

# Case Study 2 – new cable tunnel

## **The Lower Lea Valley powerlines undergrounding project West Ham - Hackney, London Project completed January 2009**

In autumn 2004 National Grid was asked by the London Development Agency to remove the existing double circuit overhead line system between West Ham and Hackney in East London.

The lines went through the centre of the proposed Olympic Park for the 2012 Olympic Games and Paralympic Games. The nature of the development and its obvious national importance required and justified the relocation of the existing National Grid assets. The circuits were and continue to be a vital part of the transmission system in London and the South East. After assessing the relative costs and benefits of the options available the decision was taken to underground the circuits in a dedicated deep bore tunnel capable of providing equivalent ratings and operational characteristics to the existing lines.

The costs of the works have been funded in full by the requesting party. The licence under which National Grid operates does not allow us to recover the costs of such works from the users of the transmission network.

Tunnel length: 6.5km

Tunnel diameter (internal): 4m

Tunnel depth (average): 25m

Components: 3 shafts and headhouses (2 end shafts inside our substations at West Ham and Hackney, 1 intermediate shaft located within the Olympic Park)

Cable type: 2 circuits of 2500 sq. mm XLPE cable

Total project costs: £250m

This tunnel was built in parallel with a second tunnel for EDF Energy as a single project. £250m represents the combined project value for both tunnels, including cable supply and installation.



Images from the Olympic Park. From left to right: Tower from overhead line being dismantled, head house during tunnel construction, tunnel prior to cable installation.

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