Details:

Cost of project	Rs. 21,815 Crore
Total area of Project	2972 Ha
Height of Dam from River Bed (EL) \pm 253	219m
Length of Tunnel/Channel	12.5 Km including all water conveying tunnels and construction/Access Tunnel
Details of Submergence area	2220 Ha
Types of Waste and quantity of generation during construction/ Operation	Hydroelectric projects do not generate any by-product during electricity generation. Hydroelectric power is generated by non-consumptive use of water. However, during construction phase of the project, about 11,500 KLD per day of waste water; 60 lakh cum of muck & Solid Waste shall be generated. A detailed management plan shall be prepared during EIA study in line of Standard TOR.

E-Flows for the Project	Environment flow has been considered based on Cumulative Impact and Carrying Capacity Studies (CI & CC) of Subansiri Basin including downstream impacts wherein minimum environmental flow has been considered as 20% of the average flow in monsoon, Pre & Post monsoon and lean period of 90% dependable year.	
Is Projects earlier studies in Cumulative Impact assessment & Carrying Capacity studies (CIA&CC) for River in which project located. If yes, then a) E-flow with TOR /Recommendation by EAC as per CIA&CC study of River Basin. b) If not the E-Flows maintain criteria for sustaining river ecosystem.	Yes. As mentioned above	
❖Muck Management Details:		
No. of proposed disposal area/(type of land-Forest/Pvt. land)	35 ha area is proposed for muck disposal and the land status is USF/community land.	
Muck Management Plan	Shall be prepared in EMP based on EIA studies.	
Monitoring mechanism for Muck Disposal	Shall be prepared in EMP based on EIA studies	
❖Land Area Breakup:		
Private land / Non Forest Land	Nil	
Government land or Forest Land/USF	2972 Ha	
Submergence area/Reservoir area	2220 ha at FRL 460 M	
Land required for project components	200 Ha	
Additional information (if any)		
❖Presence of Environmentally Sensitive areas in the study area		
Forest Land/ Protected Area/Environmental Sensitivity Zone	Yes/No	Details of Certificate/Letter/Remarks
Reserve Forest/Protected Forest Land	No	No Protected area falls within the 10 Km radius of project component including the reservoir
National Park	No	
Wildlife Sanctuary	No	
❖Court case details: NIL		
❖Previous EC compliance and necessary approvals:		
Particulars	Nil	

Certified EC compliance report (if applicable)	NA
Status of Stage-I FC	An application for Forest Clearance for diversion of 2972 ha shall be filed on PARIVESH 2.0 during DPR Preparation.
Is FRA (2006) done for FC-I	Shall be carried out during process of Forest Clearance
Particulars	Details
Details of consultant	Tender were floated for hiring of Consultant for EIA/EMP study based on Standard TOR after accord of ToR. Further, any additional recommendation of EAC shall be taken care of by the Consultant.
Project Benefits	Free Power @12% to home state; LADF @1%; Power injection to National Grid; Benefit Under R&R plan; Reduced dependence on Fossil Fuels; Clean Energy Generation; Economic Development; regulated Water Flow, manage Floods, benefiting both the local communities and the environment; Energy Independence; Rural Electrification; Sustainable Development, promoting economic growth, and enhancing energy security for both the state and the nation as a whole.
Status of other statutory clearance	In the process of applying to concerned Directorate / Department of GOI/ GoAP
R&R details (Tentative)	No. of Villages: 27 Nos. of PAFs: 982 R&R Plan: Shall be firmed up during SIA study.

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

12.6.3 The EAC during deliberations noted the following:

- The EAC deliberated on the information submitted (Form 1, PFR, kml file, etc.) and as presented in the meeting and observed that the proposal is for grant of terms of references (ToR) to the project for Subansiri Upper HE Project (1605 MW) in an area of 2972 ha. located at Village Pairijo, Tehsil Gussar, District Upper Subansiri, Arunachal Pradesh by M/s NHPC Limited.
- The project/activity is covered under Category A of item 1 (c) 'River Valley & Hydroelectric projects' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

•The EAC observed that Subansiri Upper HE Project is proposed to be developed on Subansiri River in Arunachal Pradesh as a multipurpose project with twin objectives of power generation and flood moderation. Subansiri Upper HE Project was initially allotted to NHPC vide order dated 01.05.2000 and NHPC had submitted Feasibility Report of the project in June 2002. Approval to the Feasibility Report was accorded by CEA on 10.09.2002 and subsequently, NHPC carried out detailed study & field investigations for preparation of DPR. Later on GoArP decided to get the project implemented through Private Developers. The Project was allotted to M/s KSK Energy Ventures Ltd. by GoArP on BOOT basis for a lease period of 40 years from the Commercial Operation as per MOA dated 18.03.2010. M/s KSK submitted few DPR chapters but no Technical clearance was received. However, due to various reasons further progress for project development and submission of DPR not made by M/s KSK. Ministry of Power (MOP) vide letter dated 22.12.2021 allotted the Project to NHPC for its development. NOC for Subansiri Upper HEP was issued by Govt. of Arunachal Pradesh on 28.06.2023 and approved allotment of projects to NHPC on 21.07.2023. MOA was signed on 12.08.2023 between GOAP and NHPC Limited for development, commissioning, implementation, operation and maintenance of Subansiri Upper HEP on BOOT basis for a lease period of 40 years from the COD.

The EAC inquired about the proposed fish pass in the project, to which PP replied that there will be no fish pass proposed in the said HEP, therefore the committee opined that PP need to justify the reason for not proposing fish pass/fish ladder in the current proposal.

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Terms of Reference

3.2.6.1. Specific

Environmental Management and Biodiversity Conservation	
1.	The project involves diversion of 2972 Ha of forestland. Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980. 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.
2.	Environmental Cost Benefit Analysis shall be done in terms of loss of Forest ecosystem due to diversion of Forest land/loss of biodiversity, water availability, water uses for generation of hydro power.
3.	The longitudinal connectivity/Free flowing sketch be provided in the EIA/EMP report.
4.	Environmental matrix during construction and operational phase needs to be submitted. Matrix formulated on the basis of detailed study and field survey of flora and Fauna methodology used shall be mentioned in the EIA report.
5.	Details of Flora and Fauna reported in submergence area, Nos. of tree along with their density and nomenclature required to be cut for barrage creation and other project component.
6.	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.

7.	Source of construction material and its distance from the project site along with detailed transportation plan for construction material.
8.	A study shall be carried out on impact of project activity on the aquatic and terrestrial ecosystem, within project area classifying the impact zones (highly impact/low impact zone) based on seasonal variations and covering the aspects related to impacts on aquatic ecosystem/ primary productivity due to quantity of water to be lifted for power generation and thermal stratification. Accordingly, Environment Management plan shall be prepared.
9.	A detailed wildlife conservation plan for Schedule –I species be prepared duly approved by the Chief Wild Life Warden be submitted.
10.	Explore the possibilities to reduce forest area for the construction of proposed project. Reduction of forest land with changing installed capacity.
11.	Conduct geological survey and find out availability of mineral in study area. Take Geological opinion from GSI regarding mineral zone in the project study area.
12.	Density of forest and its types including tentative nos of tree felled during construction of the project and details of plants species to be planted under compensatory plantation be mentioned in Compensatory Afforestation Plan under EIA/EMP.
13.	Identify the sand mining/ quarrying sites in submergence area and downstream of reservoir. Source of construction material and its distance from the project site along with detailed transportation plan for construction material.
14.	A detailed reclamation/ restoration plan of quarrying site/sites be incorporated in the EIA/EMP report.
15.	Certificate and certified map from Chief Wildlife Warden shall be submitted mentioning that project boundary is located outside the Eco Sensitive Zone (ESZ) and Wildlife Sanctuary.
16.	In case any Wildlife corridor is located within 10 km radius of the project site a detailed study shall be conducted to assess the impact of project on safe movement of wild animals.
17.	Reservoir/ River banks protection plan all along the submergence need to be prepared and incorporated in EIA/ EMP.
18.	Endemic plant and animal species found in the area concerned shall be provided instead listing entire endemic species found in the State.
19.	Details of Flora and Fauna reported in submergence area, Nos. of tree along with their density and nomenclature of the tree species required to be felled for reservoir creation and other project component.
20.	Project impact on avi-fauna shall be studied and incorporated in EIA/ EMP report.
21.	The project proponent must also include information if any, on the critical mineral zone mining or potential in the projected area from Geological Survey of India /Mineral Exploration Corporation Ltd or similar such Government organizations.
Socio-economic Study	
1.	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.
2.	Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F.No.22- 65/2017- IA.III dated 30th September, 2020 shall be submitted.
3.	Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared. Details of settlement in 10 km area shall be submitted.
4.	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.
Muck Management/ Disaster Management	
1.	Details of muck management such as dumping sites and its locations, transportation plan along with monitoring mechanism for muck transportation, detailing the road map of project construction site/ indicating the distances from HFL, river, project construction site along with types of road etc.
2.	Details of water sprinkling arrangements for arresting the fugitive / dust, emission from transportation and other project activities in project construction area.
3.	Safety measures for avoiding spill over muck into the riverbed/streams and its flow into the river during the high discharge/ flood or monsoon period. Prepare plan for stabilization of muck disposal sites using biological and engineering measures to ensure that muck does not roll down the slopes and shall be disposed safely and that it does not pollute the natural streams and water bodies in surrounding area.
4.	Restoration plan for construction area including dumping site of excavated materials by levelling, filling up of burrow pits, landscaping etc.
Disaster Management	
1.	CAT plan, Dam break analysis, Disaster Management Plan and Fisheries Management Plan be prepared along with other EMPs and incorporated in the EIA/EMP report.
2.	Pre-DPR Chapters viz., Hydrology, Layout Map and Power Potential Studies duly approved by CWC /CEA shall be submitted.
Miscellaneous	
1.	Pre-DPR Chapters viz. Layout Map and Power Potential Studies duly approved by CWC/CEA shall be submitted.
2.	Undertaking need to submitted on affidavit that regarding no activities has been yet started on the project site and water allocated to this scheme shall not be diverted to other purpose.
3.	Both capital and recurring expenditure under EMP shall be submitted.
4.	The photograph should bear the date, time, latitude & longitude of the monitoring station/ sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyse the samples.

5.	Aerial view video of project site shall be recorded and to be submitted.
6.	Detailed plan to restore wider roads and convert them into narrow upto 10m after construction of the project.

3.2.6.2. Standard

1(c)	River Valley/Irrigation projects
Scope of EIA Study	
1.	The EIA Report should identify the relevant environmental concerns and focus on potential impacts that may change due to the construction of proposed project. Based on the baseline data collected for three (3) seasons (Pre-monsoon, Monsoon and Winter seasons), the status of the existing environment in the area and capacity to bear the impact on this should be analysed. Based on this analysis, the mitigation measures for minimizing the impact shall be suggested in the EIA/EMP study.
Details of the Project and Site	
1.	General introduction about the proposed project.
2.	Details of Project and site giving L-Sections of all U/S and D/S Projects with all relevant maps and figures. Connect such information as to establish the total length of interference of Natural River and the committed unrestricted release from the site of Dam/Barrage into the main river.
3.	A map of boundary of the project site giving details of protected areas in the vicinity of 25 km of project location.
4.	Location details on a map of the project area with contours indicating main project features. The project layout shall be superimposed on a contour map of ground elevation showing main project features (viz. location of dam, Head works, main canal, branch canals, quarrying etc.) shall be depicted in a scaled map.
5.	Layout details and map of the project along with contours with project components clearly marked with proper scale maps of at least 1:50,000 scale and printed at least on A3 scale for clarity.
6.	Existence of National Park, Sanctuary, Biosphere Reserve etc. in the study area, if any, should be detailed and presented on a map with distinct distances from the project components.
7.	Drainage pattern and map of the river catchment up to the proposed project site.
8.	Delineation of critically degraded areas in the directly draining catchment on the basis of Silt Yield Index as per the methodology of Soil and Land use Survey of India.
9.	Soil characteristics and map of the project area.
10.	Geological and Seismo-tectonic details and maps of the area surrounding the proposed project site showing location of dam site and canal sites.
11.	Remote Sensing studies, interpretation of satellite imagery, topographic sheets along with ground verification shall be used to develop the land use/land cover pattern of the study using overlaying mapping techniques viz. Geographic Information System (GIS), False Color Composite (FCC) generated from satellite data of project area.
12.	Land details including forests, private and other land.

1 3.	Demarcation of snow fed and rain fed areas for a realistic estimate of the water availability.
1 4.	Different riverine habitats like rapids, pools, side pools and variations in the river substratum bedrocks, rocks, boulders, sand/silt or clay etc. need to be covered under the study
Description of Environment and Baseline Data	
1.	To know the present status of environment in the area, baseline data with respect to environmental components air, water, noise, soil, land and biology & biodiversity (flora & fauna), wildlife, socioeconomic status etc. should be collected within 10 km radius of the main components of the project/site i.e. dam site and power house site. The air quality and noise are to be monitored at such locations which are environmentally & ecologically more sensitive in the study area. The baseline studies should be collected for 1 season (Preferably Monsoon season). Flora-Fauna in the catchment and command area should be documented. The study area should comprise of the following:
2.	(i) Catchment area up to the dam/barrage site.
3.	(ii) Submergence Area.
4.	(iii) Project area or the direct impact area should comprise of area within 10 km radius of the main project components like dam, canals etc.
5.	(iv) Downstream upto 10 km from the tip of the reservoir.
Details of the Methodology	
1.	The methodology followed for collection of base line data along with details of number of samples and their locations in the map should be included. Study area should be demarcated properly on the appropriate scale map. Sampling sites should be depicted on map for each parameter with proper legends. For Forest Classification, Champion and Seth (1968) methodology should be followed.
Methodology for Collection of Biodiversity Data	
1.	The number of sampling locations should be adequate to get a reasonable idea of the diversity and other attributes of flora and fauna. The guiding principles should be the size of the study area (larger area should have larger number of sampling locations) and inherent diversity at the location, as known from secondary sources (e.g. eastern Himalayan and low altitude sites should have a larger number of sampling locations owing to higher diversity).
2.	The entire area should be divided in grids of 5kmX5km preferably on a GIS domain. There after 25% of the grids should be randomly selected for sampling of which half should be in the directly affected area (grids including project components such as reservoir, dam, powerhouse, tunnel, canal etc.) and the remaining in the rest of the area (areas of influence in 10 km radius form project components). At such chosen location, the size and number of sampling units (e.g. quadrates in case of flora/transects in case of fauna) must be decided by species area curves and the details of the same (graphs and cumulative number of species in a tabulated form) should be provided in the EIA report. Some of the grids on the edges may not be completely overlapping with the study area boundaries. However, these should be counted and considered for selecting 25% of the grids. The number of grids to be surveyed may come out as a decimal number (i.e. it has an integral and a fractional part) which should be rounded to the next whole number.
3.	The conventional sampling is likely to miss the presence of rare, endangered and threatened (r.e.t.) species since they often occur in low densities and in case of faunal species are usually secretive in behaviour. Reaching the conclusion about the absence of such species in the study area based on such methodology is misleading. It is very important to document the status of such species owing to their high conservation value. Hence likely presence of such species should be ascertained from secondary sources by a proper literature survey for the said area including referring to field guides which are now available for many taxonomic groups in India. Even literature from studies/surveys in the larger landscapes which include the study area for the concerned project must be referred to,

	<p>since most species from adjoining catchments is likely to be present in the catchments in question. In fact such literature form the entire state can be referred to. Once a listing of possible r.e.t. species form the said area is developed, species specific methodologies should be adopted to ascertain their presence in the study area which would be far more conclusive as compared to the conventional sampling. If the need be, modern methods like camera trapping can be resorted to, particularly for areas in the eastern Himalayas and for secretive/nocturnal species. A detailed listing of the literature referred to, for developing lists of r.e.t. species should be provided in the EIA reports. The conventional sampling is likely to miss the presence of rare, endangered and threatened (r.e.t.) species since they often occur in low densities and in case of faunal species are usually secretive in behaviour. Reaching the conclusion about the absence of such species in the study area based on such methodology is misleading. It is very important to document the status of such species owing to their high conservation value. Hence likely presence of such species should be ascertained from secondary sources by a proper literature survey for the said area including referring to field guides which are now available for many taxonomic groups in India. Even literature from studies/surveys in the larger landscapes which include the study area for the concerned project must be referred to, since most species from adjoining catchments is likely to be present in the catchments in question. In fact such literature form the entire state can be referred to. Once a listing of possible r.e.t. species form the said area is developed, species specific methodologies should be adopted to ascertain their presence in the study area which would be far more conclusive as compared to the conventional sampling. If the need be, modern methods like camera trapping can be resorted to, particularly for areas in the eastern Himalayas and for secretive/nocturnal species. A detailed listing of the literature referred to, for developing lists of r.e.t. species should be provided in the EIA reports.</p>
4.	The R.E.T. species referred to in this point should include species listed in Schedule I and II of Wildlife (Protection) Act, 1972 and those listed in the red data books (BSI, ZSI and IUCN).
Components of the EIA Study: Various aspects to be studied and provided in the EIA/EMP report are as follows:	
1.	null
2.	null
3.	Physical geography, Topography, Regional Geological aspects and structure of the Catchment.
4.	Tectonics, seismicity and history of past earthquakes in the area. A site specific study of the earthquake parameters will be done. The results of the site specific earthquake design shall be sent for approval of the NCSDP (National Committee of Seismic Design Parameters, Central water Commission, New Delhi for large dams.
5.	Landslide zone or area prone to landslide existing in the study area should be examined.
6.	Presence of important economic mineral deposit, if any.
7.	Justification for location & execution of the project in relation to structural components (dam /barrage height).
8.	Impact of project on geological environment.
9.	null
10.	Meteorology (viz. Temperature, Relative humidity, wind speed/direction etc.) to be collected from nearest IMD station.
11.	Ambient Air Quality with parameters viz. Suspended Particulate Matter (SPM), Respirable Suspended Particulate Matter (RSPM) i.e. suspended particulate materials < 10 microns, Sulphur dioxide (SO ₂) and Oxides of Nitrogen (NO _x) in the study area at 5-6 Locations.
12.	Existing Noise Levels and traffic density in the study area at 5-6 Locations.

1 3.	null
1 4.	Soil classification, physical parameters (viz., texture, Porosity, Bulk Density and water holding capacity) and chemical parameters (viz. pH, electrical conductivity, magnesium, calcium, total alkalinity, chlorides, sodium, potassium, organic carbon, available potassium, available phosphorus, SAR, nitrogen and salinity, etc.) at @ one sample/ha of command area.
1 5.	null
1 6.	(i) Generation of thematic maps viz, slope map, drainage map, soil map, land use and land cover map, etc. Based on these, thematic maps, an erosion intensity map should be prepared.
1 7.	null
1 8.	History of the ground water table fluctuation in the study area.
1 9.	Water quality for both surface water and ground water for (i) Physical parameters (pH, temperature, electrical conductivity, TSS); (ii) Chemical parameters (Alkalinity, Hardness, BOD, COD, NO ₂ , PO ₄ , Cl, SO ₄ , Na, K, Ca, Mg, Silica, Oil & Grease, phenolic compounds, residual sodium carbonate); (iii) Bacteriological parameter (MPN, Total coliform) and (iv) Heavy Metals (Pb, As, Hg, Cd, Cr-6, total Cr, Cu, Zn, Fe) (6 locations).
2 0.	Delineation of sub and micro-watersheds, their locations and extent based on the All India Soil and Land Use Survey of India (AISLUS), Department of Agriculture, Government of India. Erosion levels in each micro-watershed and prioritization of micro-watershed through silt yield index (SYI) method of AISLUS
2 1.	Hydro-Meteorology of the project viz. precipitation (snowfall, rainfall), temperature, relative humidity, etc. Hydro-meteorological studies in the catchment area should be established along-with real time telemetry and data acquisition system for inflows monitoring.
2 2.	Run off, discharge, water availability for the project, sedimentation rate, etc.
2 3.	Basin characteristics
2 4.	Catastrophic events like cloud bursts and flash floods, if any, should be documented.
2 5.	For estimation of Sedimentation Rate, direct sampling of river flow is to be done during the EIA study. The study should be conducted for minimum one year. Actual silt flow rate to be expressed in ha-m km ² year ⁻¹ .
2 6.	Set up a G&D monitoring station and a few rain gauge stations in the catchment area for collecting data during the investigation.
2 7.	Flow series, 10 daily with 90%, 75% and 50% dependable years discharges.
2 8.	Information on the 10-daily flow basis for the 90 per cent dependable year the flow intercepted at the dam, the flow diverted to the power house and the spill comprising the environmental flow and additional flow towards downstream of the dam for the project may be given.
2 9.	The minimum environmental flow shall be 20% of the flow of four consecutive lean months of 90% dependable year, 30% of the average monsoon flow. The flow for remaining months shall be in between 20-30%, depending

	on the site specific requirements. A site specific study shall be carried out by an expert organization.
3 0.	Sedimentation data available with CWC may be used to find out the loss in storage over the years.
3 1.	Hydrological studies/data as approved by CWC shall be utilized in the preparation of EIA/EMP report. Actual hydrological annual yield may also be given in the report. Sedimentation data available with CWC may be used to find out the loss in storage over the years.
3 2.	A minimum of 1 km distance from the tip of the reservoir to the tail race tunnel should be maintained between upstream and downstream projects.
3 3.	Besides primary studies, review of secondary data/literature published for project area on flora & fauna including RET species shall be reported in EIA/EMP report.
3 4.	null
3 5.	Characterization of forest types (as per Champion and Seth method) in the study area and extent of each forest type as per the Forest Working Plan.
3 6.	Documentation of all plant species i.e. Angiosperm, Gymnosperm, Pteridophytes, Bryophytes (all groups).
3 7.	General vegetation profile and floral diversity covering all groups of flora including lichens and orchids. A species wise list may be provided.
3 8.	Assessment of plant species with respect to dominance, density, frequency, abundance, diversity index, similarity index, importance value index (IVI), Shannon Weiner index etc. of the species to be provided. Methodology used for calculating various diversity indices along with details of locations of quadrates, size of quadrates etc. to be reported within the study area in different ecosystems.
3 9.	Existence of National park, Sanctuary, Biosphere Reserve etc in the study area, if any, should be detailed.
4 0.	Economically important species like medicinal plants, timber, fuel wood etc.
4 1.	Details of endemic species found in the project area.
4 2.	Flora under RET categories should be documented using International Union for the Conservation of Nature and Natural Resources (IUCN) criteria and Botanical Survey of India's Red Data list along-with economic significance. Species diversity curve for RET species should be given.
4 3.	Cropping pattern and Horticultural Practices in the study area.
4 4.	null
4 5.	Fauna study and inventorisation should be carried out for all groups of animals in the study area. Their present status alongwith Schedule of the species.
4 6.	Documentation of fauna plankton (phyto and zooplankton), periphyton, benthos and fish should be done and analysed.

4 7.	Information (authenticated) on Avi-fauna and wildlife in the study area.
4 8.	Status of avifauna their resident/ migratory/ passage migrants etc.
4 9.	Documentation of butterflies, if any, found in the area.
5 0.	Details of endemic species found in the project area.
5 1.	RET species-voucher specimens should be collected along-with GPS readings to facilitate rehabilitation. RET faunal species to be classified as per IUCN Red Data list and as per different schedule of Indian Wildlife (Protection) Act, 1972.
5 2.	Existence of barriers and corridors, if any, for wild animals.
5 3.	Compensatory afforestation to compensate the green belt area that will be removed, if any, as part of the proposed project development and loss of biodiversity.
5 4.	Collection of primary data on agricultural activity, crop and their productivity and irrigation facilities components.
5 5.	For categorization of sub-catchment into various erosion classes and for the consequent CAT plan, the entire catchment (Indian Portion) is to be considered and not only the directly the draining catchment.
5 6.	Documentation of aquatic fauna like macro-invertebrates, zooplankton, phytoplanktons, benthos etc.
5 7.	Fish and fisheries, their migration and breeding grounds.
5 8.	Fish diversity composition and maximum length & weight of the measured populations to be studies for estimation of environmental flow.
5 9.	Conservation status of aquatic fauna.
6 0.	Sampling for aquatic ecology and fisheries and fisheries must be conducted during three seasons Pre-monsoon (summer), monsoon and winter. Sizes (length & weight) of important fish species need to be collected and breeding and feeding grounds should also be identified along the project site or in vicinity.
6 1.	Collection of baseline data on human settlements, health status of the community and existing infrastructure facilities for social welfare including sources of livelihood, job opportunities and safety and security of workers and surroundings population.
6 2.	Collection of information with respect to social awareness about the developmental activity in the area and social welfare measures existing and proposed by project proponent.
6 3.	Collection of information on sensitive habitat of historical, cultural and religious and ecological importance.
6 4.	The socio-economic survey/ profile within 10 km of the study area for demographic profile; Economic Structure; Developmental Profile; Agricultural Practices; Infrastructure, education facilities; health and sanitation facilities; available communication network etc.

6 5.	Documentation of demographic, Ethnographic, Economic Structure and development profile of the area.
6 6.	Information on Agricultural Practices, Cultural and aesthetic sites, Infrastructure facilities etc.
6 7.	Information on the dependence of the local people on minor forest produce and their cattle grazing rights in the forest land.
6 8.	List of all the Project Affected Families with their name, age, educational qualification, family size, sex, religion, caste, sources of income, land & house holdings, other properties, occupation, source of income, house/land to be acquired for the project and house/land left with the family, any other property, possession of cattle, type of house etc.
6 9.	Special attention has to be given to vulnerable groups like women, aged persons etc. and to any ethnic/indigenous groups that are getting affected by the project.
Impact Prediction and Mitigation Measures	
1.	The adverse impact due to the proposed project should be assessed and effective mitigation steps to abate these impacts should be described.
2.	Changes in ambient and ground level concentrations due to total emissions from point, line and area sources.
3.	Effect on soil, material, vegetation and human health.
4.	Impact of emissions from DG set used for power during the construction, if any, on air environment.
5.	Pollution due to fuel combustion in equipments and vehicles
6.	Fugitive emissions from various sources
7.	Changes in surface and ground water quality
8.	Steps to develop pisci-culture and recreational facilities
9.	Changes in hydraulic regime and downstream flow.
1 0.	Water pollution due to disposal of sewage
1 1.	Water pollution from labour colonies/ camps and washing equipment.
1 2.	Adverse impact on land stability, catchment of soil erosion, reservoir sedimentation and spring flow (if any) (a) due to considerable road construction / widening activity (b) interference of reservoir with the inflowing stream (c) blasting for commissioning of HRT, TRT and some other structures.
1 3.	Changes in land use / land cover and drainage pattern
1 4.	Immigration of labour population
1 5.	Quarrying operation and muck disposal

1 6.	Changes in land quality including effects of waste disposal
1 7.	River bank and their stability
1 8.	Impact due to submergence.
1 9.	Impact on forests, flora, fauna including wildlife, migratory avi-fauna, rare and endangered species, medicinal plants etc.
2 0.	Pressure on existing natural resources
2 1.	Deforestation and disturbance to wildlife, habitat fragmentation and wild animal's migratory corridors
2 2.	Compensatory afforestation-identification of suitable native tree species for compensatory afforestation and green belt.
2 3.	Impact on fish migration and habitat degradation due to decreased flow of water
2 4.	Impact on breeding and nesting grounds of animals and fish.
2 5.	Impact on local community including demographic profile.
2 6.	Impact on socio-economic status
2 7.	Impact on economic status.
2 8.	Impact on human health due to water / vector borne disease
2 9.	Impact on increase traffic
3 0.	Impact on Holy Places and Tourism
3 1.	Impacts of blasting activity during project construction which generally destabilize the land mass and leads to landslides, damage to properties and drying up of natural springs and cause noise population will be studies. Proper record shall be maintained of the baseline information in the post project period.
3 2.	Positive and negative impacts likely to be accrued due to the project are listed.
Environmental Management Plan	
1.	null

2.	Biodiversity and Wildlife Conservation and Management Plan for the conservation and preservation of rare, endangered or endemic floral/faunal species or some National Park/Sanctuary/ Biosphere Reserve or other protected area is going to get affected directly or indirectly by construction of the project, then suitable conservation measures should be prepared in consultation with the State Forest Department and with the physical and financial details. Suitable conservation techniques (in-situ/ ex-situ) will be proposed under the plan and the areas where such conservation is proposed will be marked on a project layout map.
3.	Compensatory Afforestation shall be prepared by the State Forest Department in lieu of the forest land proposed to be diverted for construction of the project as per the Forest (Conservation) Act, 1980. Choice of plants for afforestation should include native and RET species, if any. This will be a part of the forest clearance proposal.
4.	Fisheries Conservation and Management Plan - a specific fisheries management measures should be prepared for river and reservoir. If the construction of fish ladder/ fish-way etc. is not feasible then measures for reservoir fisheries will be proposed. The plan will detail out the number of hatcheries, nurseries, rearing ponds etc. proposed under the plan with proper drawings. If any migratory fish species is getting affected then the migratory routes, time/season of upstream and downstream migration, spawning grounds etc will be discussed in details.
5.	Green Belt Development Plan along the periphery of the reservoir, approach roads around the colonies and other project components, local plant species must be suggested with physical and financial details. A layout map showing the proposed sites for developing the green belt should be prepared.
6.	Environmental Monitoring Programme to monitor the mitigatory measures implemented at the project site is required will be prepared. Provision for Environment Management Cell should be made. The plan will spell out the aspects required to be monitored, monitoring indicators/parameters with respect to each aspect and the agency responsible for the monitoring of that particular aspect throughout the project implementation.
7.	Catchment Area Treatment (CAT) Plan should be prepared micro-watershed wise. Identification of free draining/ directly draining catchment based upon Remote Sensing and Geographical Information System (GIS) methodology and Sediment Yield Index (SYI) method of AISLUS, Deptt. of Agriculture, Govt. of India coupled with ground survey. Areas or watersheds falling under 'very severe' and 'severe' erosion categories should be provided and required to be treated. Both biological as well as engineering measures should be proposed in consultation with State Forest Department for areas requiring treatment. Year-wise schedule of work and monetary allocation should be provided. Mitigation measures to check shifting cultivation in the catchment area with provision for alternative and better agricultural practices should be included.
8.	Study of Design Earthquake Parameters: A site specific study of earthquake parameters should be done. Results of the site specific earthquake design parameters should be approved by National Committee of Seismic Design Parameters, Central Water Commission (NCSDP), New Delhi.
9.	Dam Break Analysis and Disaster Management Plan The outputs of dam break model should be illustrated with appropriate graphs and maps clearly bringing out the impact of Dam Break scenario. To identify inundation areas, population and structures likely to be affected due to catastrophic floods in the event of dam failure. DMP will be prepared with the help of Dam Break Analysis. Maximum water level that would be attained at various points on the downstream in case of dam break will be marked on a detailed contour map of the downstream area, to show the extent of inundation. The action plan will include Emergency Action and Management plan including measures like preventive action notification, warning procedure and action plan for co-ordination with various authorities.
10.	Reservoir Rim Treatment Plan for stabilization of land slide / land slip zones, if any, around the reservoir periphery is to be prepared based on detailed survey of geology of the reservoir rim area. Suitable engineering and biological measures for treatment of identified slip zones to be suggested with physical and financial schedule. Layout map showing the landslide/landslip zones shall be prepared and appended in the chapter.
11.	Muck Disposal Plan- suitable sites for dumping of excavated material should be identified in consultation with the State Pollution Control Board and Forest Department. All Muck disposal sites should be minimum 30 m away from the HFL of river. Plan for rehabilitation of muck disposal sites should also be given. The L- section/ cross section of muck disposal sites and approach roads to be given. Financial out lay for this may be given separately. Detailed muck transportation plan delineating the path ways, number of trucks, quantity of muck to be transported along with monitoring mechanism using latest technology, shall be prepared.

1 2.	Restoration Plan for Quarry Sites and landscaping of colony areas, working areas, roads etc. Details of the coarse/fine aggregate/clay etc. required for construction of the project and the rock/clay quarries/river shoal sites identified for the project should be discussed along-with the Engineering and Biological measures proposed for their restoration with physical and financial details. Layout map showing quarry sites vis-à-vis other project components, should be prepared.
1 3.	Resettlement and Rehabilitation Plan needed to be prepared on the basis of findings of the socio- economic survey coupled with the outcome of public consultation held. The R&R package shall be prepared after consultation with the representatives of the project affected families and the State Government. Detailed budgetary estimates are to be provided. Resettlements site should be identified. The plan will also incorporate community development strategies.
1 4.	Public Health Delivery Plan including the provisions of drinking water supply for local population shall be in the EIA/EMP Report. Status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the need of the labour force and local populace.
1 5.	Local Area Development Plan to be formulated in consultation with the Revenue Officials and Village Panchayats. Appropriate schemes shall be prepared under EMP for the Local Area Development Plan with sufficient financial provisions.
1 6.	Labour Management Plan for their Health and Safety.
1 7.	Sanitation and Solid waste management plan for domestic waste from colonies and labour camps etc.
1 8.	Energy Conservation Measures for the work force during construction with physical and financial details. Alternatives will be proposed for the labour force so that the exploitation of the natural resource (wood) for the domestic and commercial use is curbed.
1 9.	Environmental safeguards during construction activities including Road Construction.
2 0.	A summary of Cost Estimates for all the plans, cost for implementing all the Environmental Management Plans.
2 1.	Water, Air and Noise Management Plans to be implemented during construction and post-construction periods.

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. N o.	Name	Designation	Email ID	Remarks
1	Prof G J Chakrapani	Chairman, EAC	cha*****@gmail.com	
2	Dr Uday Kumar R Y	Member (EAC)	uda*****@yahoo.com	
3	Dr Mukesh Sharma	Member (EAC)	muk***@iitk.ac.in	Absent