

Supplementary Answer Form

Project: OSEAIT

Tick if this answer has been provided verbally: ☐

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|--|---|-----------------|----------------|
| Project code | NGET_OSEAIT | Question Number | 2 |
| Question date | 20 August 2015 | Answer date | 25 August 2015 |
| Submission section question relates to | Section 2, Page 5 | | |
| Topic | Development Cycle Replacement | | |
| Question | Please provide specific evidence that such a facility would have significantly shortened the development cycle of a transmission innovation. | | |
| Notes on question | | | |
| Answer | <p>Section 2, Page 5, refers to the research, development and delivery of the first three 400kV transformers ever to be filled with synthetic ester (a more environmentally friendly and less flammable replacement for natural oil) at Highbury and the associated time to completion.</p> <p>In this specific case, an innovation project scheduled to take 12 months for £200k (NIA_NGET0080) was undertaken in 2013 to:</p> <ol style="list-style-type: none">1) Build a test rig2) Complete specific impulse testing3) Undertake a post-mortem of the test object <p>The image below shows the test object in preparation for testing.</p> <p>Following this, the work was tendered to build a transformer.</p> <p>Areas in which the facility would have accelerated the work and delivered the project in half the time include:</p> <ol style="list-style-type: none">1) The availability of a testing window without impacting security of supply on the live network.2) Faster post-mortem examination due to unhindered access. | | |



Furthermore, at present there is no availability on the existing network to test an oil drainage system with synthetic ester. This means synthetic ester transformers are considered out of industry policy and exceptions are required to install them.

The proposed conversion of the Deeside substation into the facility incorporates existing transformer bays with the associated drainage systems. The availability of the facility would hence have allowed National Grid to accelerate the development of the appropriate civils works. This would have enabled the implementation of the innovation into BAU by now.

Attachments