

Relocation of pipelines crossing the river Scheldt at Kruikebeke/Rupelmonde and Bornem/Hingene



Initiator/Principal: NMP N.V., Brussels (Nationale Maatschappij der Pijpleidingen)

Client : Tractebel Engineering, Brussels

Period : 2003 - 2005

Budget : € 100.000

Location : Kruikebeke/Rupelmonde and Bornem/Hingene

Scope of work :

The relocation of pipelines is between the line valve stations P3 (Kruikebeke/Rupelmonde) and P4 (Bornem/Hingene)

- length of relocation : 2000 m
- concerned pipelines : DN400 (ethylene line), DN300 (hydrocarbon line), DN200 (propylene line)
- maximum operating pressures : 44 bars (DN400), 84 bars (DN300), 98 bars (DN200)

Services:

- Relocation route design
- Environmental Impact Assessment
- Detailed engineering and tender documents
- Authority engineering
- As-built services

Project description:

In the late sixties, three pipelines were installed between Antwerp Harbour and the industrial area of Feluy (Henegouwen) :

- DN550
- DN300
- DN200.

The DN550 and DN300 lines transported crude oil from Antwerp to Feluy and vice versa.

Since the close down of the Feluy refinery, the DN550 line is destined to ethylene transport.



Line valve station Pu at Bornem/Hingene

The pipelines cross the river Scheldt as a coupled siphon and have been installed with a 3 m cover beneath the river bed. Since the construction of the Hingene lock on the Brussel – Willebroek canal, the siphon constitutes an obstacle for dredging works and a potential danger for shipping (anchors). Further, due to erosion, siphon cover was reduced substantially at certain locations.

The authorities wanted the siphon to be relocated and installed at greater depth.



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North of the river Scheldt, the lines are situated in the controlled inundation area Kruikebe – Bazel – Rupelmonde and are crossed by the 'Ringdijk'. On this location as well, the lines are installed at greater depth to resist the load of the Ringdijk (8 m height) and the settlements of the underground.

Both crossings are executed with the horizontal drilling technique. The length of the Schelde-crossing is approx. 700 m. The length of the Ringdijk crossing is approx. 450 m.



Situation map



Directional drilling pipe string after pull in