



## KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

CIN:U40100KL2011SGC027424

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### Abstract

Keerithodu SHEP (2x6 MW- 27.65 MU)- Administrative Sanction – Accorded - Orders issued.

### Corporate Office(SBU-G/C)

BO(DB)No. 339/2021( DGC/AEE V/Keerithodu/2019 ) TVPM dated: 06.05.2021

- Read:
1. Minutes of the DPR Approval Committee Meeting held on 22.03.2019
  2. Note No.CE(C-I&CC)/KETH-SHEP/2018/5913 dated 2.4.2019 of the Chief Engineer (Civil – Investigation & Construction Central) .
  3. Note No. DGC/AEE V/Keerithodu/2019 dated 10.03.2021 of the Chairman & Managing Director to the Board of Directors.
  4. Proceedings of the 58<sup>th</sup> meeting of the Board of Directors held on 17.03.2021 (Agenda 22-03/2021).

### ORDER

The Keerithodu SHE scheme is planned as a run off the river project with a provision for marginal pondage to generate power by installing a power plant of 12 MW capacity, which operate generally during monsoon. The scheme is located in Kanjikuzhy Village of Idukki Taluk and District. The project proposes to utilize the water resources from a catchment area of 116.9 sq km of Periyar River downstream of Idukki Dam. The net head of the scheme is 80 m, the average annual energy generation expected is 27.65 MU and the installed capacity of the scheme is 12 MW (2 x 6 MW).

The scheme comprises of a barrage type structure as head work so as to have only a minimum obstruction to flow during flood with radial gate arrangement. The water conductor system consists of a rectangular power duct of length 125m, a concrete lined D shaped power tunnel of length 1135 m and finished diameter 3.2 m, surge tank of diameter 10 m, low pressure pipe 2.6m dia and penstock of dia 2.6m. The powerhouse with 2X6 MW vertical Francis turbine is proposed to be located on the left bank of the stream.

The land requirement for the project is approximately 12 Ha in which 7 Ha of land is private and 5 Ha is revenue land . No forest land is required for the scheme.

The MNRE grant of Rs 20 crores can be availed as assistance from the Government of India for the project.

The total estimated cost of the project is ₹ 148.48 Crores. The cost of Civil works including direct and indirect cost comes to ₹ 82.47 Cr based on DSR 2016 with cost index 2017. The cost of electrical works comes to ₹ 66 Cr including cost of power evacuation. The period of construction of the project is 36 months. The total project cost including IDC after availing MNRE Grant is ₹141.92 Crores.

The financial analysis has been done as per 'SERC/ CERC' guidelines. Accordingly, the project is proposed to be financed in the debt equity ratio 90:10. The cost per MW installed capacity comes to ₹10.7 crores. The levelised tariff is only ₹ 4.56/unit and the

pay back period is 12 years. The cost of energy after pay back period comes to ₹3.63 / unit. The project will have an IRR of 10.42 %. The NPV for the project is ₹75.76 crores.

The scheme Keerithode SHEP (12MW) was earlier allotted to M/s Carborundum Universal Ltd under "IPP Category" under the name 'Inchivarakuthu'. Later the Government cancelled the allotment and directed KSEBL to implement the scheme.

The draft DPR of the proposed project was presented before the DPR approval committee on 22/3/2019 and the committee approved it in principle and further decided that execution would be considered after ensuring availability of funds from Government of India/Government of Kerala and availability of land.

A proposal to explore the possibility of getting financial support from the Government of Kerala for the implementation of three SHEPs by KSEBL viz, Pasukkadavu SHEP(2x2MW-10.34MU), Chathankottunada SHEP Stage-I (2 x 2.5 MW, 12.06MU) and Keerithodu SHEP (2X6 MW,27.65 MU) was placed before the Full Time Directors of KSEBL and the Full Time Directors of KSEBL in the meeting held on 16.05.2019 resolved to take up the matter with the Government and authorized the Deputy Chief Engineer with full powers of the Chief Engineer ( Commercial& Planning) for taking up the matter with the Government.

On the proposal, of the Director (Plg & Safety), to seek viability gap funding from the Government for the implementation of the above three SHEPs, the Chief Engineer (Civil -Investigation and Construction Central) has requested Board decision for the implementation of the schemes without waiting for Government sanction for financial assistance.

The Chief Engineer(C-I&CC) as per note read as 2<sup>nd</sup> above requested Administrative sanction for implementation of Keerithodu small HE scheme at an estimated cost of ₹.148.48 Crores at 2017 price level. The cost including IDC after availing MNRE assistance is ₹141.92 Crores.

The matter was considered by the Full Time Directors in the meeting held on 09.03.2021 (Agenda 20/3/21) and it was resolved to place the matter before Board of Directors of KSEBL. Accordingly the proposal was placed before the 58<sup>th</sup> meeting of the Board of Directors as per note read as 3<sup>rd</sup> above.

The Chairman stated that the viability of Keerithodu SHEP (2x6 MW-27.65 MU) depends upon the availability of Central Financial Assistance (CFA) and Viability Gap Funding (VGP) from Central/State Government and based on that, the entire figures have to be reworked to see whether the project can be taken ahead. He intimated that before final decision for execution of the project is taken, the proposal would be presented again before the Board . After discussion, the Board

Resolved to accord Administrative Sanction for the implementation of Keerithodu small HE scheme (2x6MW) at an estimated cost of ₹.148.48 Crores. The cost including IDC after availing MNRE assistance is ₹141.92 Crores.

Orders are issued accordingly.

By Order of the Director Board,

Sd/-

LEKHA G.

COMPANY SECRETARY IN CHARGE

To

The Chief Engineer (Civil – Investigation & Construction Central) .

Copy to:

The Chief Internal Auditor/ Financial Adviser

The Chief Engineer (IT)


The RCAO/The RAO

The TA to CMD/Director(GC)/Director(D,IT&HRM)/ Director(T&SO)/Director(Plg  
&S)/ Director (GE&SCM )

The PA to Director (Finance) /Company Secretary

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Assistant Executive Engineer