

Connecting Europe Facility - ENERGY

Islandmagee Gas Storage Facility – Drilling borehole to obtain salt sample and subsequent testing, analysis and design development

5.1.3-0035-UKUK-S-M-14

Part of Project of Common Interest no 5.1.3

EXECUTIVE SUMMARY

The objective of the Action was to prove the feasibility of underground salt cavern development at Islandmagee Northern Ireland. The Grant Agreement was signed with CEF Energy in April 2015 with all activities planned under the Action completed by the end of November 2015.

The programme of work commenced with the drilling of a data gathering well to 1,753 metres in May and June 2015 to obtain wireline data and core samples of the Permian salt in which the caverns will be formed. The thickness and depth of the Permian Salt were both within 10% of pre-drill estimates. The Permian Salt average thickness over the area of the proposed caverns is approximately 200 metres at a depth of approximately 1,300 metres sub-sea. The rock mechanical properties of the salt determined from the core data are in line with data for Permian Salt at other locations across Northern Europe where caverns for gas storage have been constructed and are in operation.

Subsequent to the well during July to November 2015, core samples were sent to Germany to undertake laboratory analyses and the test results on the salt cores and rock mechanics were incorporated into the subsurface and surface facility preliminary design. The capital and operating cost estimates for the project have been updated to within +/-20% tolerance.

The objective to confirm the feasibility of the development of an underground gas storage facility in salt caverns in this location has been met. The thickness and depth of the salt at Islandmagee and the proximity of key services (electricity supply, water and the gas network) give the project a significant unit capital cost advantage.

The feasibility phase of the project has now addressed all key technical risks. The next stage will be Front End Engineering and Design (FEED) and then full construction of the facility.

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