



# KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

CIN: U40100KL2011SGC027424

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## Abstract

IHEP-Procurement of spare runner for 1<sup>st</sup> stage machines – Administrative Sanction accorded –Orders issued

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

B.O .(FTD) No. 675/2021 (DGE/G3/IHEP/1<sup>st</sup> stage Spare Runner /2021-22) Thiruvananthapuram dated: 17 -09-2021/58

- Read:-
1. Letter No.CEG/AEE I/Idukki/Turbine/2021-22/606 dated 01-07-2021 of the Chief Engineer (Generation & PED) ,Moolamattom and the enclosed estimate.
  2. Note No. DGE/G3/IHEP/1<sup>st</sup> stage Spare Runner/2021-22 dated:12-08-2021 of the Director(GE&SCM) (Agenda item No.4/9/21)

### ORDER

The Idukki Under Ground Power House is the largest Power Generating Station in the State, with a total installed capacity of 780 MW (6x130 MW), located at Moolamattom in Idukki District, which was commissioned in two phases ,during 1975 & 1986 . As per CEA guidelines , all Hydro-Electric power plants, which covered a life span of 35 years are to be renovated. Accordingly, Residual Life Assessment (RLA)study on electrical and mechanical parts of the first stage machines were carried out through M/s CPRI. As per the RLA study report, R&M works of some components of 1<sup>st</sup> stage machines (3x130MW) were carried out with the aim of achieving enhanced and reliable life, higher capacity and better efficiency. As the Turbines and Jets were recommended to be continued for another 10 years, they were not included in the R&M.

The runners of 1<sup>st</sup> stage machines are of Pelton wheel type, having 20 number of buckets each . While conducting Due Penetration Test (DPT) during the monthly maintenance works on 02-07-2019, a major crack was noticed on bucket no.17 of Unit#1 runner. Considering the nature of crack and the aging of the runner, the crack was found as not repairable and it was decided to replace the runner with the lone spare available and the work was executed and put back the machine in service on 05-08-2019. The runner, detached from unit #1 was in service for more than 40 years and has completed more than 2,88,000 hours of operation. Any further repair and reuse of the same is not recommended due to its mechanical fatigue and the nature of crack. As the runners of U#2 & #3 were replaced during 2003 and 2002, there is no spare runner available for the 1<sup>st</sup> stage machines.

Under the above circumstances, the Chief Engineer (Generation & PED) , as per letter read as 1<sup>st</sup> above has forwarded an estimate amounting to Rs.14 Crore(including applicable GST) , for the procurement of a new forged type runner to be kept as spare for the 1<sup>st</sup> stage machines and requested sanction for the same. The scope of work includes the Engineering, Procurement, manufacturing, supply, transportation to site, supervision of erection and commissioning of the new pelton runner rated to deliver 130 MW continuously at generator terminals with 5% overload for a short period. The forged runner is proposed in place of the existing cast type because of its advantages like trouble free life, better performance and faster and reliable delivery of the item.

The matter was placed before the Full Time Directors as per note read as 2<sup>nd</sup> above.

Having considered the matter in detail, the Full Time Directors meeting held on 10-09-2021, resolved to accord sanction to an estimate amounting to Rs.14 Crore (Rupees Fourteen Crore only ) (inclusive of applicable GST),for the procurement of one number of new forged Runner, for the 1<sup>st</sup> stage machines at IHEP .

Further resolved to authorize the Chief Engineer(Generation & PED), Moolamttom, for the above procurement, observing norms.

Orders are issued accordingly.

By Order of the Full Time Directors,

Sd/-  
(LEKHA.G)  
Company Secretary  
(In -charge.)

To: The Chief Engineer (Generation & PED), Moolamattom.

Copy to:  
The Chief Internal Auditor/Company Secretary  
The TA to CMD/D(GE)/ D(T&SO)/ D(D&IT)/D(GC)/D(PS & SCM)/D(RSS&W)  
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Forwarded / By Order

Asst. Executive Engineer