



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

CIN: U40100KL2011SGC027424

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Abstract

RMU works Kuttiyadi 3x25 MW HEP - Modified proposal - Sanctioned –
Orders issued- Regarding

CORPORATE OFFICE (SBU-G/C)

B.O(FTD) No. 330/2020(DGC/AEE-I/RMU-KTDY/2017-18) Thiruvananthapuram, Dated 16.05.2020

Read

1. BO (DB) No: 1519/2017(DGE/G2/RMU-KTDY/2017-18) Tvp., dated 14.06.2017
2. Minutes of Meeting convened by Director (CP,GE,SCM&S) on 23.01.2018
3. B.O (FTD) No. 1256/2018(D&GE)/G2/RMU-KTDY/2017-18) dated 15.05.2018
4. Final report of M/s AHEC July 2019
5. Letter No: CECCN/DB/KKM/-PROJECTS/GENL/KUTTIADY(3X25MW)HEP-RLA STUDY/16 OF CE (CC-NOTH) Dated: 22-04-2020
6. Letter AHEC/C-56/0549 dated 06.03.2018 M/s AHEC addressed to the Chief Engineer(CC- N)
7. Note No: DGC/AEE-I/RMU-KTDY/2017-18 dated :07.05.2020 of the Director(Generation Civil) to Full Time Directors (Agenda item 22/5/20)

ORDER

The Kuttiyadi (3X25MW) HE Project was commissioned during 1972. The generating units and its auxiliary equipment are fought with problems developed due to ageing and proposal for the renovation of generating units and the auxiliary equipments made after carrying out Residual Life Assessment (RLA) studies through the consultant, Alternate Hydro Electric Centre (AHEC) a Central Government agency under the IIT Roorkee.

KSEB Ltd as per order read as 1st above accorded Administrative sanction for the Renovation, Modernization and Up-rating of machines of Kuttiyadi (3X25MW) HEP which includes laying penstock exclusively for Kuttiyadi Extension Scheme (1X50MW) at an estimated cost of Rs. 327.2 Crore (excluding IDC). The Civil works viz, laying of new penstock for Kuttiyadi Extension Scheme with an estimated cost of Rs. 150 Crore is entrusted with the Chief Engineer (CC North) as per the minutes of meeting read as 2 above.

Consequent to the introduction of Kuttiyadi Extension Scheme (KES 1x50 MW), anomalous reduction in the power output of Kuttiyadi HEP was noticed and in order to rectify this issue, M/s AHEC, Roorkee has recommended for installing a separate penstock for the KES unit. M/s AHEC Roorkee, in their report has proposed two options viz. OPTION A, and

OPTION B for rectifying the anomalous reduction in power output of unit #2 & unit # 3 of Kuttiyadi HEP (3 x 25 MW) .

In these two options, OPTION-A , laying a new additional pen stock of 1.9m diameter from the dam intake to the existing bifurcation location in a length of about 2000m, adjacent to the existing penstock for feeding KES (1X50 MW) and OPTION-B, laying a new penstock of 2.5m diameter to replace the existing pipe of 1.9/2.0m diameter from bend No. 1 to bifurcation point for a maximum length of 2000m were proposed.

The Chief Engineer (CC North) after studying these proposals, selected OPTION-A for the reason that, the total shutdown of the project is required for OPTION-B, which leads to generation loss during the entire period of replacement work of penstock. Further it is informed that, since OPTION-A involves construction of new intake, HRT surge and penstock as in the case of a new project, it is too expensive and time consuming in arranging forest land on lease and in procuring subsequent environmental clearances from MoEF, etc. These impediments can be eliminated by providing a Wye piece at about 70 m d/s of the existing valve house and the additional penstock can be started from this location.

Accordingly the OPTION-A proposal of a new water conductor system involving construction of a separate intake, HRT, surge and penstock was modified. As per the 'Modified OPTION-A', a new penstock for about 2 km length has to be laid by introducing a Wye piece in the penstock of KHEP at 70m downstream of the existing Valve House and by connecting to the machines of KES(1X50MW)PH suitably. As per the 'Modified OPTION-A', the Intake, HRT, Surge, Valve house and a small length of penstock about 70 m just downstream of valve house remains common to KHEP(3 x 25) and KES(1 X 50 MW).

The Chief Engineer (CC North) has informed the modification proposed in OPTION A to the consultant M/s AHEC Roorkee and appraised of the field difficulties and their approval was sought for the 'Modified OPTION-A'. As per letter read as 6th above, M/s AHEC Roorkee has agreed to these modifications.

Accordingly as per the order read as 3rd above, KSEBL accorded sanction for conducting Computational Fluid Dynamic (CFD) analysis and design of Y-piece for Kuttiyadi Extension Scheme through the consultant M/s AHEC, Roorkee.

M/s AHEC (Renamed as Department of Hydro & Renewable Energy, IIT ,Roorkee) subsequent to the CFD analysis, design of the Wye piece installation and additional penstock had submitted their final report read as 4th above with details of Wye piece for the 'Modified OPTION-A'.

As the RMU works pertaining to the E&M installation is already entrusted to M/s BHEL

to proceed with the execution of Civil works as envisaged in the 'Modified OPTION-A'. The Civil works proposed are to be tendered at an early date.

In the light of the above, the Chief Engineer (CC North) as per letter read as 5th above requested to obtain sanction from KSEBL for the 'Modified OPTION-A' to proceed with the execution of Civil works.

Having considered the matter in detail as per note read as 7th above, Full Time Directors in the meeting held on 15.05.2020, resolved to accord sanction for the following

1. For laying a new penstock of about 2 km by introducing a Wye piece at penstock 70m downstream of existing Valve House of KHEP (3 X 25 MW) and connecting to the KES (1x50 MW) machine suitably at downstream end as per the "Modified OPTION A" as approved by M/s AHEC, Roorkee
2. To proceed with the execution of civil works as per the Modified OPTION A.

Orders are issued accordingly.

BY ORDER OF THE FULL TIME DIRECTORS

Sd/-

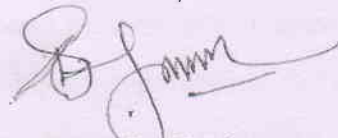
LEKHA G

COMPANY SECRETARY in charge

Copy to:

1. The Chief Engineer(CC-North),VydyuthiBhavanam, Koozhikode for further action
2. The Chief Internal Auditor/ Financial Adviser
3. The Chief Engineer (IT)
4. The RCAO/The RAO
5. TA to CMD/ TA to Dir(GC)/ Dir(P,GE&SCM)/ Dir(T,SO&S)/Dir(D,IT&HRM)
6. The PA to Director (Finance) / Secretary(Admn)
7. The Legal Liaison Officer, KSE Board Ltd., Kochi
8. The Project Manager ,Chembukadavu& Marippuzha SHEP
9. Library/ FC Supt/Stock File

Forwarded/By Order



Assistant Executive Engineer