A. General background to the BBL project

Project Summary

2.21. The BBL pipeline is a 36" gas pipeline between the Netherlands and the United Kingdom, connecting the Balgzand area and Bacton. The project is referred to as the Bacton Balgzand Line (BBL) and links the Dutch and English transmission grids via a route of just 235 kilometres.

2.22. The system will consist of the following elements:

a. Compression facilities in Noord Holland
b. An onshore pipeline section to designated pipeline landfall location near Julianadorp
c. A shore crossing/landfall from behind the dunes to a location offshore from the coast, preferably constructed using the horizontal directional drilling technique
d. An offshore pipeline crossing the North Sea from The Netherlands to the UK
e. A pipeline section crossing the beach at Bacton.
f. An onshore pipeline section to the Shell Expro gas terminal

2.23. A compressor station in the Anna Paulowna polder, next to the Noord-Hollands kanaal will be the inlet point for the new transportation system. The 4 km long onshore pipe section runs from the compressor station at the Noord-Hollands Kanaal to the designated pipeline landfall location crossing the dunes close to the village Julianadorp (see Figure 1). After crossing the dunes, the offshore pipeline route follows the existing pipeline corridor near the Dutch coast for some kilometres before heading towards Bacton. The total length of the offshore section will be approximately 230 km. Along the offshore route, the pipeline will cross five pipelines and nine telecommunication cables.

2.24. In Bacton, the pipeline will be routed to a receiving terminal at the Shell Expro gas plant. The length will be approximately 1 km. The pipeline system will be constructed using proven and reliable construction techniques. At this site, reception facilities for the BBL will include receiving, pressure reduction, heating and fiscal metering facilities. An export pipeline will link the BBL to the Transco system at Bacton. For this line, the Horizontal Directional Drilling technique will be used. The final details of the connection to the Transco site await further consultation with Transco.

FIGURE 1

2.25. To minimise environmental impact, the Dutch dune crossing will, preferably, be constructed using the Horizontal Directional Drilling (HDD) technique. At the UK side, the Bacton landfall involves a tunnelled shore crossing with a vertical shaft bringing the pipeline close to the onshore gas plant (see Figure 2).

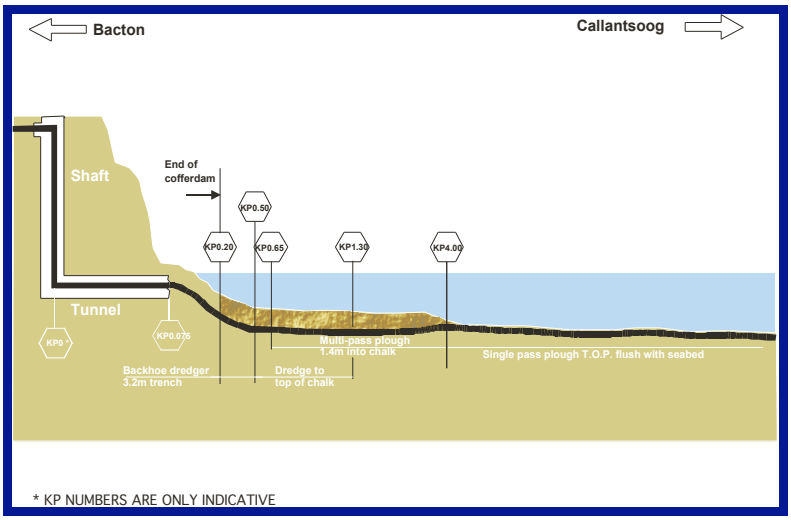

FIGURE 2

3. The actual pipe laying will commence with the pipe lay barge anchoring offshore Bacton for the pipe to be pulled ashore into a cofferdam. A tie in between the Bacton landfall section and the offshore section will be made on the beach. After the pipe pull, the barge will start laying the pipeline from Bacton to the Callantsoog tie in point where the offshore section will be connected with the Dutch landfall section. At the near shore areas and on several locations along the route, the pipeline will be subject to additional lowering by post lay trenching and/or pre dredging for safety or stability reasons.