



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

Reg. Office: Vidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004, Kerala

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ABSTRACT

Power Transformer failures - Premature de commissioning - measures to enhance life - Proposal approved - Orders issued.

Corporate Office (SBU-T)

B.O. (FTD) No. 305 /2020 /D (T&SO)/T5/2020-21/ADN dated; Tvpm, 30.04.2020

Read: Note No. D (T&SO)/T5/2020-21/ADN /149 dated: 17.04.2020 of the Director (Transmission, System Operation & Safety) (Agenda 36/4/20)

ORDER

The useful life expectancy of power transformers as per the Kerala State Electricity Regulatory Commission (Terms and conditions for determination of Tariff) Regulations, 2018, is 25 years. While majority of transformers in the Kerala Power System deliver satisfactory performance exceeding the expectancy as above, a few transformers fail prematurely. Generally, the failed transformers are repaired at the Power Transformer Repair Units at Kalamassery and Kozhikode and put back to service. However, some transformers become irreparable due to inherent quality issues and poor design. Asset Decommissioning Notes (ADN) are prepared for those failed transformers that are too old or that are not repairable and survey reported. Usually, the ADNs are sanctioned at Director level considering the age and condition of the transformers.

A list of transformers that failed within the useful life span and for which ADNs are prepared and submitted from field but not sanctioned due to non completion of useful life was brought to the attention of the Full Time Directors as per the note read above. The Director (Transmission, System Operation & Safety) pointed out that failure of heavy equipments such as power transformers causes large scale supply interruptions leading to consumer dissatisfaction and revenue loss. In addition, it affects the financials of KSEBL dearly in terms of early replacement of the failed transformers.

It is also pointed out that in realisation of the impact of failure of power transformers, a committee headed by Sri C N Jayarajan, Executive Engineer, Project Monitoring Division, Moolamattom was constituted earlier for conducting technical audit of power transformers. The committee has conducted detailed awareness workshops among Station Engineers of all Sub Stations. Also, the committee has suggested standard procedures for operation and maintenance of power transformers as well as record keeping formats. Though the functioning of the committee is very effective, that alone will not be sufficient to ensure the transformers complete their expected useful life.

Further to this, Director (Transmission, System Operation & Safety) suggested to tighten the procurement process incorporating stricter technical specifications and tight quality assurance schedules. It was also suggested that the Chief Engineer, SCM may be entrusted to take action on these counts in coordination with the above committee.

The matter was placed before the Full Time Directors as per note read above and the Full Time Directors in the meeting held on 23.04.2020,

transformers attached as annexure to this order subject to the following conditions;

- (1) We have to ascertain the status of these suppliers except TELK and ask for repair and making usable the transformers supplied by them which failed prematurely, even if the guarantee/warranty Period is over.
- (2) In case they are not willing to co - operate, no future purchase shall be made from them and they shall be blacklisted for poor quality.
- (3) In future, the minimum warranty period shall be ten years.

Further resolved to entrust the Chief Engineer (SCM) with the task of tightening the procurement process for heavy equipments for transmission- works especially, power transformers in co ordination with the committee for technical audit of power transformers.

Orders are issued accordingly.

By Order of the Full Time Directors,

Sd/-
Lekha G

Company Secretary (In Charge)

To

The Chief Engineer, SCM/ Chief Engineer, Transmission (North/South/Transgrid)

Copy to:

1. The Deputy Chief Engineer, Transmission Circle, Kannur/ Kozhikode/ Malappuram/ Palakkad/Thrissur/ Kalamassery/ Thodupuzha/ Poovanthurthu/ Alappuzha/ Kottarakkara / Thiruvananthpuram
2. The Executive Engineer, Transmission Division, Pathanamthitta
3. Sri C N Jayarajan, Executive Engineer, Project Monitoring Division, Moolamattom
4. The Financial Adviser/ Chief Internal Auditor/ Dy. Chief Engineer (IT)/The SOR / RAO/ RAO.
5. The TA to Chairman & MD/D(T, SO &S)/D(D, IT &HRM)/D(G-C)/D(GE & SCM)
6. The PA to Director (Finance)/Secretary (Admn.), The Legal Liaison Officer, Kochi
7. Fair Copy Superintendent / Library/ Stock File.

Forwarded / By Order


Assistant Executive Engineer

Annexure to B.O. (FTD) No.305/2020/D (T&SO)/T5/2020-21/ADN dated; Tvp, 30.04.2020

Sl No	Name of Substation	Transformer Specification	Make & year of manufacture
1	220 kV Substation, Brahmapuram	110/11 kV, 10 MVA transformer	APEX;1994
2	110 kV Substation, Myloor	110/11 kV, 12.5 MVA transformer	ECE; 2009
3	110 kV Substation, Erumely	110/11 kV, 12.5 MVA transformer	Crompton Greaves; 2000
4	110 kV Substation, Kadavanthra	110/11 kV, 12.5 MVA transformer	Crompton Greaves; 2000
5	220 kV Substation, Pallom	220/110 kV, 200 MVA transformer (3x1 single phase units)	TELK; two units:1996 & one unit:1981
6	110 kV Substation, Muttom	110/11 kV, 12.5 MVA transformer	Bharat Bijlee; 2000
7	66 kV Substation, Gandhinagar	66/11 kV, 10 MVA transformer	APEX;1994
8	220 kV Substation, Brahmapuram	110/11 kV, 12.5 MVA transformer	Bharat Bijlee; 2000