



KERALA STATE ELECTRICITY BOARD LIMITED

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

Introduction of Communicating Fault Passage Detectors (CFPD) in the 11 kV network of KSEBL for easy location of fault points – setting up of technical committee and provision for field testing – Sanctioned – Orders issued

CORPORATE OFFICE (SBU-D)

B. O (CMD) No. 934 /2017 [No D (D&IT) / Gen / 2017-18] Dated, Tvpm 11.04.2018

- Read: 1. BO (FTD) No. 3029/2017 [D(D&IT)/Plan Process/2017-'18] dated 04.12.2017
2. BO (FTD) No. 3076/2017 [CP/Plg.III/Restructuring – Formation of PMUs/2017] dated, 11.12.2017
3. Note No D (D&IT) / Gen / 2017-18 dated 05.04.2018 of Director (Distribution & IT)

ORDER

The Kerala State Electricity Board Limited has accorded sanction for implementation of comprehensive network based planning with 'enhancing reliability of power supply' as one of the primary targets, vide the order read first above. The process of evolving the distribution plan based on the considerations envisioned in the order is progressing. Analysis of relevant outage data reveal that a significant proportion of interruptions is due to high tension feeder faults. The KSEBL is presently facing serious difficulties in speedy identification of the location of faults occurring in high tension overhead lines. This is leading to inordinate delay in locating the points of fault and restoring power supply. The condition of prolonged power failure in the faulty segment of the lines due to the time taken to locate faults and momentary interruptions even in the healthy part of the same line due to repeated test chargings without identifying location of faults is eroding the reliability profile of the organisation and is causing considerable customer dissatisfaction.

Installation of Communicating Fault Passage Detectors (CFPD) along overhead 11 kV lines is found to be a practical means of speedy identification of the location of faults. The suggestion has been accepted by all Project Management Units (PMU) engaged in the process of plan formulation and approximately 4500 CFPD have been suggested to be installed by various PMUs as part of the plan.

On a preliminary analysis of the market availability of the equipment, it is found that common equipments available are not suited for the specified purposes. Most of the commonly available equipments are localised fault pass indicators without communication features and require considerable alterations to be fitted to the lines. Besides this, the cost is also prohibitive. Commonly available equipments without communication facility cost above ₹ 12, 000 per unit.

It is noted that some of the field officers of KSEBL have already developed indigenous Fault Passage Detectors with communication facility, which have been in use in the network. Considering these aspects, it was decided to explore the possibility of making use of these designs to manufacture sufficient number of Communicating Fault Passage Detectors for the high tension network. Considering these facts, the Director (Distribution & IT) suggested to constitute a committee with officials who are experienced in the field as below.

1. Krishnadas P V, EE, PMU Tirur (Chairperson)
2. Executive Engineer, TMR Division, Shoranur
3. Sreeram P V, AEE, ESD, Kanjikode(Convener)
4. Pradeep A V, AEE, ESD Pathanamthitta
5. Ajith S, AE, LD Station, Kalamassery
6. Renjith R V, AE, TMR Division, Shoranur
7. Sunil Kumar A, Overseer, System Supervisor, Electrical Division, Shoranur

The suggested terms of reference of the committee is given below

1. *Discuss and finalize optimal design for the CFPD equipment, including the most suitable communication protocol.*
2. *Design and develop the product utilising in-house resources.*
3. *Manufacture CFPD units required for field studies and conduct the studies.*
4. *Suggest alternatives, if required.*

The Committee is to conduct necessary deliberations and evolve a suitable protocol and design a Communicating Fault Passage Detector (CFPD) considering specific requirements of the field. The Committee is to submit a detailed preliminary report to the Director (D&IT) on or before 21.04.2018.

The equipment is to be tested in field under various conditions of fault, climate, environment etc., before large scale deployment. Field tests installing at least two equipments per Electrical Division are required to cover all possible conditions. Hence a total of 150 equipments are to be manufactured for test deployment. The cost of manufacturing one Communicating Fault Pass Sensor at this stage comes up to ₹ 10, 000 / -. The Director (Distribution & IT) further suggested that that the technical committee be entrusted to manufacture 150 CFPD units utilising facilities at TMR Division, Shoranur and that the Deputy Chief Engineer, Electrical Circle, Shoranur be entrusted to incur a total expenditure of ₹ 15, 00, 000 / - (Rupees fifteen lakhs only) for manufacture of 150 CFPD required for test deployment.

The Chairman & Managing Director, KSEB Ltd, after considering the proposal, accorded sanction for

1. Constitution of the technical committee for design and production of CFPD units as proposed.
2. Entrusting the technical committee with production of 150 CFPD units for field testing, utilising facilities at TMR Division, Shoranur
3. Incurring expenditure of ₹ 15, 00, 000 / - (Rupees fifteen lakhs only) for production of 150 CFPD units for field testing.
4. Entrusting the Deputy Chief Engineer, Electrical Circle, Shoranur for incurring the expenditure for the project.

By order of the Chairman & Managing Director

- Sd -

P. G. UNNIKRISHNAN

Secretary (Administration)

To The Chief Engineers (Distribution)

The Deputy Chief Engineer, Electrical Circle, Shoranur

Deputy Chief Engineers of all Electrical Circles

All Committee members

Executive Engineers of all Electrical Divisions / Chief Public Relations Officer

Copy to:

The Chief Engineer (HRM) / Financial Adviser

The TA to Chairman & Managing Director

The TA to Director (D&IT)/(CP,SCM, Safety &Gen-Ele)/(T&SO)/(HRM & Gen-Civil)

The RAO/ECA

The Legal Liaison Officer

The PA to Director (Finance) / Senior C.A. to Secretary (Administration)

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Forwarded/By Order

Assistant Executive Engineer