



Brecon to Tirley Pipeline

Summary of the Works

The pipeline was the second phase of the National Gas Transmission System reinforcement required to transport natural gas from two new Liquefied Natural Gas (LNG) terminals at Milford Haven into the National Gas Transmission System

Works included Preliminary Design, Detailed Design, Procurement and Construction of 107km of 1200mm dia. X80 Grade welded steel pipeline, together with two major Above-Ground Installations and a number of more minor installations.

Construction of the pipeline was in a sensitive area of natural beauty including work within Brecon Beacons National Park.

This expansion of National Grid's network of high-pressure natural gas pipelines included the installation of new pipeline sections, starting in Milford Haven in the west, continuing through South Wales, Herefordshire and into Gloucestershire.

Construction began on the first pipeline section, Milford Haven to Aberdulais, early in 2006, and on the second section, from Felindre to Tirley, in early 2007.

Client
 Transco PLC
 Network Strategy
 NGT House
 Warwick Technology Park
 Gallows Hill
 Warwick
 CV34 6DA

Tel: 01926-653000
 Fax: 01926-656601

Contact:
 Mr Brian Smethurst

Value
 £150million

Contract Period
 Aug 05 to Sep 08



The Brecon to Tirley section.

Brecon to Tirley Pipeline

Importance of LNG

Two terminals for the importation, storage and regasification of Liquefied Natural Gas (LNG) have been constructed at Herbrandston and Waterston, both near Milford Haven by South Hook LNG and Dragon LNG Ltd. The new facilities have a total start-up capacity of six billion cubic meters per annum (bcma) and the importation of gas via the LNG terminals will form an important new and strategic gas supply into the UK market.

LNG will be delivered to the Milford Haven Terminal by a fleet of LNG tankers which can each carry up to 145,000m² of LNG. The gas is then stored in 160,000m² capacity storage tanks.

From the tanks LNG is regasified and sent out to consumers via a gas pipeline connecting with the National Transmission System (NTS).

Brecon to Tirley Route

Murphy's Brecon to Tirley 107km pipeline connects to the 90km pipeline section from Felindre near Swansea to Brecon which was constructed by others. The pipe was procured by National Grid from Germany and France – and involved 7,000 lengths at over 60,000 tonnes of steel being delivered into Swansea and Newport Docks.

The pipeline route starts at a new compressor site in the vicinity of Felindre, takes a north-westerly route, crossing the River Loughor northwards before following the A483 from Ammanford to the north west of Llandeilo. It then crosses the River Towy, traverses the north-west of the town and follows the A40 north-east, crossing the River Towy again to the north of Llangadog.

The pipeline then goes east towards Brecon, running around the northern edge of the Brecon Beacons National Park, before turning north to follow the A470 and A438 to Hay-on-Wye. It then travels south east in the direction of the B4348 where it crosses the A465, continuing south east towards a new pressure reduction station at Treaddow, close to National Grid's existing compressor station at Peterstow, west of Ross-on-Wye. The route then moves east, north of the M50, passing under the motorway near Junction 3 (Newent), ending at a new pressure reduction station near Tirley, near Tewkesbury.

In negotiating the route the pipeline involved 87 road crossings, 70 water/watercourse crossings, 1 major railway crossing, crossing the M50 motorway and passing through over 500 fields.

Environmental and Engineering Constraints

This was a large engineering project and the pipeline route selection went through a rigorous process of consultation and environmental appraisal before consent to construct was granted by the Secretary of State for Trade and Industry. The pipeline is operated at 94barg and was designed to the same parameters as the other 6,800km of high-pressure pipelines operated by National Grid.

The Brecon to Tirley section of the pipeline includes one 'pigtrap' installation and two Pressure Reduction Installations, which are necessary to reduce the pressure from 94 barg to 75 barg before entering the existing network.

An extensive area covering some 5,300 sq km was reviewed to identify pipeline corridor options for the Felindre to Tirley section. Due to the complexity of the route, the joint National Grid/Murphy team took over a year to finalise the route from Brecon to Tirley, after detailed mapping and identification of all physical and environmental constraints to be overcome.

Brecon to Tirley Pipeline

In establishing the route, consultation and consents were necessary from a large number of stakeholders, including landowners, highways and river authorities, statutory consultees and non-statutory organisations. At an early stage contact was made with the local planning authorities, the Environment Agency, the Brecon Beacons National Park Authority, wildlife and conservation groups, heritage and archaeological agencies, countryside bodies and farming groups.

The pipeline passes through some areas of outstanding natural beauty and all those involved in the project worked hard to protect and preserve it by following the detailed requirements set out in National Grid's Environmental Statement.

Aspects that had an effect on routeing the Brecon to Tirley pipeline included engineering issues relating to the crossing of roads, railways, rivers, cables and other pipelines. Construction issues included, where possible, avoiding steep slopes and difficult ground conditions. For example, near Hay-on-Wye, the route was changed to avoid two major crossings of the River Wye, which is a SAC (Special Area of Conservation) designated river.

Care for the environment is very important to National Grid and the Environmental Statement highlighted the potential habitat of rare species and where there are ancient woodland and upland areas. This was important to ensure, where possible, protected species were not affected, e.g. dormice, bats, badgers, crested newts, white-clawed crayfish, and fish, such as Atlantic salmon.

Throughout the life of the project, the construction teams, including project archaeologists, monitored all ground-breaking work, investigated and monitored any archaeological remains found, and put in place the necessary mitigation works. An expert team of environmentalists ensured that agreed methods of work and the measures outlined in the Environmental Statement, and the more detailed Environmental Management Plan, were fully complied with. The project agricultural liaison officers also maintained communication with farmers to ensure their needs were met before, during and after construction. There was also a full communication programme in place including a project freephone number so that people living near the route were kept informed of the hours of work, the working arrangements and the duration of construction activities.

Current Status

The pipeline is on schedule for completion this autumn and will be buried a minimum of 1.20m underground for its entire length. Careful reinstatement of the land will take place as soon as possible after the pipe is laid, allowing the countryside to return to its previous condition.

Murphy believes that the project has brought to the fore its technical expertise in the gas sector and reputation for respect for the environment as well as its ability to forward plan to take into account the varying stages of this complex scheme.