



KERALA STATE ELECTRICITY BOARD Ltd

(Incorporated under the Companies Act, 1956)

Registered Office: Vidyuthi Bhavanam, Pattom,

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ABSTRACT

Poringalkuthu Micro Hydro Electric Scheme (36kW-0.25 Mu) - Administrative sanction accorded - Orders issued.

CORPORATE OFFICE (SBU - G/C)

BO (FTD)No.757/2022(DGC/AEE I/Poringal Micro/1/2022)

Thiruvananthapuram, Dated: 06.09.2022

Read: 1. Minutes of DPR Approval Committee meeting held on 13.05.2022 conducted by the Director (Finance, IT & HRM).
2. Remarks No. FA/Tender-I/82/2021 of the Financial Advisor, KSEBL.
3. Letter No. CE(C-I&CC)/MHS/PLBE/2022-23/190 dated 30.05.2022 of the Chief Engineer (Civil-I& CC).
4. Note No. CE(C-I&CC)/MHS/PLBE/2022-23 dated 25.06.2022 of the Chief Engineer (Civil-I&CC).
5. Note No. DGC/AEE1/Poringal Micro/1/2022 dated 23.08.2022 of the Director (Generation - Civil) to the Full Time Directors (Agenda 110/8/22).

ORDER

KSEBL has commissioned its first Micro Hydro Electric Project using screw turbine of 11 kW capacity at Poringalkuthu on 06.02.2016, which is located on the right bank of the Tail race channel (TRC) of Poringalkuthu Left Bank Extension (PLBE) Scheme (16 MW), after availing ₹30 lakh from the "Innovation Fund and ESCOT" of Government of Kerala. It utilizes the head difference of the tail race of PLBE Power House with Chalakudy river by diverting 1.65 m³/sec discharge out of the available 11.40 m³/sec tail race discharge of the PLBE Scheme.

The Hon'ble Minister for Electricity, during his visit to Poringalkuthu project site on 19.07.2021, directed to explore the possibility of installing additional screw turbine on the left bank of the tail race of PLBE Scheme. Accordingly, the possibility of the same has been explored making use of the already constructed weir for the first project.

The newly proposed Poringalkuthu Micro Hydro Electric Scheme (36 kW) envisages diversion of 4.20 m³/sec water from the TRC of PLBE scheme (1x16 MW) for the power generation by installing one unit of screw turbine on the left bank of TRC of PLBE Scheme. The Scheme is situated in Athirappilly Grama Panchayat, Chalakudy Taluk, Thrissur District of Kerala State. The project is proposed in the land under possession of KSEBL for the PLBE project. The existing roads can be used as the access to the scheme. There are no environmental issues associated with the scheme.

The components of the scheme include a small diversion channel from the existing tail race on the left bank for leading water to the screw turbine, Power house/Generator room to house generator, Archimedes screw turbine, gear box, greasing pump, Panel boards etc, RCC bed for erecting the screw turbine, canopy over the screws and channel to lead the discharge from the screw to the downstream. A diversion weir is already constructed at about 68 m d/s of the tail race weir of PLBE scheme for diverting discharge required to the existing Screw turbine (11 kW). The water required

for the proposed scheme also can be diverted from the pool already formed by the above diversion weir.

The draft DPR of the proposed project was presented before the DPR approval committee on 13.05.2022. The committee recommended to revise the financial part of DPR with 4% interest rate (assuming that RIDF loan from NABARD shall be made available) and with 40 years life span of the scheme. It was also decided that the possibility of obtaining innovation fund of Government of Kerala may be explored for the project. As per the decision of the DPR approval committee, the updated DPR was submitted by the Chief Engineer (C-I&CC) as per the letter read as 3rd above.

The Chief Engineer (C-I&CC) as per the note read as 4th above has reported that the total estimated cost of the project comes to ₹ 141.75 lakh. The total cost of the project is arrived based on quotation submitted by M/s. Jash Engineering Ltd, supplier of the already installed 11 kW screw turbine functioning at the right bank of TRC of PLBE scheme.

The scheme is scheduled to be completed within 6 months fully utilizing the dry spell. The total project cost including IDC comes to ₹143.73 lakh. The payback period estimated is 11 years. The NPV & IRR values are ₹123 lakh and 11% respectively. The average annual energy generation expected is 0.25 Mu. and the levelized tariff calculated is ₹ 5.53/kWh.

The Chief Engineer (C-I&CC) has further recommended that, for the purpose of easy completion and to avoid conflicts between different agencies working in limited space, it is better to implement the scheme on turn-key basis, as done in the case of already commissioned project of similar nature.

The matter was placed before the Full Time Directors as per the note read as 5th above.

Having considered the matter in detail, the Full Time Directors in the meeting held on 31.08.2022,

1. Resolved to accord Administrative Sanction for the implementation of "Poringalkuthu Micro Hydro Electric Scheme (36 kW)" for a total Capital cost of ₹143.73 lakh including IDC.
2. Further resolved to accord sanction to explore the possibility for availing financial support from "Innovation Fund and ESCOT" of Government of Kerala from the State Plan Fund for the year 2023-24 for the implementation of the project as done in the case of already commissioned project of similar nature or explore capital investment / low cost loan.
3. Further resolved to authorise the Chief Engineer (C-I&CC) to implement the scheme on turnkey basis by e-tendering, as done in the case of already commissioned project of similar nature.

Orders are issued accordingly.

**By Order of the
Full Time Directors**

Sd/-

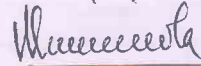
**LEKHA G
Company Secretary**

To:

The Chief Engineer (Civil - Investigation & Construction Central)

Copy to: The Chief Engineer (IT,CR&CAPS)/ Company Secretary/ Financial Advisor/ LA&DEO
The TA to the Chairman & Managing Director / Director (Generation-Civil)/
Director (Generation-Electrical)/ Director (Distribution, IT & SCM)/ Director
(Transmission, SO, P & S)/ Director (REES, SOURA, Nilaavu Projects, S & W)
The PA to the Director (Finance & HRM)
The RCAO/RAO
The CA to the Secretary (Administration)
Library.

Forwarded / By Order



Assistant Executive Engineer