

**Engineers Ireland Expert Group Review of the Advantica Report
“Independent Safety Review of the Onshore Section of the Proposed
Corrib Gas Pipeline”**

Presented to the Engineers Ireland West Region

by

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The Larmour Theatre, NUIG, Galway.

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Report of Expert Group to Officer Group of Engineers Ireland

Advantica Report “Independent Safety Review of the Onshore Section of the Proposed Corrib Gas Pipeline”

1. We have examined the Advantica Report that was based on the terms of reference prepared by the Corrib Technical Advisory Group to the Minister. It is our opinion that this review was sufficiently comprehensive to allow Advantica to examine all relevant, safety-critical aspects of the design, construction and operation of the proposed pipeline.
2. We are satisfied that the Safety Review was carried out in a professional, structured and comprehensive manner. Advantica utilised the necessary experience, personnel and resources to carry out this Review. Their recommendations are clear, unambiguous and sufficiently detailed to avoid technical confusion.
3. The Advantica Report essentially recommends a pipeline system which is compatible with existing, international, onshore gas-pipeline practices and therefore assures that the pipeline will be designed, constructed and operated to existing acceptable international standards. To achieve this, the Developer is required to upgrade the existing design, put in place a rigorous maintenance and inspection regime, and accept independent and regular monitoring during the lifetime of the pipeline.
4. The Advantica Report addressed the main elements which influence safety, including the Developer’s design and construction proposals, together with a detailed examination of the likely levels of risk and associated consequences to individuals adjacent to the pipeline, and to the general public. In addition, Advantica carried out their own separate studies, analyses and calculations (in critical areas) using their own methodologies and standards, and then compared the results with those of the Developer. Accordingly, a direct comparison of the Developer’s proposed approach and international practices was possible. Having examined in detail the Developer’s design and having then identified differences / shortcomings, Advantica made certain recommendations to enhance the reliability and safety of the Developer’s design.
5. Advantica recommend an Integrity Management Plan, which is sensible. It is good practice within the gas industry to prepare inspection, maintenance and emergency procedures for the operational phase of a pipeline, in advance of commissioning. This is to ensure that the pipeline is maintained and monitored on a regular basis during its operating life.
6. Advantica recommend that the scheduled maintenance and inspection results are independently reviewed. This is to be welcomed and should give considerable comfort to the population adjacent to the pipeline, and to the general public.
7. Advantica’s recommendation of limiting the pressure of the pipeline to 144 bar will significantly enhance the safety levels on the onshore pipeline. It should be noted that further engineering work is required to determine the most appropriate engineering solution for the pressure control system; and Advantica recommend that a full reliability analysis should be carried out on the subsea pressure control and isolation systems.

8. The balance of Advantica's recommendations are also prudent measures to ensure that:
 - a. the completed pipeline complies generally with Irish, UK and European gas pipeline practices;
 - b. the design takes due account of the ground and soil conditions;
 - c. materials and equipment will meet their design and operational requirements.
9. In conclusion, we are satisfied that the adoption of the Advantica recommendations will produce an onshore pipeline which meets current European and wider international design and safety requirements. As a consequence this should provide a pipeline which poses negligible risk to individuals adjacent to the pipeline and to the general public.
10. In addition we noted the Report of the Corrib Technical Advisory Group to the Minister regarding an appropriate Inspection and Monitoring Regime for the Corrib Project. We believe that a properly constituted, independent and adequately resourced group, with appropriate powers, should be put in place to provide independent oversight for supervising the construction, inspection, commissioning and subsequently the operation and maintenance of the Corrib Pipeline.

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