AREVA first in Scandinavia
Konti Skan Project

AREVA First in Scandinavia

Konti-Skan 1 HVDC Project

KontiSkan 1 Refurbishment and Upgrade

Customers

- **Svenska Kraftnät - owns and operates Sweden's transmission network with responsibility for the national electricity grid**
- **ELTRA - owns and operates the 400kV transmission network for Jutland and Funen in western Denmark**

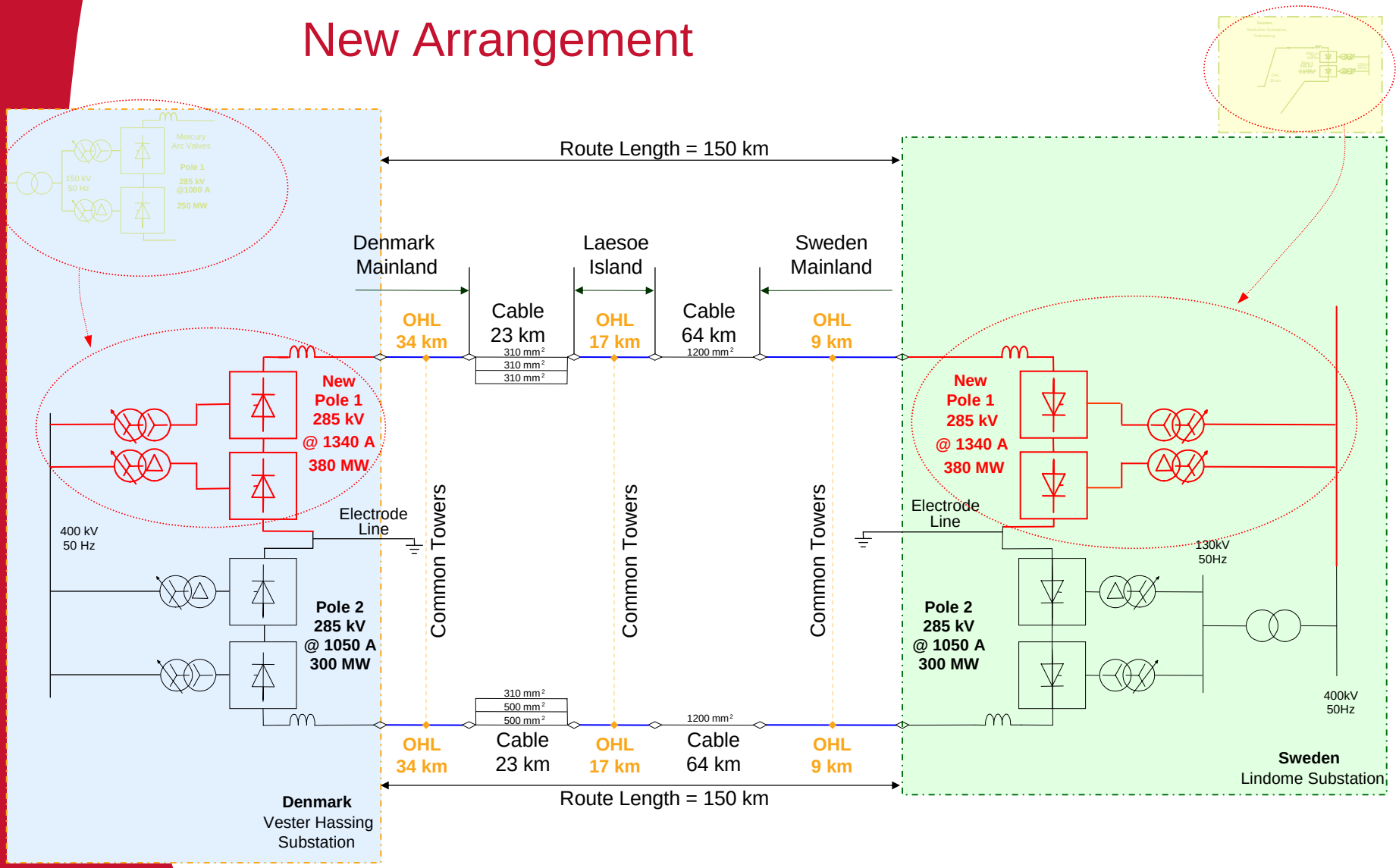
Upgrade / Refurbishment

- Bipole
  - Pole 1
    - 250 MW (250 kV @ 1000 A)
    - Mercury Arc (Asea)
    - Completed September 1965
  - Pole 2
    - 300 MW (285 kV @ 1050 A)
    - Thyristor (Asea)
    - Completed November 1988
- Multiple Cable / OHL Sections

- Equipment to be re-used wherever possible
- No continuous overload capacity above 360 MW nominal rating
- Scope
  - Sweden - Turnkey addition to existing s/s
  - Denmark - Excluding buildings and AC switchyard

Single Line Diagram

New Arrangement



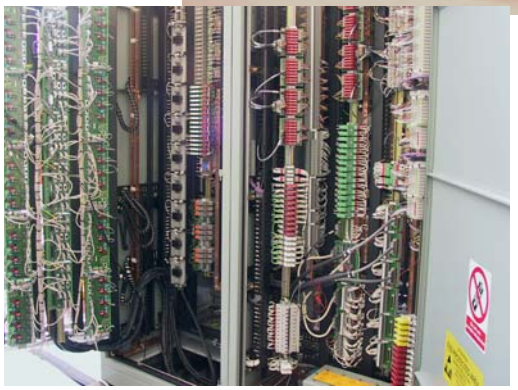
Upgrade / Refurbishment

- Bipole
  - Pole 1
    - 380 MW (285 kV @ 1340 A)
    - Thyristor (AREVA)
    - Completed July 2006
  - Pole 2
    - 300 MW (285 kV @ 1050 A)
    - Thyristor (Asea)
    - Completed November 1988
- Multiple Cable / OHL Sections
  - New converter rating to match DC conductor rating
- Equipment to be re-used wherever possible
- No continuous overload capacity above 380 MW nominal rating
- Scope
  - Sweden - Turnkey addition to existing s/s
  - Denmark - Excluding buildings and AC switchyard

H400: Latest Technology HVDC Valves
KontiSkan HVDC Scheme

HVDC Equipment

- Control System
  - Valve Base Electronics equipment
  - Pole Control equipment
  - Interface with existing Pole 2 Control
  - New Pole and Bipole Control functions
    - Power Control
    - Frequency Control
    - Reactive Power / AC Voltage Control
    - Power Modulation
    - Runback



Transformer

Lindome

Lindome

Lindome