RTE

Gestionnaire
du Réseau de Transport d'Electricité

Policy for new Projects

Context

➔ Needs of grid development for:

- Connecting new generations
- Increasing national consumption

➔ Societal evolutions and environmental constraints

- Difficulties for new installations
- Long delay

Grid development Needs: production

- ➔ Productions increase about
  - 15000 MW in 2015
  - In a short delay
  - Often in urban or « full » areas
- ➔ Nature of productions
  - GCC, wind-farms, coals and nuclear power plants
- ➔ Geographic situation:
  - North, Southwest, West coast…

Grid development Needs: consumption

➔ Consumptions increase about
- 500 TWh in 2010
- Often in urban or « full » areas

➔ Geographic situations:
- Big cities area

➔ *A need to re-enforce and to develop the present grid*

Better use of underground cable

- **UGC: an alternative solution**
  - To make it easier to install power lines especially in rural areas
  - To reduce time delay

- **Integrating risk analysis**
  - *Environmental constraints, societal problems, long delay*
  - *Laying technical problems*

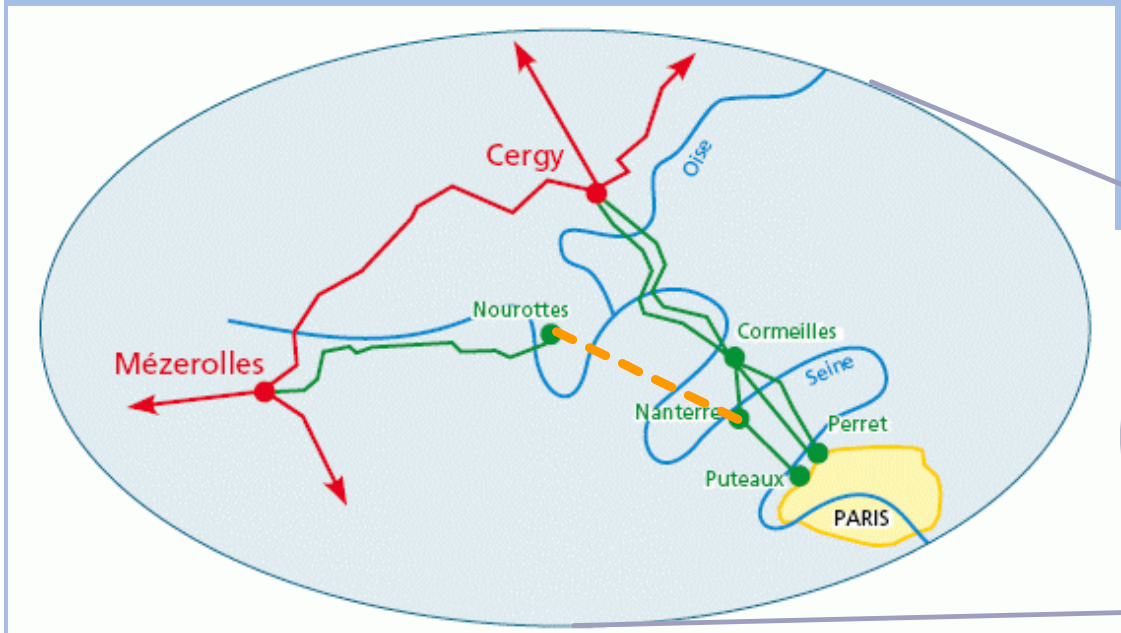
The costs are still higher than OHL ones, especially for EHV

The example of Paris area grid

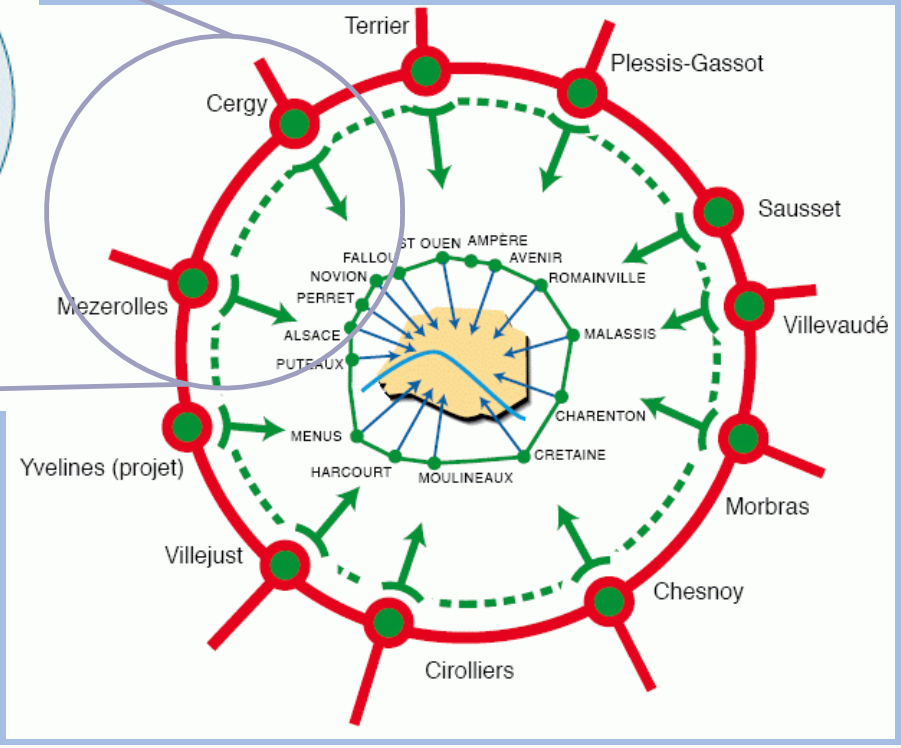
➔ *Within 3-5 years, some new UGC installations projects*

- 40 km for clients connections
- 35 km for consumption increase

Nanterre-Nourotte 225 kV installation project



Paris North-West powering reinforcement



Description of the line

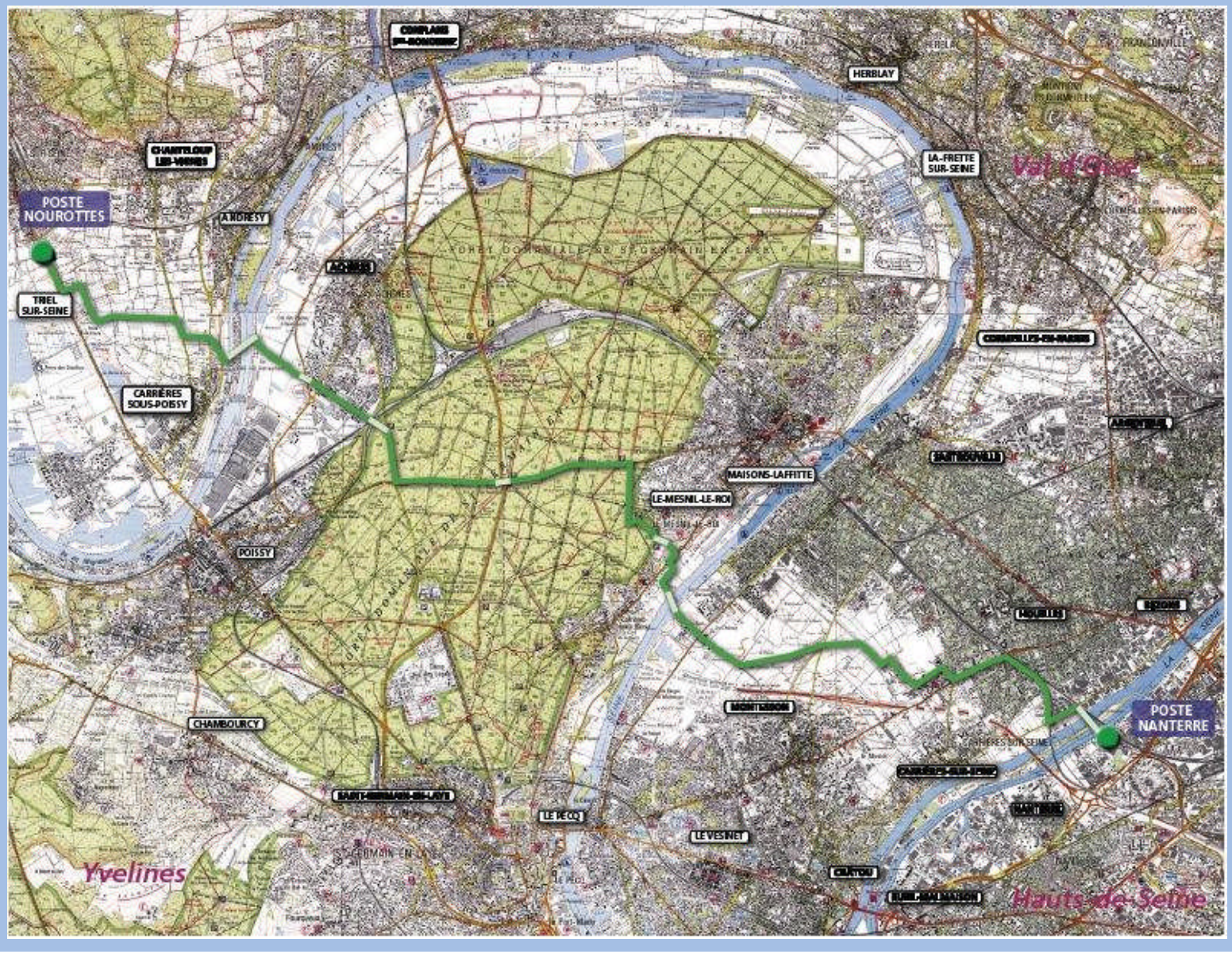
Length: 21 km

Cable: 225 kV XLPE cable, 1600 mm² Copper, Aluminium sheath

Ampacity: 470MW

Estimated cost for the project : 25 M€

Route


POSTE NOUROTTES
TRIEL SUR-SEINE
CARRIÈRES SOUS-POISSY
POISSY
CHAMBOURCY
MAISONS-LAFFITTE
LE MESNIL-LE-ROI
HERBLAY
LA-FRETTE SUR-SEINE
Val d'Oise
POSTE NANTERRE
LE VESINET
Yvelines
Hauts-de-Seine

Difficulties of Nanterre-Nourotte

➔ Drilling installation

- River Seine: lengths 450, 480 and 570 m, depth 20 to 30 m
- Railways: length 300 m, depth 20 m

→ **Phases buried with a mutual distance of 4 m, in order to meet the required ampacity.**

➔ Environmental constraints

- Pass through a protected forest: the line must follow the existing roads
- Pass through a stone pit: micro-tunnel digging