National Grid UK Deploys LineVision's DLR

DLR implemented on a congested line to enable additional renewable energy and provide £1.4M in savings

United Kingdom
Location

600 MW
Capacity Added

£1.4 Million
Cost Savings

nationalgrid

THE CHALLENGE

National Grid owns and operates the transmission network in England and Wales, with 7,200 kilometers (4,474 miles) of overhead line. Due to a lack of transmission capacity, a 600 MW offshore wind farm was being curtailed preventing power from reaching the grid, resulting in congestion costs to the operator and consumers. To meet the increasing demand for electricity and the goal of net zero by 2050, National Grid needs to grow its network and find ways to increase existing capacity on its grid.

LINEVISION SOLUTION

National Grid identified a congested 275 kV for installation, that would help with moving power from offshore wind to load centers. By installing LineVision's non-contact sensors, National Grid can use LineVision's suite of software to enhance its operations. LineVision's LineAware ensures lines are within safe operating limits with real-time alerting on threats to grid reliability or public safety. LineVision's DLR reliably and safely increases transmission capacity by utilizing best-in-class methodologies including computational fluid dynamics and field sensor validation. The result of this technique is hyper-accurate DLR with wind speeds calculated for each span of the monitored transmission line.

SUMMARY OF BENEFITS*

600 MW
Capacity Added

£1.4 Million
Cost Savings

700,000 MT
CO_2 Avoided Annually

500,000
Homes Powered

*Projected

Sensors were installed between Penwortham and Kirkby, near Liverpool

APPLICATIONS USED

- LineRate
- LineAware

BENEFITS

Operationalizing LineVision's DLR National Grid is projected to unlock 600 MW of additional capacity a year, enough to power more than 500,000 homes. DLR will increase the lines capacity allowing more renewable power to flow, this technology will reduce constraint payments (where the electricity system operator pays generators to stop producing power to avoid overloading the transmission system) - saving £1.4 million in constraint costs a year. By integrating more offshore wind, this project also reduces over 700k metric tons of CO2 per year.

LINEVISION

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For any questions about these requirements or to discuss a solution that meets your needs, please contact LineVision to learn more.

INFO@LINEVISIONINC.COM