



KERALA STATE ELECTRICITY BOARD LIMITED

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

Sabrigiri HEP- Report on the vibration analysis of Unit #4 – inviting RFP (Request for Proposal) from experienced firms for reducing the vibration level of Unit #4 –Sanctioned –Orders issued.

Corporate Office (SBU-G/E)

B.O (FTD)No. 454 /2021 (DGE/G1/SHEP/Unit #4 /2021-22) Thiruvananthapuram. Dated: 18 -06- 2021

- Read:
1. B.O.(FTD) No.449 / 2020 (DGE/G1/Sabrigiri Unit #4/2020-21) dated 01-07-2020.
 2. Minutes of the meeting held on 31.5.2021 and 10-06-2021 chaired by the Chief Engineer (Generation & PED), Moolamattom.
 3. Decision taken in the meeting convened by the Director (G-E&SCM) on 15-06-2021.
 4. Letter No.CEG/AE-II/Sabrigiri Unit#4/2021-22/472 dated 16-06-21 of the Chief Engineer (Generation & PED),Moolamattom.
 5. Note No. DGE/G1/SHEP/Unit #4/2021-22 dated 16-06-2021 of the Director GE&SCM) to the FTD as per Agenda item No.51/6/21.

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 recommended the following for further course of action.

1. 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.
2. Rectification of overall alignment of the jet (~12 mm) to achieve uniform thrust produced by the impacting jet.

Subsequently, as discussed with the Chairman & Managing Director, a team of technical experts headed by the Chief Engineer (Generation & PED) and Deputy Chief Engineer, Generation Circle, Moozhiyar/ Moolamattom/ Meencut/APTS (former Deputy Chief Engineer of Generation Circle, Moozhiyar) were directed to inspect the No.4 machine of Sabarigiri HEP to ensure whether the machine could be put back to service in the base load/ any safe load. The expert team visited Sabarigiri Power House on 31-05-2021 and carried out inspection of Unit#4 and discussed all possibilities of running the machine.

Subsequently in the meeting convened by the Chief Engineer (Generation & PED) on the same day, all the team members unanimously suggested putting back the machine in service only after correcting the inherent problems such as inconsistent high vibrations. It was also decided in the meeting to collect budgetary offer from M/s. Shree Abirami Engineering Works, Chennai for rectification of overall alignment of the jet. The firm requested to open the front cover of the needle assembly to identify the quantum of work for furnishing a budgetary offer. Hence 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, the jet alignment was verified and it was 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:

1. 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.
2. 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.
3. To obtain remarks on the proposal above for modification of the top assembly from M/s. CPRI.
4. To obtain complete budgetary offers for the works of modification of the top assembly of the unit having expertise in similar works.
5. To put up a detailed proposal to the Board for approval in compliance to the above.

The Chief Engineer (Generation & PED) as per the letter read as 4th above reported that the above proposal has been sent to M/s. CPRI for their suggestions. But normally, a considerable delay is occurring for getting their remarks. Meanwhile, since the machine has been under shut down for almost one year, meeting was convened by the Director (Generation (E) & SCM) with Sri. Siji Jose, the Director (T&SO) and former Chief Engineer (Generation & PED) on 15-06-2021 to decide on the further course of action to be taken for the early revival of unit.

The Chief Engineer (Generation & PED) also reported that in the above meeting, the subject matter was discussed in detail analyzing various possibilities, options etc for the revival of the Unit #4 and finally it was decided not to change the design of the top assembly without detailed study. It was also 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 invitation of RFP for the revival of unit shall favour techno commercial evaluation of proposals for feasible and economical revival of unit within a limited time span and expects participation of experienced firms having expertise in revival of large hydro generators.

Considering the above, the Chief Engineer (Generation & PED) has requested sanction for inviting RFP (Request for Proposal) from various experienced firms for reducing the vibration of 60 MW Unit #4 at Sabarigiri HEP to the allowable limit as per ISO, for the revival of the unit.

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

Having considered the matter in detail, the Full Time Directors in the meeting held on 17-06-2021 resolved to accord sanction to the Chief Engineer (Generation & PED) for inviting RFP (Request for Proposal) from experienced firms for reducing the vibration level of 60 MW Unit#4 machine at Sabarigiri HEP to the allowable limit as per ISO, for the revival of the unit.

Orders are issued accordingly.

By Order of the Full Time Directors,
Sd/-
Lekha G
Company Secretary (In charge)

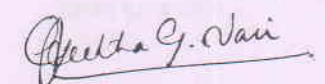
To

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&SCM)/ Director(GC)/ Director (Trans. & SO)/ Director (D,IT&HRM) /Director (Planning, Safety & REES)}
The PA to Director (Finance).

Forwarded / By Order


Asst. Exe. Engineer