



# KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

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

Phone: +91 471 2514576, 2446885, 9446008884 Fax: 0471 2444738

E-mail: [mtkseb@ksebnet.com](mailto:mtkseb@ksebnet.com), Website: [www.kseb.in](http://www.kseb.in). CIN :U40100KL2011SGC027424

## Abstract

Drone based Monitoring system-formation of a team– sanctioned-orders issued-reg:

### **Corporate Office (SBU-T)**

B.O. (FTD) No.487/2019 /D(T&SO)/PSE/Innov/2019-20/Thiruvananthapuram, dated : 25.06.2019

- Read: 1. G.O (Rt) No. 201/2017/POWER Dated, Thiruvananthapuram, 03.06.2017
2. B.O. D(T&SO) No: 2641/2017 (D(T&SO)/PSE/Innov/2017-18) Thiruvananthapuram,  
Dated 25.10.2017
3. Purchase Order No. CE(TS)/10/2017-18/2615 dated 27.03.2018 of the Chief Engineer,  
Transmission –South
4. Note No. D(T&SO)/PSE/Innov/2019-20/Thiruvananthapuram, dated : 15.06.2019 (Agenda  
70/6/19)

### **ORDER**

Government had accorded Administrative sanction for “Corridor mapping of power lines and Intelligence Maintenance System” under innovation scheme. Accordingly purchase order was issued for the supply of 2 nos. Drone based monitoring system for Corridor Mapping of Power Lines and Intelligent Line Maintenance System and handholding KSEBL’s Personnel in the operation, including AMC under Transmission Circle, Kalamassery and Thodupuzha on a Pilot basis (Innovation Fund Scheme) to M/s RKEC Projects Pvt. Ltd. Hyderabad.

This being an innovative project, reported to be the first of its kind in the Country, it includes supply of specially designed UAVs and related sophisticated sensors like thermal image camera, LiDAR, photogrammetry camera etc along with customized high end applications for reconstructing and analyzing the data received through the same. Only trained pilots can operate the Drones effectively especially when it is used in the High voltage systems. Purchase Order includes training of the KSEBL’s Personnel. The above system will be operated along live line routes on Extra High Voltage Transmission System. Accordingly the operation and handling of the system need to be performed by specially trained personnel with a high degree of awareness about the live power lines and safety precautions required for working on the same.

This innovative pilot project also includes setting up a system to explore the possibilities of air borne survey for corridor mapping of power lines and developing an intelligent line maintenance management system. The Drone is intended to be used for inspection and monitoring of the power transmission corridor including lines, towers, Right of Way clearances and vegetation and for identifying vulnerable and critical tower/joint locations where hot spots are developing. The scheme intends to establish a system for preventive maintenance of the EHT line exploiting the possibilities of Artificial Intelligence to some extent possible. In this regard it is essential to set up an effective and specialized team to undergo the necessary training imparted by the drone supplier. They should also have a high level of awareness about the high voltage systems, essential

and sensitiveness of the systems, it is imperative that the drone systems are exclusively owned and operated by dedicated teams with complete responsibility for their upkeep, operation and maintenance. Accordingly, in-order to effectively utilize the supplied system throughout the State it is proposed that two specialized teams may be set up at a Central location for the above purpose, one having its coverage for the Northern part of the State and the other responsible for the Southern part.

Considering the above noted points, vide note read as (4) above, it was suggested that the present Hot Line Maintenance wing, established in January 2015 under Transmission Circle Kalamassery, to implement Live Line Maintenance Techniques in KSEBL to improve supply availability factor of transmission lines by minimizing the scheduled interruption, may be bifurcated and assigned to two transmission circles, so that the reach of the wings are extended throughout the State and it was also suggested the 2 nos. Drones purchased under innovation scheme fund of Government of Kerala for implementing "air borne survey for corridor mapping of power lines and intelligent line maintenance management system" may be attached to the Hot Line wings; one with the existing team and the other with the team proposed to be formed bifurcating the existing one.

Accordingly, the matter was placed before the Full Time Directors in its meeting held on 24.06.2019. Having considered the matter in detail, it was resolved to accord sanction is accorded for the following:

1. To form a new Hot line under Transmission Circle Thrissur by bifurcating the existing Hot Line Wing under Transmission Circle Kalamassery, so as to utilize the services of hot line maintenance to all the Line Maintenance Sections between Transmission Circle Thrissur and Kannur (16 Nos Line Maintenance Sections).
2. To widen the area of responsibility of existing Hot Line Wing, under Transmission Circle Kalamassery up to Transmission Circle Trivandrum (17 Nos Line Maintenance Sections).
3. To arrange the staff pattern of the Hot line wings as follows –
  - A. For wing under Transmission Circle Kalamassery:
    - a) Assistant Engineer – 1 No.
    - b) Sub Engineer – 1 No.
    - c) Overseer – 2 Nos.
    - d) Linemen (Gr –II) – 2 Nos.
  - B. For wing under Transmission Circle Thrissur:
    - a) Assistant Engineer – 1 No.
    - b) Sub Engineer – 1 No.
    - c) Overseer – 1 No.
    - d) Linemen (Gr –II) – 3 Nos.
4. The proposed Hot line wing shall be set up by shifting one Assistant Engineer post out of the two from the existing wing. One of the Assistant Engineers trained in Hot Line Maintenance shall be posted to the new wing along with staff from the existing wing as above. The functioning of the new Wing shall be done after furnishing a new office space along with procurement of minimum inevitable tools.
5. To direct the Chief Engineer (HRM) to post / report those staff who are trained in hot

existing Hot Line Maintenance wing to the two wings formed as above, preferably taking into account their place of domicile, to make the wings functional with immediate effect.

6. To authorize the existing Hot Line wing and the proposed Hot line wing as the custodians of the Drones purchased under innovation scheme and they shall be responsible for implementing the project "Corridor mapping of power lines and Intelligence Maintenance System".
7. To retain the incumbents of the above wings for five (5) years with protection from transfer. Only transfer from one wing to the other may be allowed during this period.
8. To insist signing of an indemnity bond by the persons posted to these wings to retain them for a minimum period of 5 years once they complete their training in Live Line maintenance and operation of Drone and associated software.
9. To inculcate training in due course to one more team comprising of Assistant Engineer- 2 nos, Sub Engineer- 2 nos, Overseer- 1 no, and Lineman-1 no in Hot line maintenance activities, towards improving the availability of the above hot line wings under a long term perspective view.
10. To spare the vehicle (van) available with Chief Engineer (DS) for one of the Hot Line Maintenance wing after requisite repairs.
11. To find out another vehicle (Jeep) for the travel of officials and if the same is not available, one be hired.
12. To transfer available spares of essential tools to the Second Unit and to procure balance required.
13. To furnish a quarterly performance report by the Chief Engineer (Transmission-North) and Chief Engineer (Transmission-South) to the Chairman and Managing Director through Director (Transmission & System Operation)

Orders are issued accordingly.

By order of the Full Time Directors,  
Sd/-  
Lekha.G  
Company Secretary (In- Charge)

- To: 1. The Chief Engineers, Transmission (North & South)  
2. The Chief Engineer, HRM  
3. Dy. Chief Engineer, Transmission Circle, Kalamassery/Thrissur

Copy to:

1. The Chief Engineer (IT& CR)
2. The Financial Adviser / The Chief Internal Auditor.
3. TA to Chairman & Managing Director/Director (D&IT)/ Director (CP,SCM,S&GE)/Director (T&SO)
4. The Fair copy Superintendent, Board Secretariat
5. The Senior Superintendent (Library) Stock file/ File
6. The Dy. Chief Engineer (All Transmission Circles)

Forwarded / By Order

