

220kV & 110kV overhead power lines diversion in Kilpaddoge

Part of a national scheme to upgrade HV systems across Ireland.

ReachActive was awarded an overhead power lines project in addition to cabling and ducting works (see later case study) as part of this important development project. ReachActive had the technically skilled workforce to complete the tower and 220kV dual circuit line works.

Client: ESB Networks



Background

EirGrid, the national operator of the electricity grid in Ireland, is implementing Grid25 – a €4bn strategy to upgrade its high voltage (HV) system by 2025. A new transmission reinforcement scheme in North Kerry is part of the Grid25 strategy. It included the development of a new 220 / 110kV substation at Kilpaddoge which required the rerouting of local 110kV and 220kV lines to tie-in to the new substation and the retirement of a section of existing overhead power lines.

Scope

ReachActive's scope was to erect new terminal towers and dismantle the existing 220kV dual circuit line to enable the connection of underground cables to feed the new 220kV interconnecting substation at Kilpaddoge as part of the North Kerry Project.

Technical details

Operational works included:

- Erecting five single circuit 220kV terminal towers
- Erecting two single circuit 110kV terminal towers
- Erecting one dual circuit 110kV terminal tower
- Retiring four spans of dual circuit 220kV overhead power line
- Retiring three dual circuit 220kV towers
- Stringing eight spans of 580mm HTLS/ gap conductor
- Stringing eight spans of 430mm ASCR & OPPC conductor
- Erecting, connecting and commissioning cables on all terminal towers

Key challenges and outcomes

Challenge: Ensuring the towers were capable of withstanding the additional conductors required.

Approach: ReachActive's investigations revealed that the tower bases required reinforcement to carry the additional conductors, and separate approval was required.

Outcome: Approval for reinforcing the tower bases was obtained and works completed prior to the tower upgrades with no change to the overall schedule.

Challenge: Completing the excavations required in an environmentally sensitive area, with the potential to uncover artefacts in the ground.

Approach: ReachActive worked with an archaeologist to ensure that any significant findings were handled appropriately.

Outcome: All digging works respected the nature of the sites.

Benefits

ReachActive exceeded the client's expectations and requirements for this project, and commended ReachActive on its hard work and forward thinking in difficult technical situations. No accidents or injuries were recorded on the project and all works were completed within budget and ahead of schedule.

In the following year ESB awarded ReachActive a similar project on their development plan at the Knockanure 220kV interconnecting substation.

