

Shannon Technology and Energy Park (STEP) Power Plant

Appendix A2.8: Pipeline Construction

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Pipeline Description

The pipeline will transport gas from the Site of the Proposed Development to the existing national gas network near Foynes, Co. Limerick. The consented 26 kilometres (km) Shannon Gas Pipeline will be composed of high strength carbon steel pipe with an external corrosion protection coating and a cathodic protection system.

The total length of the proposed consented Shannon Gas Pipeline will be approximately 26 km. The pipeline will be buried underground for its entire length, to a minimum depth of cover of 1.2 metres (m). The depth of cover will be increased to a minimum of 1.6 m where the pipeline will require additional protection, such as at road and river crossings. The design pressure of the pipeline is 98 barg. The maximum throughput in the consented 26 km Shannon Gas Pipeline will be 28.3 million standard cubic metres per day.

Note on Planning and Phasing

The consented 26 km Shannon Gas Pipeline received planning permission in 2009 [Reference GA08.GA0003] following submission of an Environmental Impact Statement (EIS) to An Bord Pleanála. The EIS presented and assessed the impact from the construction of the pipeline. The construction of the consented 26 km Shannon Gas Pipeline is likely to be carried out at the same time as construction activities for the Proposed Development.

Headcount

It is estimated that the peak construction workforce will be approximately 200. Temporary office accommodation and other construction facilities will be provided within the site, local to the construction work for the construction phase.

Access to the Pipeline Spread

The pipeline spread is in effect the 26 km-long pipeline construction site which extends from the Proposed Development AGI to the Foynes Above Ground Installation (AGI). Construction traffic will access the pipeline spread via the 20 no. roads which cross the route.

A number of 'Primary Access Routes' have been identified. These Primary Access Routes are classed as the main feeder routes which lead to the minor roads which cross the consented 26 km Shannon Gas Pipeline.

The construction of the consented 26 km Shannon Gas Pipeline will generate both heavy goods vehicle (HGV) trips and car / light good vehicle (LGV) trips. The pipeline is approximately 26,000 m in length and is expected to take 2,167 pipes of 12 m lengths to complete.

It is envisaged that the pipeline will be delivered to either Foynes or Limerick Port during the winter period prior to construction. The pipes will initially be transported by road from the port to a pipe storage depot located close to the pipeline route with good access to the N69 (Limerick to Tarbert Road).

Sequencing and Duration of Construction Activities

The construction of a gas pipeline involves a sequence of distinct activities which move sequentially along the pipeline spread in the following order:

1. Fencing;
2. Topsoil stripping;
3. Haul-road construction (possibly involving importation of stone);
4. Pipe stringing;
5. Importation of sand;
6. Pipe welding;

7. Trench excavation;
8. Pipe laying;
9. Backfilling;
10. Land-drain reinstatement; and
11. Re-spreading of topsoil / land reinstatement.

It should be noted that, as the activities are sequential, a particular length of the pipeline route will be affected by one activity at a time and then for a relatively short period, only.

The HGV study focuses on activities 3, 4 and 5 above as, together, they represent a very substantial portion of all HGV traffic. This is the case in respect of both the total number of trips and the frequency of trips (at individual road crossings).

Summary Traffic Generation

The following table summarises the total volume of traffic expected to be generated by the construction of the consented 26 km Shannon Gas Pipeline.

Table A2.8.1 Summary Traffic Generation

Plant Item	Total No. of Trips	Average No. of Daily Trips
Linepipe and fittings	867 HGVs	29 HGVs
Sand Surround	4,160 HGVs	104 HGVs
Stone for Parking and Roads	2,580 HGVs	65 HGVs
Above Ground Installations	1,050 HGVs	13 HGVs
Other HGV Movements	6,000 HGVs	40 HGVs
Car / LGV Traffic	78,300 cars / LGVs	522 cars / LGVs

Road Crossings on Pipeline Route

The consented 26 km Shannon Gas Pipeline will be constructed on a sequential basis and not all of the traffic generated by the construction process will enter and leave through a single construction point. The pipeline will be accessed from the local road network where the pipeline crosses the public road (*i.e.* road crossings). To develop a greater understanding of the projected impact of the construction process, the volume of traffic associated with each road crossing will be calculated along with the routes which this traffic will need to use to access each crossing.

The volume of traffic generated by each crossing has been based on the length of pipeline accessed via the road crossing (*i.e.* road crossing 4 (RDX4) would be used to access half of the section of pipeline between RDX4 and RDX3, and half of the section of pipeline between RDX4 and RDX5).

The heavy construction equipment will move along the route of the pipeline as the construction sequence commences and will not travel between road crossings along the public road.

The following table details the length of pipeline accessed via each road crossing along with the estimated number of days associated with the delivery of the linepipe, sand and stone, it should be noted that some deliveries would continue at the road crossings outside of the above peak periods however, these traffic flows will be low. Refer to the *Shannon Pipeline Environmental Impact Statement (EIS)* (Figure 7.3 to 7.10, Volume 3) (Arup, 2008) for the location of each road crossing referenced below.

Table A2.8.2 Traffic Data at Pipeline Road Crossings

Road Crossing	Pipeline Length	Linepipe	Duration of Operation (in Days)	
			Sand	Stone
RDX1	1110 m	1	1-2	1-2
RDX2	1035 m	1	1-2	1-2
RDX3	830 m	1	1	1
RDX4	1220 m	1-2	1-2	1-2
RDX5	1325 m	1-2	2	2
RDX6	1915 m	2	2-3	2-3
RDX7	2045 m	2	3	3
RDX8	905 m	1	1	1
RDX9	1260 m	1-2	2	2
RDX10	1370 m	1-2	2	2
RDX11	925 m	1	1-2	1-2
RDX12	645 m	1	1	1
RDX13	1240 m	1-2	1-2	1-2
RDX14	1545 m	1-2	2	2
RDX15	1065 m	1	1-2	1-2
RDX16	1170 m	1	1-2	1-2
RDX17	1170 m	1	1-2	1-2
RDX18	1860 m	2	2-3	2-3
RDX19	2195 m	2-3	3	3
RDX20	1270 m	1-2	2	2