

NETWORK UPGRADING AROUND THE CITY OF TUNIS (TUNISIA)

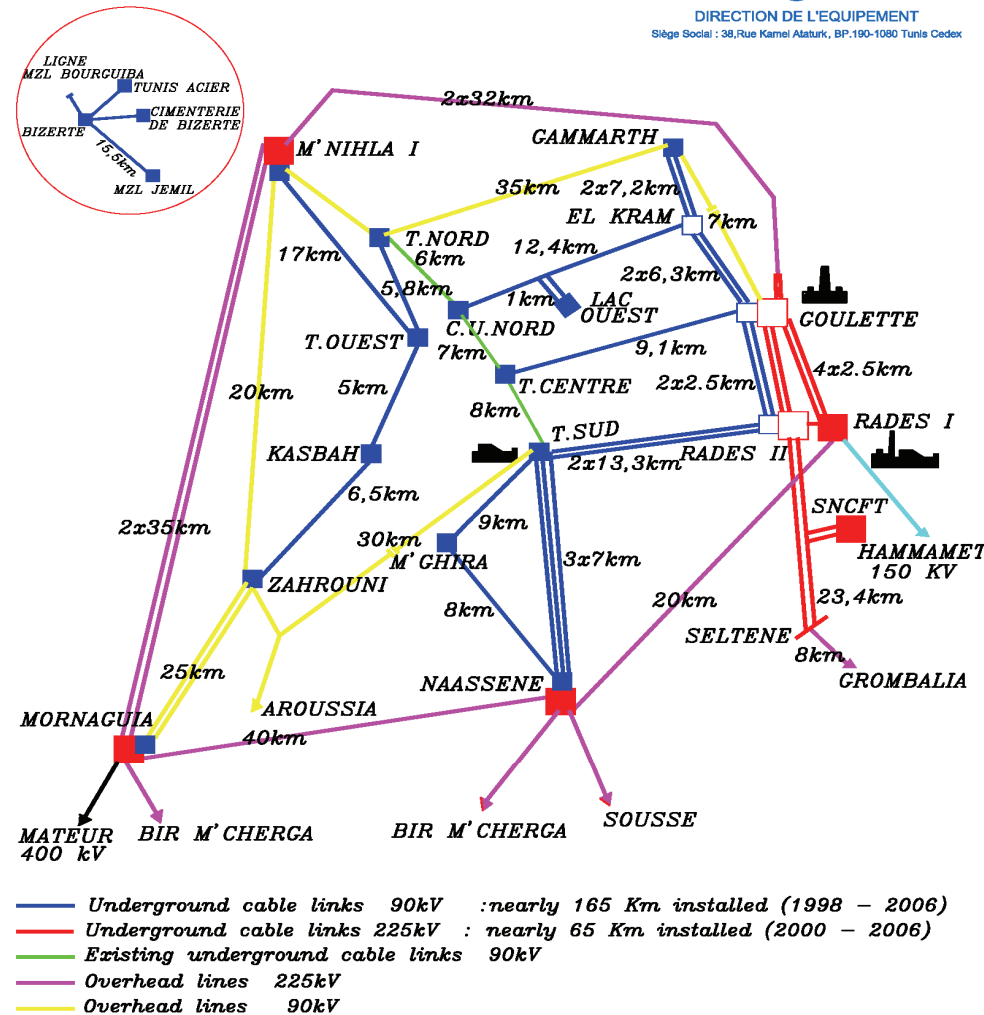
The total cable lengths installed for each voltage level since 1998 are:

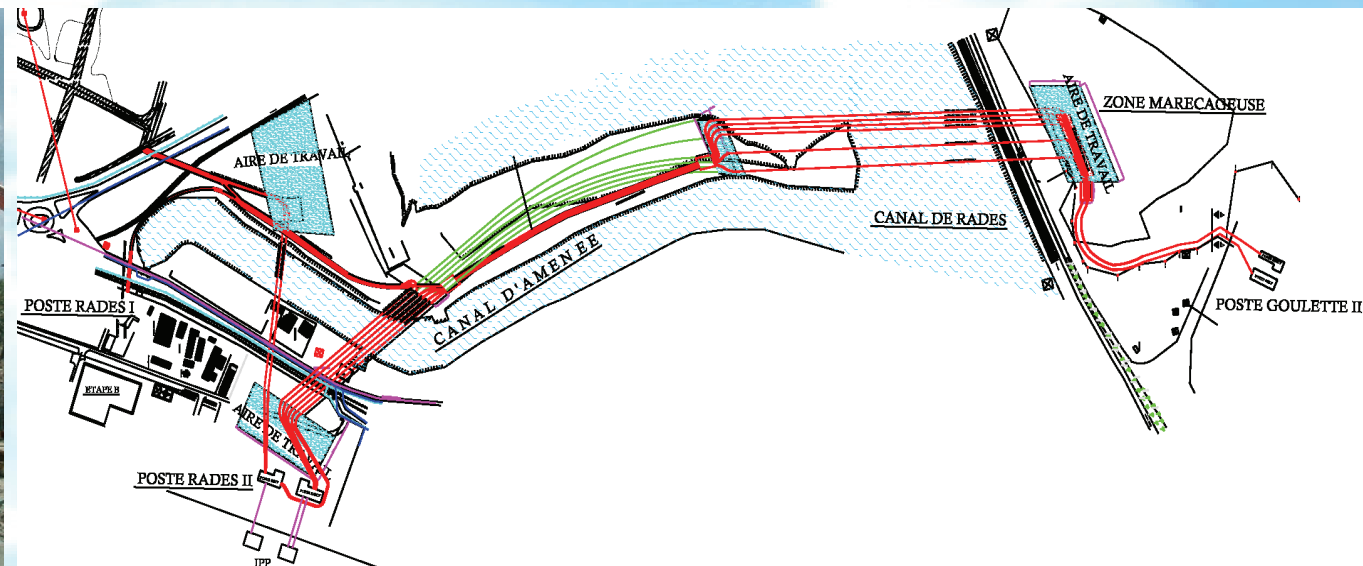
- Nearly 500 km for 90 kV,
- Nearly 200 km for 220 kV.

With the Rades II – Seltene circuits there is a special feature to be noted, which is that it is one of the longest 225 kV underground cable connection installed in the world with over 31 joint bays.

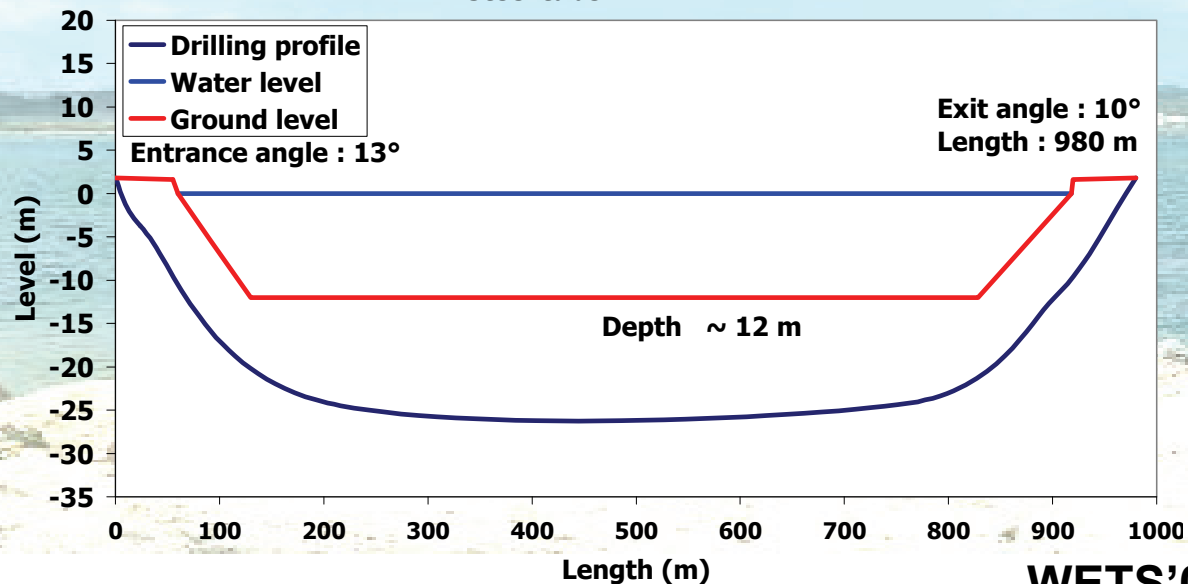
The most critical points were:
 The crossing Bizerte inlet channels near Tunis.

This crossings was realised by using the directional drilling technique with steel and HDPE tubes.



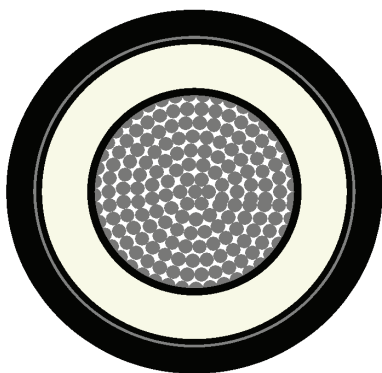
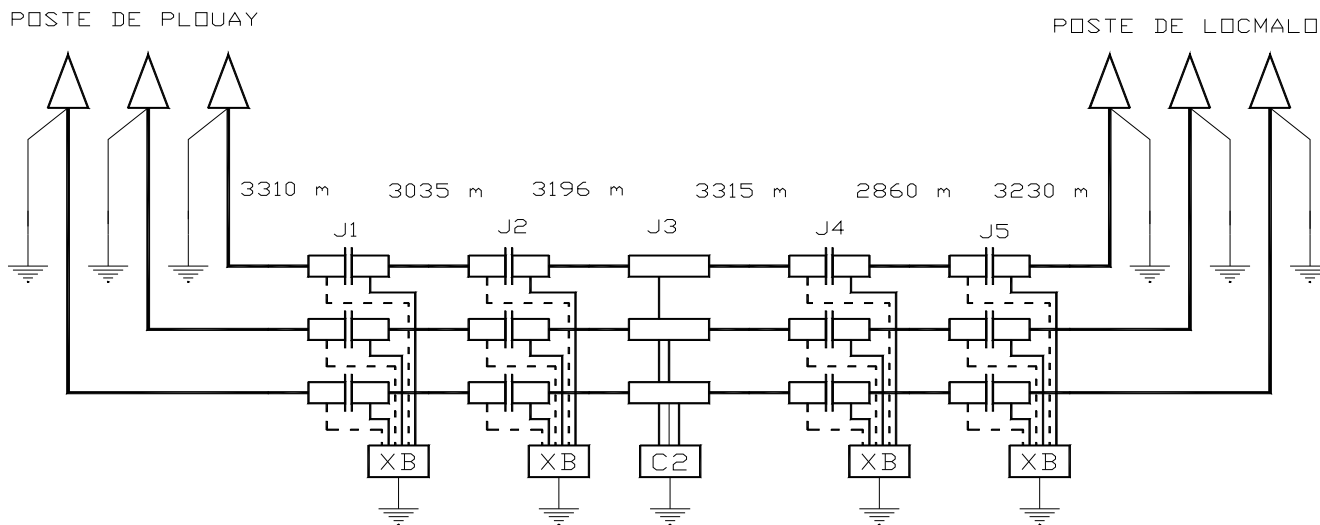


**Drilling profile for Bizerte inlet channel crossing
Steel tube Φ 22"**



First RTE turn key project

Since 2002, turnkey projects have been launched, as experiments, in order to promote new technologies or methods and reduce the total cost of underground links.



63 kV1x800 mm² Alu (PEA)

Diam ext. : 70 mm

Poids : 5.1 kg/m

LIAISON COMPOSEE DE :
3 câbles de puissance
1 câble F.O. 48 fibres

caractéristiques du touret

TYPE

DIAM. JOUE MAXI (mm)

DIAM. FÛT (mm)

LARG.MAXI EXT. (mm)

LONGUEUR (m)

CHARGE MAXI TOURET (T)

CABLE PEA

4150

2100

2250

3427

17.8

CABLE PLOMB

4150

2100

2250

2935

32

WETS'07 WORKSHOP

Proficiency of Civil Work and Cable Manufacturer were used in a common project with innovative solutions

- Manufacture of combined drums for long length of PEHD
- PEHD Welding by electro-weldable sleeves
- The innovative feature was the use of pushing-floating techniques
- The number of joints was decreased, from 15 for a conventional installation technique, down to 5 for the total 19 km length of the link. Some sections are as long as **3,300 m**.
- The cables were modified in order to produce such long sections: the aluminum screen was transversally welded and tests were carried out in order to qualify this specific feature.
- The duration of the cable pulling in ducts was decreased

