

3.0 THE TERMS & REFERENCE OF THE COMMITTEE:

The terms and Reference of the committee is to give recommendations on:

- (i) whether EPC contracts or item rates contracts are more viable and under which circumstances
- (ii) restructuring relevant provisions of contracts as recommended after study of
 - a. Arbitration cases
 - b. Kanwar Singh Committee recommendations
 - c. CVC circulars
 - d. World Bank recommendations

Further, in the meeting held on 17.01.2022, Secretary (Power) directed that Committee shall broaden its scope to cover a unified comprehensive strategy on how to structure contracts and improve contract management system for execution of hydro projects, measures to minimize the disputes and need of arbitration, check time and cost overrun and make HEPs cost efficient may also be examined.

4.0 MEETINGS OF THE COMMITTEE:

4.1 The Committee had its 1st meeting on December 19th, 2021 at THDCIL NCR office, Kaushambi. Committee deliberated on the terms and reference and took following decisions:

- To have at least one Committee meeting each in the offices of CEA and Hydro CPSEs i.e. NHPC, SJVN, NEEOCO and THDC. It was also agreed to have one meeting at World Bank headquarter who have very good experience of contracting in Asian countries.
- To hold a Conference in Feb. 2021 which will culminate the proceedings of the Committee. All stake holders, contractors, consultants, experts, officials from World Bank, Hydro CPSUs, CEA etc. will be invited to participate in the Conference.
- To take the suggestion of the contractors who are actually working on the field. The Committee can focus on few important issues which will be emerged from contractors' suggestions at the time of meeting with stakeholders/ contractors.
- To co-opt Sh. Manoj Tripathi, Chief Engineer (Hydro Project Monitoring), CEA in the committee who has good experience in this field and was part of the other committees earlier also.
- To take views of all Hydro CPSUs regarding mode of contracting, their merits & demerits and their comments on improvement of important contract clauses. All the CPSUs were requested to share experience and provide data/inputs related to the contracts which have been awarded by them by 30.12.2021.
- It was decided to nominate one officer by each CPSU for coordination.
- It was agreed to have the next meeting on 7th-8th Jan, 2022, at NEEPCO, Headquarter, Shilong.

The Record notes of the meeting of the committee are enclosed at **Annexure-II.**

4.2 The Committee had its 2nd meeting on 10th Jan,2022 via virtual mode and deliberated on the terms and reference. The gist is as under:

- The mode of contracting for hydro projects was discussed in detail and it was concluded that EPC contracts may be undertaken in projects where there are not substantial underground works. Further extensive geological investigations are to be done in such projects with a cap on risk to the contractor.
- NEEPCO gave a presentation on the various issues related to contractual matters.
- It was decided that the discussion in the next meeting will focus on views of each of the CPSE's, Contractors and World Bank on the various agenda items related to contractual issues. A comparative chart will be prepared for each of the aspects.

The Record notes of the meeting of the committee are enclosed at **Annexure-III.**

4.3 The Committee had its 3rd meeting with CMDs of Hydro-CPSEs on 19th Jan, 2022 via virtual mode and deliberated on different mode of contracting for hydro projects. In this meeting, various Hydro-CPSEs submitted their views regarding different mode of contracting for hydro projects:

- NHPC stated that as availability of competent contractor(s) is a major issue in Hydro Sector, selection of Packages / Turn Key / EPC mode of contract should be considered on case to case basis considering the factors as brought out above (compactness, law and order, quantum of underground works associated unforeseen risk, local issues, investigation details available). As such, the option to choosing the mode of contracting should be left with the PSU to decide.
- NEEPCO stated that the choice of adopting the right mode of contracting as below in hydro projects may be left to the developers to be decided on a case to case basis.

➤ Single EPC Contract- Turn Key type

- Multiple EPC contracts for EM, HM and Civil Packages.
- Composite Contracts with EPC for EM & HM works and Item-rate Contract for Civil works.
- Multiple Package contracts on item rate basis for EM, HM and Civil Packages.
- SJVN stated that the choice of the mode of contracting whether Turnkey, Two-EPC or Item-rate will depend on a no. of factors viz. the extent of underground works involved in the project, Value of the Contracts and availability of contracting parties. Therefore, a one-size-fits-all approach may not be appropriate and the decision in this regard is best left to the developer of the Project.

The Record notes of the meeting of the committee are enclosed at **Annexure-IV.**

4.4 The Committee had its 4th meeting on 04th Feb, 2022 via virtual mode. In this meeting, the Committee deliberated on the views received from all Hydro-CPSEs.

- After detailed deliberation on the views received from all Hydro-CPSE, it was decided that a draft report shall be prepared and circulated among Committee members and the same will be further discussed in next committee meeting.

4.5 The Committee had its 5th meeting on 14th March, 2022 at THDCIL NCR office, Kaushambi.

- In this meeting, detailed discussions were held on the Draft report.
- It was decided that after suitable modifications, the draft report shall be finalized by circulating among Committee members.

4.6 The Committee had its 6th meeting on 29th April, 2022 via virtual mode. In this meeting:

- Detailed discussions were held on the various points of the earlier circulated Draft report.
- Detailed discussions were held on the Contractors' views/suggestions received vide e-mails.

4.7 The Committee had its 7th meeting on 09th September, 2022 via virtual mode.

- In this meeting, detailed discussions were held on the various points, suggested for further deliberations in the Review Meeting under the chairmanship of Secretary (Power) held on 22.06.2022.

4.8 A Review Meeting held on 22.12.2022 at Shram Shakti Bhawan, New Delhi.

- A Review Meeting, under the chairmanship of Hon'ble Minister of Power, New & Renewable Energy, held on 22.12.2022 on the Report submitted by the Committee at Shram Shakti Bhawan, New Delhi.
- In this meeting, detailed discussions were held on the various points of the report. The committee accordingly incorporated the points and updated its report.

5.0 VIEWS/SUGGESTIONS OF STAKEHOLDERS:

5.1 Comments of CPSEs:

5.1.1 CPSEs were requested vide letter No.THDCIL/NCR/Arbitration Committee/F-220B/607 dated 22.12.2021 to share their experience and provide valuable views /suggestions with respect to Hydro-power projects considering Hydro-Mechanical works, Electro-Mechanical works & Civil works, on the following points:

- (i) Viability of EPC contracts or item rates contracts along with circumstances thereof
- (ii) Comments on various contract clauses of different hydro-power project contracts, like:
 - a. Qualifications/Eligibility requirement
 - b. Scope of work
 - c. E-reverse bidding process
 - d. Variation and adjustment
 - e. Adjustment for change in laws
 - f. Payment (Down payment, Interest bearing payment, Progressive payment related clauses, Bank Guarantee etc.)
 - g. Claims procedure
 - h. Force majeure
 - i. Risk sharing methodology
 - j. Procedure for the payment of the idling cost to the Contractor
 - k. Incentive clause for early completion of works
 - l. Construction Methodology
 - m. Equipment advances
 - n. Any other addition in Contractual condition, for which CPSE may like to propose for smooth execution of works.
- (iii) Additional Suggestions, if any.

In addition to the above, it was also requested to furnish the desired information (Project-wise) in the attached Format.

5.1.2 Comments of NEEPCO:

NEEPCO has submitted their views/suggestions vide email dated 31.12.2021 and the same is placed at **Annexure-V**.

5.1.3 Comments of SJVN:

SJVN has submitted their views/suggestions vide email dated 05.01.2022 and the same is placed at **Annexure-VI**.

5.1.4 Comments of NHPC:

NHPC has submitted their views/suggestions vide letter no. NH/Dir(Proj)/Misc./2022/7 dated 05.01.2022 and the same is placed at **Annexure-VII**.

5.1.5 Comments of THDC:

THDC has submitted their views/suggestions vide email dated 06.01.2022 and the same is placed at **Annexure-VIII**.

5.2 Views/Suggestions of Contractors:

Contractors were requested vide letter No. THDCIL/NCR/Arbitration Committee/F-220B/606 dated 22.12.2021 to share their experience and provide your valuable views /suggestions with respect to Hydro-power projects considering Hydro-Mechanical works, Electro-Mechanical works & Civil works, on the following points:

- (i) Viability of EPC contracts or item rates contracts alongwith circumstances thereof
- (ii) Comments on various contract clauses of different hydro-power project contracts, like:
 - a. Qualifications/Eligibility requirement
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- h. Force majeure
- i. Risk sharing methodology
- j. Procedure for the payment of the idling cost to the Contractor
- k. Incentive clause for early completion of works
- l. Construction Methodology
- m. Equipment advances
- n. Any other addition in Contractual condition, for which CPSE may like to propose for smooth execution of works.

(iii) Additional Suggestions, if any.

5.2.1 Comments of Larsen & Tourbro:

Larsen & Tourbro has submitted their views on contract clauses & different modes of contracting in hydro power projects vide their letter dated 30.12.2021 and the same are placed at **Annexure-IX**.

5.2.2 Comments of R.M. Sinha & Co.:

R.M. Sinha & Co. has submitted their views on contract clauses & different modes of contracting in hydro power projects vide their letter dated 30.12.2021 and the same are placed at **Annexure-X**.

5.2.3 Comments of ANDRITZ Hydro Private Limited:

ANDRITZ Hydro Private Limited has submitted their views on contract clauses & different modes of contracting in hydro power projects vide their letter dated 05.01.2022 and the same are placed at **Annexure-XI**.

5.2.4 Comments of AFCONS Infrastructure Limited:

AFCONS Infrastructure Limited has submitted their views on contract clauses & different modes of contracting in hydro power projects vide their letter no. HYDRO/SGP/2273 dated 29.12.2021 and the same are placed at **Annexure-XII**.

5.2.5 Comments of Hindustan Construction Co. Ltd. (HCC):

HCC has submitted their views on contract clauses & different modes of contracting in hydro power projects vide their letter no. HYD-S/MT/003 dated 6.01.2022 and the same are placed at **Annexure-XIII**.

5.2.6 Comments of Voith Hydro Pvt. Ltd.:

Voith Hydro Pvt. Ltd has submitted their views on contract clauses & different modes of contracting in hydro power projects vide their email dated 07.01.2022 and the same are placed at **Annexure-XIV**.

5.3 Views/Suggestions of World Bank:

Sh. Shanker Lal, FCIPS, Lead Procurement Specialist, The World Bank has submitted comparison of two popular contracting models used for hydro projects vide e-mail dated 06.01.2022 and the same is placed at **Annexure-XV**. It was further brought out that the choice of Contract depends on factors like size/complexity of the package, level of uncertainties including the anticipated potential for change of scope or design, capacity of Employer, availability of qualified contractors, legal and regulatory environment in the country as well as the level of involvement the Employer wants to have in the execution of the project. Hence a fit-for-purpose approach needs to be taken based on the merits of each case.

6.0 DELIBERATIONS OF THE COMMITTEE:

6.1 Different modes of Contracting - EPC or Item rate – which one is better for faster execution or criteria for any project:

The Committee adopted the following definitions with respect to different modes of contracting:

1. **EPC Contract:** An EPC Contract covers Engineering, Procurement and Construction part of the project/package. Employer will provide basic engineering to a contractor and based on this, the later shall perform detailed design.
2. **Turnkey Contract:** Turnkey means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract. The Turnkey contractor begins the work from scratch and deliver the end project which can be put to use immediately where as in EPC contract, generally the major works of the project including design are executed by the contractor but the infrastructure works are get done by the owner.
3. **Item-rate Contract:** An item rate contract is the type of contract in which the contractor agrees to carry out the work as per drawings and specifications considering the payment made entirely on the basis of measurements taken as the work proceeds and at the unit price tendered by the contractor in the bill of quantities

6.1.1 Views of CEA

Hydro Projects being executed by the CPSE's under the Ministry of Power are presently executing major Civil/ E&M/ HM contracts for their hydro projects mainly based on the FIDIC suite of contracts viz. Red Book for Item rate contracts for procurement of civil works, Yellow Book for procurement of E&M/ HM works and Silver Book for Turnkey/ EPC contracts.

Turnkey/ EPC contracts are popular in the developed nations and also picking pace in the developing economies due to large expectations from this mode of contract by the major stakeholders viz. Owners & Financiers. Turnkey/ EPC contracts are considered to provide better certainty of cost (and also time) since the risk of the unforeseen ground conditions is the responsibility of the