

CASE STUDY

A Managerial System for Coastal Dunes Breached by Oil and Gas Pipeline Landfalls

ABSTRACT:

The case study is a summary of an environmental management system for the coastal dune area at St. Fergus, Scotland. It includes references to pipeline landfalls, restoration and ongoing monitoring since 1972. The structures, terms of reference and working methods are described, along with mechanisms for review of effectiveness.

LOCATION:

St. Fergus, near Peterhead, Scotland, UK

KEYWORDS:

Coastal dune management, pipeline landfalls, dune restoration, monitoring

AUTHOR:

Professor William Ritchie:
Aberdeen Institute for Coastal Science & Management
Telephone: +44 (0) 1224 27 4474
Email address: aicsm@abdn.ac.uk

EXECUTIVE SUMMARY

A MANAGERIAL SYSTEM FOR COASTAL DUNES BREACHED BY OIL AND GAS PIPELINE LANDFALLS

At St Fergus, large diameter gas pipelines cross the dynamic beach and dune systems from the North Sea to reach the terminals from which a series of land pipelines carry the gas (methane) into the National Gas Grid.

The techniques for the ongoing environmental management, including ground restoration, have been in place since 1972 and several publications, ie. *The St. Fergus Environmental Monitoring Baseline Manual* was produced in 1990, whilst the *St. Fergus Coastal Environment Committee's 25 Years of Caring for the Environment* was published in 1997, describe both the landfalls and associated management practices.

The process of reaching agreement on how these management systems have been so effective has also evolved over time and could provide some general guidance for similar developments elsewhere: in some respects, the system anticipated most of the core values of an I.C.Z.M. approach, i.e. avoidance of conflict, maintenance of landscape and environmental value, co-operation and consultation between developer and local/national interests, and integration from planning through construction and restoration to operational stages. The St Fergus experience also embodies large measures of independent scientific advice.

The structure is based on a Committee with the following membership – Terminal Operators, Local Planning Authority and an Independent Scientific Advisor. There is a permanent Secretariat and the entire burden of cost, i.e. Administration, Monitoring and Special Projects, is met by the Terminal Operators.

At this mature stage of development, participants have slimmed down from a wider group, e.g. Scottish Natural Heritage, the Scottish Wildlife Trust and a Local Ornithological Group, and the committee now has a more direct operational focus. It is likely that, after a period of time, all these former 'members' had reached a stage where attention to the conservational interest had been, and would continue to be, guaranteed by the membership of the current Committee and the practice of placing all monitoring and related information into the public domain unless there were obvious commercial and/or financial imperatives. The existing Committee is also a single entity, whereas at the outset it had a two-tier structure, i.e. management/budgetary (the Terminal Managers) and a sub-committee for monitoring and ad-hoc scientific advice.

At present the Committee meets twice each year and has standing agenda items: **1.** the annual report (mainly concerned with assessing progress of restoration and the general state of the beach and dune environments), **2.** to agree to fund and receive independent monitoring reports in the following four areas – hydrology, vegetation, geomorphological change and ornithology/wildlife, and **3.** implications of any new development that might affect the beach and dune system, e.g. a new pipeline landfall. The Committee also plans for the publication of these scientific reports, normally in the form of a symposium at intervals of 5 to 7 years, but academic publications at conferences, etc. are also encouraged.

All monitoring is contracted out on a commercial basis to independent scientific experts, e.g. the recurring vegetation survey approximately every three-four years. The Committee also provides capital for instrumentation and support information, e.g. boreholes, water table measurements, aerial photography and other survey techniques.

To date, the maintenance of the quality of the beach and dune environment in an area that can provide up to 50% of the entire natural gas supply to mainland Britain has been commended and well-received, e.g. as a recent BBC case study of environmental management, and there have been no local or public enquiries as a consequence of seeking planning permission for pipeline landfalls at St Fergus. Further, many groups have visited St Fergus to use it as a model of an effective, mature and harmonious system of managing major localised impacts on a dynamic, open coast beach and dune system with considerable, but not exceptional, landscape and conservational value and importance.

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