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No: KPTCL/B19/345/85-86/2025-26
[E.O. No.213051
Encl:

Date: 26 JUN 2025

CIRCULAR

Sub: Mandating Drone survey for all Transmission Line works undertaken by KPTCL.

Ref: 1. E.O File no. 208396 from SEE, IT, KPTCL approved by MD, KPTCL.
2. Note approved by the Managing Director, KPTCL on 15.06.2025.

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Preamble:

1. KPTCL has taken steps for carrying out aerial inspection of Transmission Lines / Towers using Unmanned Aerial Vehicles (UAVs) / Drones on trial basis for some of the 220kV Transmission Lines coming under various Transmission Zones.

2. The scope of this work included patrolling of EHV Transmission Lines using Drone fitted with High resolution cameras, Thermal camera and LiDAR sensor for aerial inspection of EHV Transmission Lines, towers including corridor inspection, detection of unauthorized objects, vegetation in secured Right of Way, growth of Vegetation along with corridor, vertical and horizontal clearances, sag measurement and thermal imaging of identified towers along with enterprise software license for visualization of data collected with comprehensive reports.

3. This integration of drone-based aerial inspection and LiDAR technology in the Transmission sector has transformed asset monitoring with reducing manual effort, enhancing safety and improving data accuracy. Drone based inspections provide a proactive approach to infrastructure management, allowing early identification of potential issues such as structural deformations, sag variations, encroachments and vegetation growth.

4. By leveraging such Drone surveys for all new Transmission Lines being constructed, KPTCL can establish a baseline dataset for every newly constructed Transmission Line which can be used for comparison over a period of time during the service of the Transmission Line. Also, KPTCL can achieve enhanced operational efficiency, reduced maintenance costs and ensure regulatory compliance ultimately improving the reliability of the Transmission Network.

5. Thus, considering the importance of Drone survey of Transmission Lines and in order to have a baseline dataset for all new Transmission Lines being constructed by KPTCL & to achieve larger benefits of Drone survey, it is proposed to include the scope of "Inspection

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ಇ.ಸಂಖ್ಯೆ:
ದಿನಾಂಕ:
1. ಇ.ಇ. (ವಿ)-1
2. ಇ.ಇ. (ವಿ)
3. ಲೆಕ್ಕ ನಿಯಂತ್ರಣಾಧಿಕಾರಿ
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of Transmission Lines using Drone/UAV" in all the DPRs of all new works under the scope of the executing agency. Hence this Circular.

Orders thereon:

In order to have a baseline dataset for all new Transmission Line works / improvement works undertaken by KPTCL and to derive the benefits out of Drone survey for Transmission Lines, the following guidelines are hereby issued for strict adherence and with immediate effect:

1. Henceforth, provision shall be made in the Detailed Project Reports of all Transmission Line projects (Brown field & Green field) for inspection of Transmission Lines using Drone/UAV".
2. Rates for preparation of Estimates / DPR shall be considered as per the Schedule of Rates for Drone survey.
3. The concerned Tender Inviting Authority shall ensure that for all Transmission Projects (Brown field & Green field) for which Tenders are yet to be invited, the necessary condition shall mandatorily be included in the Standard Bidding Document / Detailed Work Awards that the agency shall carry out Drone survey of the Transmission Line as per KPTCL specifications and submit all the Drone survey data before submission of final bills.
4. Further, in case of Brownfield works involving strengthening of Transmission Lines by providing intermediate towers, replacement of Conductor and/or insulators etc., necessary provisions in the DPRs shall be made for carrying out Drone survey as per KPTCL specifications before commencement of the work and also after completion of the Work.
5. The concerned jurisdictional Superintending Engineer, Tr (Projects / Operations) Circle and the Executive Engineer (El), Tr (Projects / Operations) Division shall verify and ensure that the agency has completed the Drone survey and has furnished all the data as per KPTCL specifications before processing of the final bills.
6. The data in respect of Drone survey of Transmission Lines shall be forwarded to SEE (IT), KPTCL by the concerned jurisdictional Executive Engineer (El), Tr (Projects / Operations) Division for continuous updation of the baseline dataset of the Transmission Asset.

26/6/2025

Chief General Manager (Tech)
KPTCL

Copy to:

1. The Chief Engineers (Ele), Transmission (Operation) Zones / P&C, KPTCL for needful.
2. The Chief Engineers (Ele), TA&QC / RT and R&D / SLDC/T&P, KPTCL.
3. The Financial Advisor (A&R) / (I/A) / RA, Corporate office, KPTCL.

4. The Superintending Engineer (El), PM & MIS / IT, KPTCL to monitor the compliance of the Circular regularly.
5. The Superintending Engineer (El), RT / Planning, KPTCL.
6. All Superintending Engineers, Transmission (Projects / Operations) Circles, KPTCL.
7. The Superintending Engineer (Civil), KPTCL.
8. All the Controllers, Transmission Zones, KPTCL.
9. All the Executive Engineers (El), Projects / Operations Divisions, KPTCL.
10. All the Executive Engineers (Civil), Transmission (Operation) Zones, KPTCL.
11. All the Deputy Controller of Accounts, Transmission Circles, KPTCL.

Copy for information to:

1. The Chairman, Technical Advisory Committee, KPTCL.
2. Company Secretary, KPTCL, Kaveri Bhavan, Bengaluru.
3. SPS to Managing Director / Director (Projects) / Director (Operations) / Director (Finance) / Director (Admin & HR), KPTCL to place it before the Directors.

Copy to:

The Superintending Engineer (El), IT to upload the Circular in KPTCL Website.