



KERALA STATE ELECTRICITY BOARD LIMITED

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

Registered Office: Vidyuthi Bhavanam, Pattom, Thiruvananthapuram-695004 Website: www.kseb.in

Phone:(O) +91 471 2514283 E-mail: dgekseb@kseb.in



Abstract

Sabarigiri HEP-Report on the vibration analysis of Unit No.4 machine - Constitution of a Committee to conduct detailed enquiry in the matter -Sanctioned - Orders issued.

Corporate Office (SBU-G/E)

B.O (FTD)No. 219/2021 (DGE/G1/Sabarigiri/Unit #4/-2020-21) Thiruvananthapuram. Dated: 25-03- 2021

- Read:
1. B.O.(FTD) No.449 / 2020 (DGE/G1/Sabarigiri Unit #4/2020-21) dated 01-07-2020.
 2. Letter No. CE(DC)/EKM/Sabarigiri Unit#4/2020-21/2073 dated 3-11-2020 of the Chief Engineer (Distribution Central), Ernakulam enclosed with Committee Report.
 3. Report No. CPRI/PI-U # 4 /2020 dated 10-11-2020 of M/s CPRI on the Preliminary Inspection of Generator and Turbine Components of Unit #4 with regard to abnormal vibration.
 4. Letter No. DCE-MZR/AE1/TB-70/20-21/448/21.01.2021 of the Deputy Chief Engineer, Generation Circle, Moozhiyar.
 5. Letter No.CEG/AE-II/Sabarigiri Unit#4/2020-21/1925 dated 27-02-2021of the Chief Engineer (Generation & PED),Moolamattom.
 6. Note No.CMD/105/Sabarigiri HEP/2021 dated 10-3-2021 of the Chairman & Managing Director,KSEBL.
 7. Note No.DGE/G1/Unit #4/2020-21 dated 15-03-2021 of the Director (GE&SCM) to the Full Time Directors as per Agenda Item No.46/3/21.

ORDER

As per the B.O. read as first above, it was decided to entrust M/s CPRI or any other reputed agency to find out the inherent problems of Unit # 4 of Sabarigiri Power House and to take measures to rectify the same. It was also decided to conduct a detailed enquiry by constituting a Committee with Sri. James.M.David, Chief Engineer(Distribution-Central),Sri. Murali.P, Deputy Chief Engineer, Generation Circle, Moozhiyar and Sri.Brijesh.S, Executive Engineer, Generation Division Moozhiyar as members to ascertain the reasons for the poor performance of Unit#4 even after RMU and to find out whether there is any serious lapse on the part of KSEBL officials and the contractor.

Upon submission of the report by the Committee as per the letter read as 2nd above, it was decided to examine the report and to put for action as per the recommendation of the Committee. Each and every finding of the Committee was examined in detail and after discussion with the Chairman &Managing Director,a questionnaire was handed over to the Deputy Chief Engineer, Generation Circle, Moozhiyar and the Chief Engineer (Generation & PED) for more clarification. The report of the Committee and the report from the field offices were discussed in the field meetings and some irregularities were observed.

Meanwhile, M/s CPRI had conducted a preliminary inspection of Generator and Turbine components of Unit#4 as phase 1 programme to assess the actual status of bearings, nozzles, alignment of nozzles, assessment of vibration levels etc. and submitted an interim report read as 3rd above . As per the interim report, it is not safe to operate Unit#4 in the present condition as there is vertical as well as horizontal abnormal values of vibration in the bearings and suggested to check the

tilting pads and jet alignment. M/s CPRI has conducted Electrical and Mechanical tests as first part of the 2nd phase programme and the final tests will be carried out during the third week of March 2021. Even though Work Order was issued to M/s CPRI, Banagalore to carry out the Phase 1 and phase 2 programme on the root cause analysis of vibration issues of unit 4 in time, there was considerable delay on the part of CPRI in executing the work due to the various factors associated with the present pandemic situation of COVID-19. A final decision on further action to be taken can be decided only after the submission of final report by M/s CPRI.

It is reported that even though the objective of the Committee constituted as per the above Board Order was to ascertain the reasons for the poor performance of the machine and to find out whether there is any serious lapse on the part of the KSEBL officials or contractor, nothing has been specifically mentioned regarding the lapse from both KSEBL officials and contractor in the report of the Committee or field. Hence it was recommended to find out any lapse occurred on the part of the KSEBL officials or contractor in the poor performance of Unit No. 4 at Sabarigiri HEP even after RMU and to entrust an external agency for the same.

The matter was placed before the FTD as per Note read as 7th above for a decision.

Having considered the matter in detail, the Full Time Directors in the meeting held on 18-03-2021 resolved to constitute a Committee comprising of the following officials to conduct a detailed enquiry in the matter, considering the findings of CPRI also.

1. Smt.G.Lekha,Chief Internal Auditor (Chairperson)
2. Smt.Bindu T.C,Finance Officer,Transmission Circle,Alappuzha.
3. Sri.Shaji K.,Finance Officer,Office of RCA.
- 4.Sri.Praseedu Kumar,Senior Superintendent,TRAC.
- 5.Sri.Baiju Kalluparambil,Executive Engineer,Erection Division,Kallarkutty.
6. Sri.S.Neelakantan,Executive Engineer,Transmission Division,Ernakulam.

Further resolved to approve the Terms of Reference of the Committee as Annexed.

Orders are issued accordingly.

By Order of the Full Time Directors,

Sd/-

Lekha G

Company Secretary (In charge)

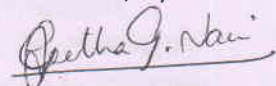
To

The Chief Engineer (Generation & PED), Moolamattom.
The Deputy Chief Engineer ,Generation Circle,Moozhiyar.
All Committee Members.

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

DESPATCHED

AB.7
26.03.2021

Terms of Reference

The Committee shall look into the contract with M/s. Puissance De L'eau Power Systems Pvt. Ltd. (M/s. PDL Power Systems Pvt. Ltd.), Bangalore for rebuilding of Unit #4 of Sabarigiri Hydro Electric Project covering the following :

- (i) Whether M/s. PDL Power Systems carried out the work as per the Agreement with KSEBL.
- (ii) Whether the contractor carried out the mandatory tests as per the agreement for the performance of machine.
- (iii) Is there any discrepancy between the documents submitted along with tender regarding model test report, manufacturer of generator and other documents related to specification and on actual execution of site.
- (iv) To study the Committee Report of poor performance of Unit No.4 of Sabirigiri HEP constituted vide BO dated 1.7.2020.
- (v) Whether major failure/damage happened during the Defect Liability Period.
- (vi) Whether any defects noticed in the jet alignment of Unit # 4 within the Defect Liability Period.
- (vii) Whether the failure/damages happened due to design failure and what corrective measures are taken?
- (viii) To analyze and find out the reason for poor performance of Machine No.4 based on the CPRI study and whether the contractor alone is responsible for the same or there is serious negligence on the part of KSEBL engineers in enforcing the contract conditions with respect to quality during execution.
- (ix) Whether proper quality tests as per the agreement conditions were carried out by the KSEBL engineers before effecting payment at each stage of the work.
- (x) Whether the payments were released by KSEBL engineers to M/s. PDL Power Systems as per agreement conditions, if not the persons responsible for the same.
- (xi) A comparative study of the Machine No.4 after commissioning upto 22.6.2020 with other machines and find out the average generation loss / financial loss to KSEBL.

(xii) The report shall include the details of payment made to the contractor at each stage of work and the officers measured the work, check measured and passed the bill for payments.

(xiii) Any other matter the Committee consider to be investigated.

Sd/-

Lekha G

Company Secretary (In charge)