



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956) CIN: U40100KL2011SGC027424

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Abstract

Sabarigiri HEP – Revival of 60 MW Unit No.4 Hydro Turbine Generator under shut down due to inherent problems - Entrusting M/s NHPC as Owner's Engineer – Sanctioned –Orders issued.

Corporate Office (SBU-G/E)

B.O (FTD) No.655/2021 (DGE/G1/Sabarigiri Unit #4/ 2021-22) Thiruvananthapuram. Dated: 16-09- 2021

- Read:
1. B.O (FTD) No.449 / 2020 (DGE/G1/Sabarigiri Unit #4/2020-21) dated 01-07-2020.
 2. Report submitted by M/s. CPRI.
 3. B.O(FTD) No.454/ 2021 (DGE/G1/Sabarigiri Unit #4/2020-21) dated 18-06-2021 .
 4. RFP No.CEG/AE2/SBG/Revival of U#4/21-22/01 dated 21-06-2021 of the Chief Engineer (Generation &PED).
 5. Letter No. NH/SBD &C/KSEB/516/64 dated 06-07-2021 of Strategy, Business Development &Consultancy Wing, NHPC.
 6. Letter No.CEG/AE-II/Sabarigiri Unit#4/2021-22/857 dated 16-08-2021 of the Chief Engineer (Generation & PED),Moolamattom.
 7. Note No. DGE/ G1 /Sabarigiri Unit # 4/ 2021-22 dated 16-08-2021 of the Director (DGE &SCM) to the Full Time Directors as per Agenda Item No.15/9/21.

ORDER

As per the Board order read as 1st above, sanction was accorded for the immediate shutdown of Unit # 4 at Sabarigiri HEP to avoid accidents and for ensuring safety, till the inherent faults are rectified and to normalize the vibration levels and to entrust M/s. Central Power Research Institute (CPRI) or any other reputed agency in this field to find out the inherent problems of the Unit #4 machine and take measures to rectify the same. Accordingly, M/s. CPRI was entrusted to carry out the work and to suggest measures for rectification. M/s CPRI has submitted their report on 23-04-2021. In the above report, M/s CPRI suggested for the following rectifications:

- i. Rectification of the misalignment of the rotor linked to the pad adjustments once again to ensure that the pad frequency component is absent during the running of the machine.
- ii. Rectification of overall alignment of the jet (~12 mm) to achieve uniform thrust produced by the impacting jet.

The jet alignment was verified in the presence of technical experts from Moolamattom headed by the Deputy Chief Engineer, Generation Circle, Moolamattom and M/s. Shree Abirami Engineering Works, Chennai, and found that there was no mismatch in the jet alignment with other jets and turbine. So the recommendation No. 2 as above was ruled out.

Subsequent to this, in the meeting convened by the Chief Engineer (Generation & PED), on 10-06-2021 for the review of the ongoing assessment of inherent problems, it was decided to carry out the following tasks:

- i. In order to ensure the quality of design conformity, it has been proposed to purchase newly designed forged tilting pads 8 numbers (45 degrees) and forged and machined thrust liner departmentally for replacement of the existing thrust pads.
- ii. To execute the work of dismantling, matching and polishing of thrust runner at major machining facility including the transportation of the item for facilitating the works.
- iii. To obtain remarks on the proposal above for modification of the top assembly from M/s. CPRI.
- iv. To obtain complete budgetary offers for the works of modification of the top assembly of the unit having expertise in similar works.

DESPATCH

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v. To put up a detailed proposal to the Board for approval in compliance to the above. Considering the delay in obtaining remarks for the modification of the top assembly from M/s CPRI, it was decided to collect opinions from various firms having expertise in rectifying the similar faults, for rectifying the vibration of the machine to the allowable limit as per ISO 20816 part 5 through RFP (Request for Proposal). The subject matter was placed before the Full Time Directors and sanction was accorded as per Board Order read as 3rd above to the Chief Engineer (Generation & PED) for inviting RFP (Request for Proposal) from experienced firms for reducing the vibration level of 60MW Unit#4 machine at Sabarigiri HEP to the allowable limit as per ISO, for the revival of the unit.

Accordingly, tender was floated on the e-tender site of the Government of Kerala on 21-06-2021 and wide publicity was given for competitive participation. The last date of online submission of the RFP bids was scheduled on 11-06-2021. But no response was received for the above RFP.

The Chief Engineer (Generation & PED) as per letter read as 6th above reported that M/s NHPC, a pioneer in this field was contacted. The firm as per letter read as 5th above has expressed their willingness to act as Owner's Engineer for the revival and rehabilitation of Unit #4 at Sabarigiri HEP. M/s NHPC is the largest public sector undertaking in the field of hydro power development in India, with the capability to undertake all the activities from conceptualization to commissioning related to setting up of hydro electric projects and expertise in installing and maintaining variety of hydro machines all over India.

Considering the off put response to the RFP and the expertise of M/s NHPC in the hydro sector, the Chief Engineer (Generation & PED) has recommended for engaging M/s NHPC as Owner's Engineer for the evaluation of works and technical resource assistance requirements for complete revival and rehabilitation of Unit #4 within the shortest time lines.

The subject matter was placed before the Full Time Directors as per Note read as 7th above.

Having considered the matter in detail, the Full Time Directors in its meeting held on 10-09-2021 resolved to accord sanction to the Chief Engineer (Generation & PED) for engaging M/s NHPC as Owner's Engineer for the evaluation of works and technical resource assistance requirements for complete revival and rehabilitation of Unit #4 at Sabarigiri HEP within the shortest time lines and to execute the work under the supervision of M/s NHPC.

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.

The Deputy Chief Engineer, Generation Circle, Moozhiyar.

Copy to:

The Financial Advisor/ The Chief Internal Auditor/ The Company Secretary.

The Deputy Chief Engineer (IT)/ The RCAO/ The RAO.

The TA to {Chairman & MD/ Director (GE)/ Director (GC)/ Director (Trans. & SO) /

Director (D&IT) / Director (Planning, Safety & SCM)/ Director (REES, Soura, Sports & Welfare)}

The PA to Director (Finance)/ CA to Secretary (Admn.).

Forwarded / By Order

Geetha G. Nair
Asst. Exe. Engineer