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Press Release

BSES Adopts Drone Technology To Identify Hot-Spots and Undertake Timely Preventive Maintenance

New Delhi: BSES discoms are committed to ensuring quality and reliable power supply. For the same, the discoms have been exploring and deploying the latest and suitable technologies in its various areas of operations. Preventive and predictive maintenance of the existing distribution network holds the key in ensuring seamless power supply.

BSES has drawn an elaborate program for using drones for monitoring the health of the electricity network, including High Voltage (HV) lines and Grid Sub Stations. Using high resolution imagery and infra-red thermo scanning, it will involve inspection of the overhead lines & equipment, grid-substations, connections, damaged switches, capacitors, detection of theft of equipment and intelligent line profiling. This will provide BSES' field teams, literally with a bird-eye's view of the potential problem areas (physical condition of the assets and hot-spots) and helping it to take preventive actions by timely flagging irregularities.

- I. BSES drone program has already taken off the ground and it will be used for
- II. Accurately mapping assets on the GIS with high accuracy
- III. Power-theft detection
- IV. Inspection of roof-top solar installations,
- V. Accurate assessment of roof-top solar potential along with obstructions
- VI. Assessment of Vegetation encroachment (around discom infrastructure)

As a first step, BSES Yamuna Power Limited (BYPL) and BSES Rajdhani Power Limited (BRPL) have undertaken projects for visual and thermal mapping of the distribution infrastructure. For the same, the drones were fitted with High Definition camera for visual inspection and an infra-red camera for thermal imaging for identification of the hot-spots.

Announcing the move, BSES spokesperson said, " We continuously look for state-of-the-art technologies and innovations that help us serve our over 43 lakh customers better. Successful adoption of drone technology is a huge step in preventive maintenance exercise, critical for ensuring reliable power supply".

BYPL (East and Central Delhi)

BYPL has collaborated with Garuda UAV, a leading Drone service provider for visual and thermal mapping of the electrical infrastructure, along with the end to end solutions for maintenance and planning. The inspections have been undertaken over a 45 day period at BYPL's Vivek Vihar Grid and the EHV Circuit between the Vivek Vihar and Patparganj Grid in East Delhi. Through

thermal scanning, the drone assessment was able to determine health of the network and identify several hot-spots, which unchecked could have caused problems in subsequent months. It was also able to determine the physical condition of the towers and identify deterioration.

BRPL (South and West Delhi)

BRPL too partnered with Garuda UAV to undertake a pilot at the 66 kV Paschim Vihar Grid station, along with two-towers of 66kV Bodella 1 – Paschim Vihar Circuit 1 and 2 and 33 kV Mukherjee Park Circuit 3 near Chaukahndi. BRPL team also checked the patrolling capabilities of the drone technology.

With the initial success, BSES is now gearing-up to scale-up the use of drones and make it an intrinsic part of its operations and maintenance activities.

Benefits

Timely detection of potential trouble spots and issues plays a crucial role in the ensuring reliable power supply. Though BSES has a very robust system of undertaking preventing and predictive maintenance of its distribution network, the use of drone technology will be a force multiplier in its arsenal. It will help the discom leverage the following benefits:

- Faster patrolling
- Accurate capturing of data using high definition images and videos
- Hot spot identification
- Better preventive maintenance to lesser outages

BRPL & BYPL are premier power distribution companies and Joint Ventures between Reliance Infrastructure Limited and GoNCT Delhi.

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