

Supplier day for Nettplan Stor-Oslo phase 1

Procurement opportunities

Nydalen, Oslo

14.03.2016

Statnett

Agenda:

- [0900 Introduction](#)
- [0910 Film](#)
- [0915 Introduction to Nettpplan Stor-Oslo phase 1](#)
- [0945 Procurement](#)
- [Questions](#)



Introduction

- Request for information meeting
- Objective of the meeting
- About Statnett,
 - System operator in the Norwegian Energy
 - Operates about 11 000 km HV power lines and 150 subsubstations across the country
 - Responsible for interconnections to Sweden, Finland, Russia, Denmark and Netherlands
 - Owned by the Norwegian state through the Ministry of Petroleum and Energy.



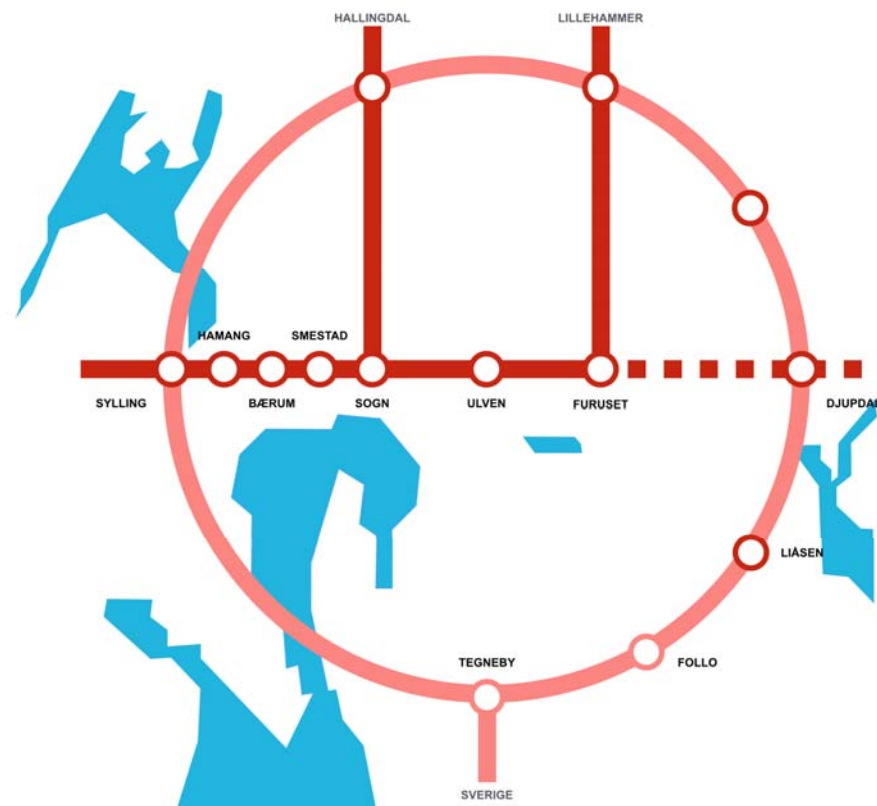
Film, Nettpplan Stor-Oslo



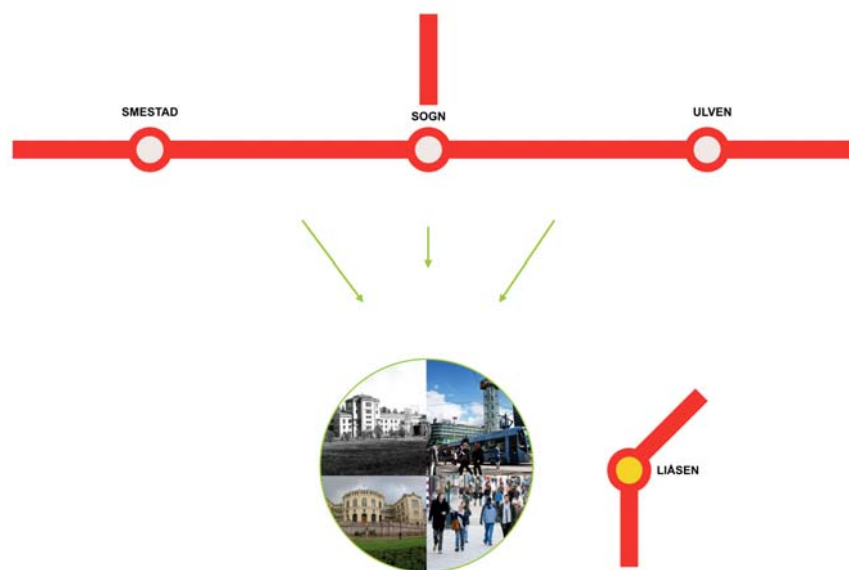
The Grid in and around Oslo is old and consumption will increase



Grid Program for Oslo and surroundings - from 300 to 420 kV



First projects to come



Hamang Temporarily Solution

- Planned Completion in 2018

Smestad Transformer substation and Cable Connections between Smestad and Sogn Transformer substation

- Planned start-up in 2017 – completion in 2020
- Site preparation this year

Sogn Transformer substation

- Planned Start-up in 2018 – completion in 2020

Cable Connections Sogn - Ulven

- Planned Start-up in 2018 – completion in 2022

Ulven Transformer substation

- Planned Start-up in 2018(9) – completion in 2022
- New Transformer in 2018

Liåsen Transformer substation

- Planned Start-up in 2018 – completion in 2020



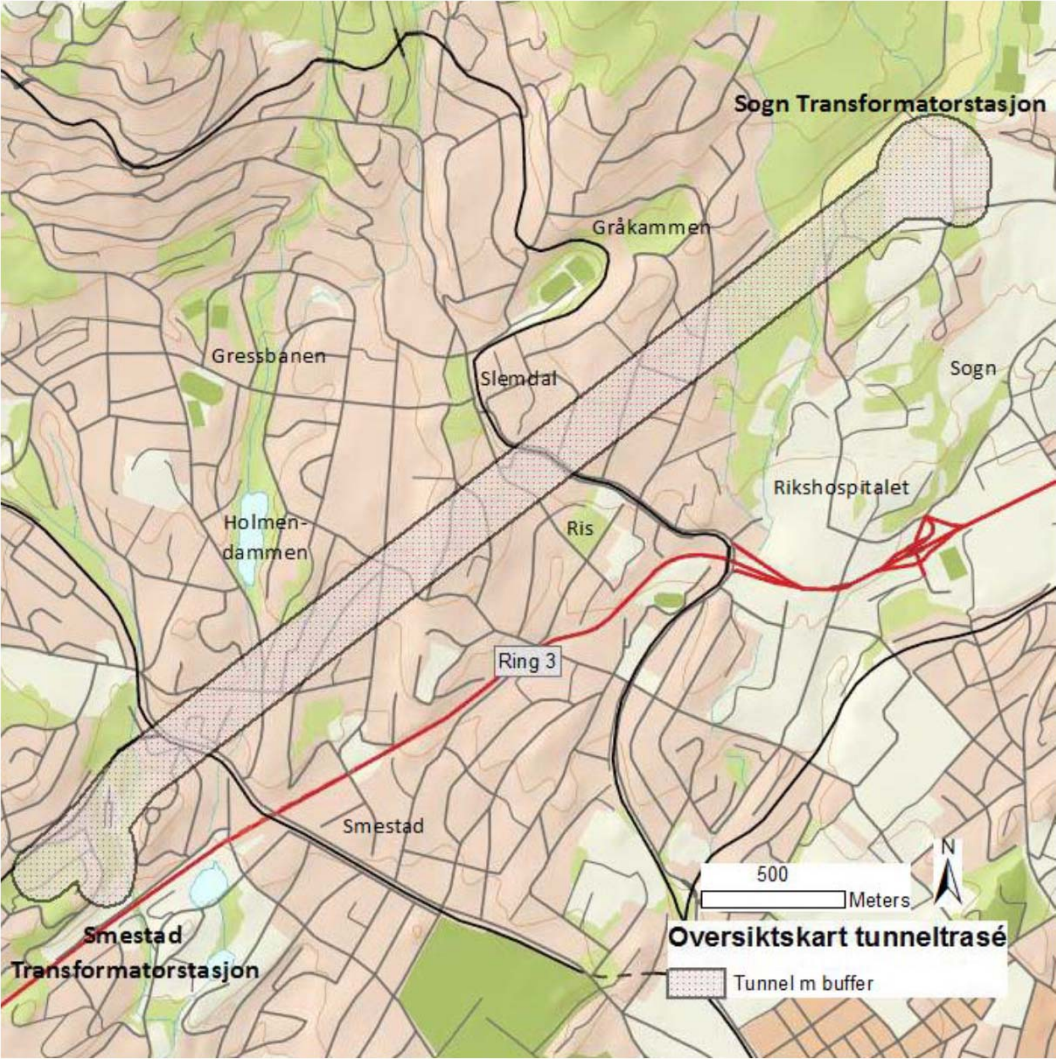
Hamang Temporarily Solution

- One 200 MVA transformer
- 45 kV GIS – will partly replace existing 47 kV
 - 4 bays 145 kV SF6 – solution with container
- New Control and auxiliary system for the new 145 kV GIS
 - container
- Building and Construction work will depend on the solution (container)
- Cabling work
- Completion in 2018

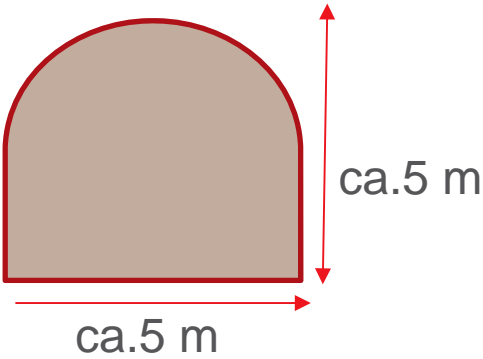


Smestad – Sogn - Ulven

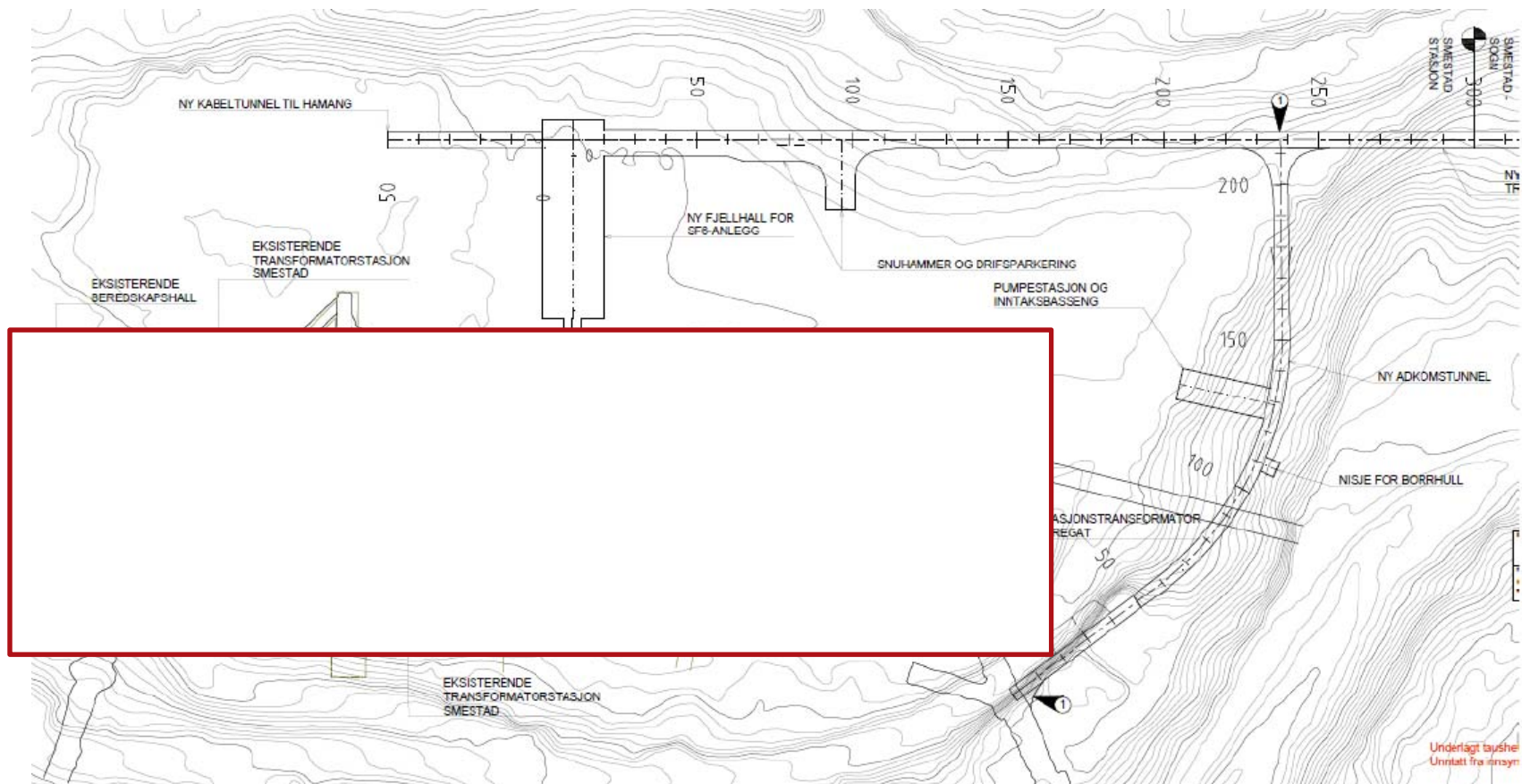




Cabling Connections in tunnel

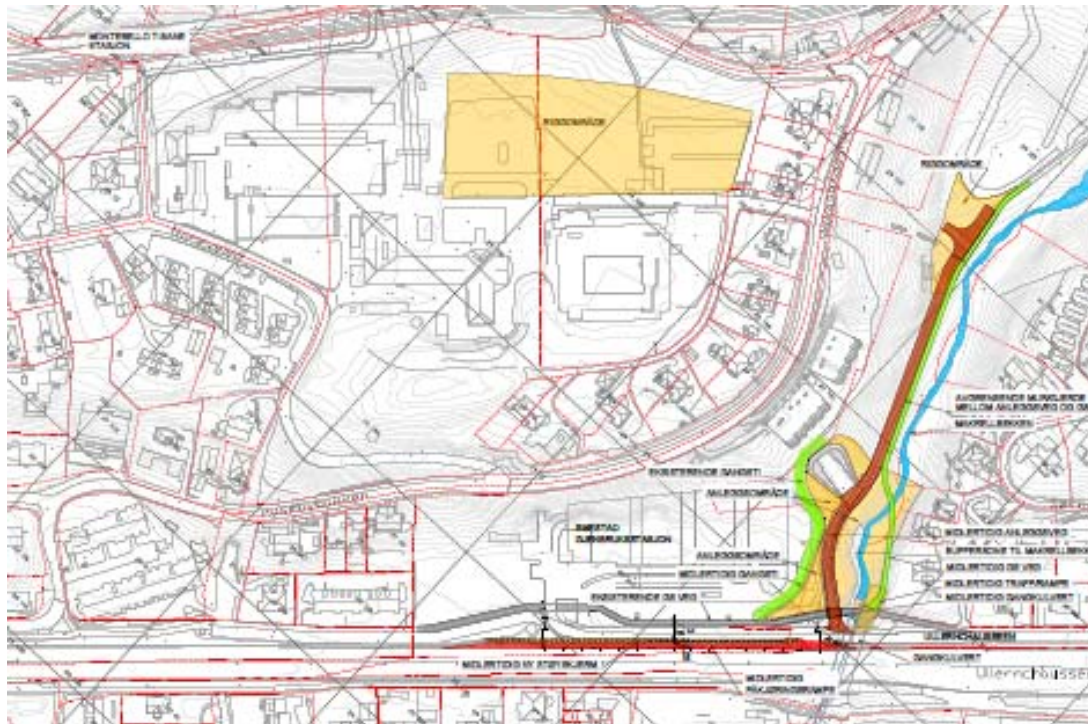




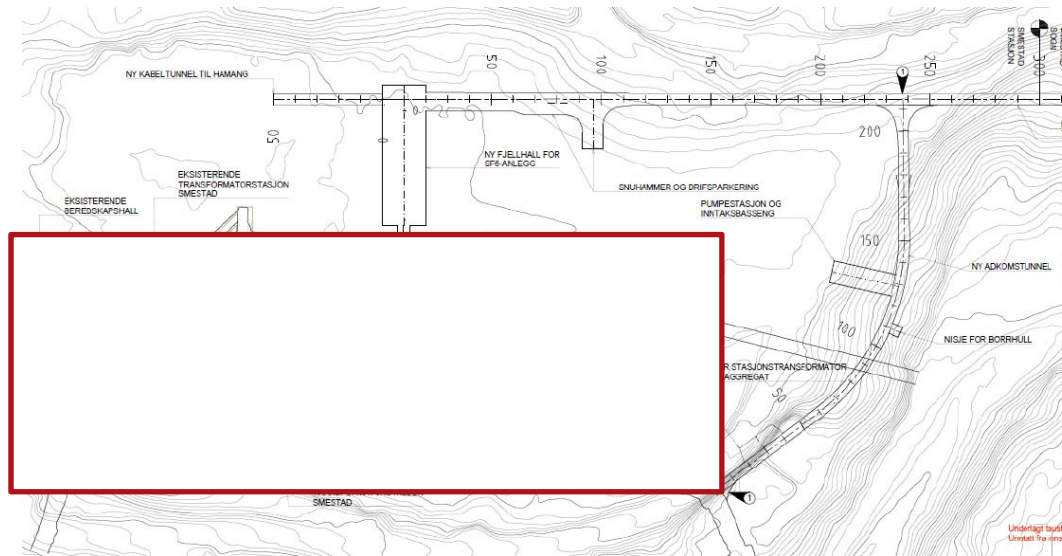




Site preparation



Tunnel og rock work



- Hall for 420 kV SF6, Control and auxiliary system
- Tunnel between Smestad og Sogn



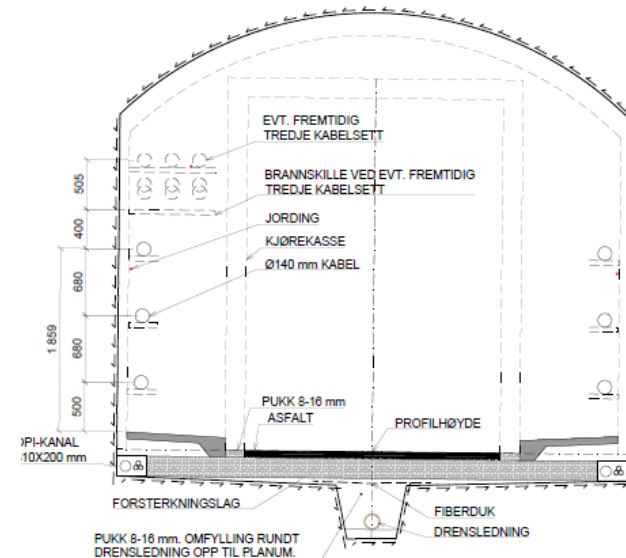
Tunnel and new hall

- Tunnel:
- Around 5 km – 22 – 25 m²
- Size tunnel 20m * length 60 m * hight ca. 15 m
- Starting points Makrellbekken og Sogn Transformer substation



Cables Smestad and Sogn

- Technical data:
 - 420 kV 2x3x1 x 2500 mm² Cu Milliken.
 - PEX-isolation
 - Smooth Al-kappe
 - Flame retardant
- Length: ca 4,1 km
- Cableinstallation (see figure)
- Directly connected to new GIS- in Smestad and Sogn

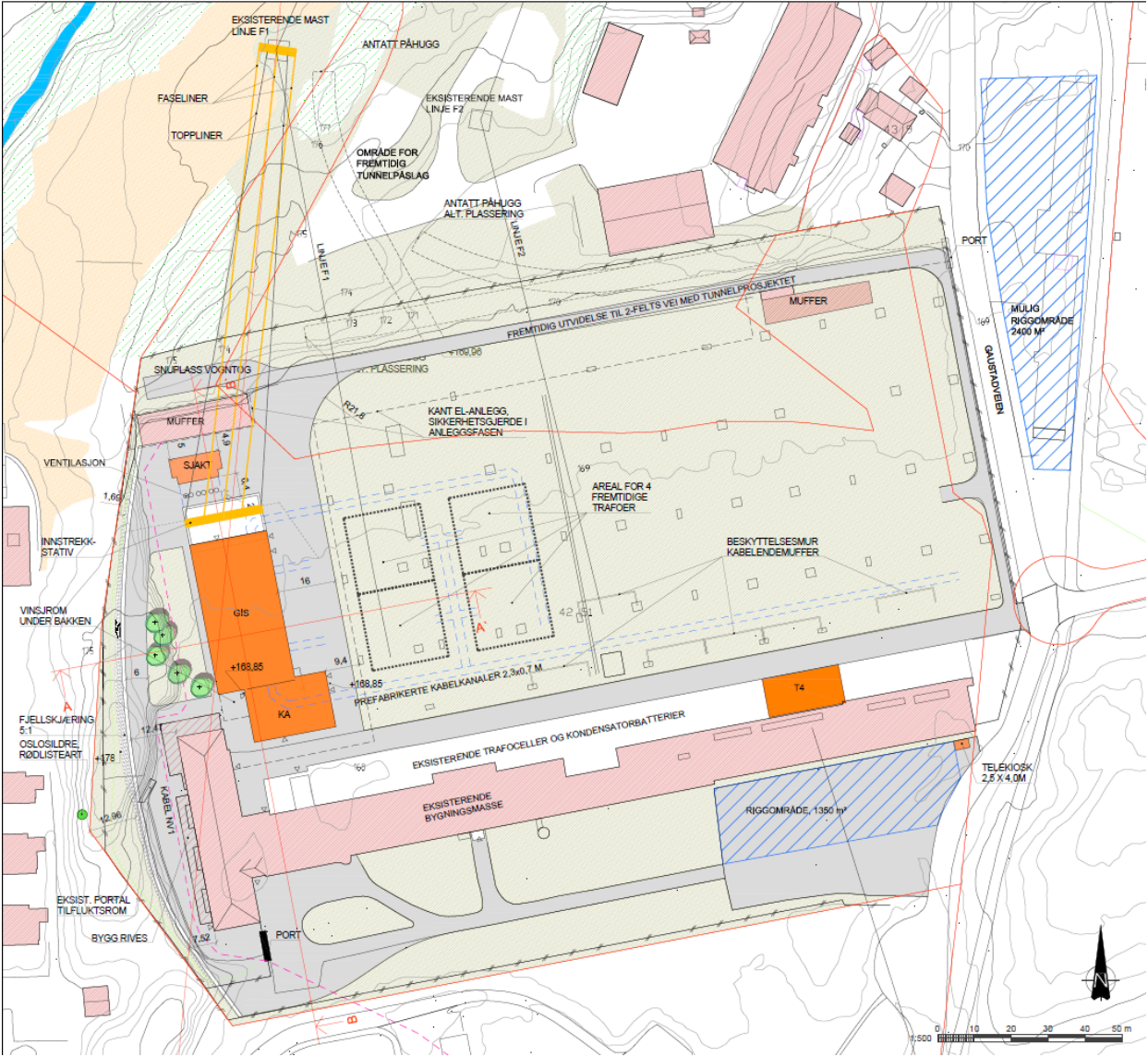


Smestad Transformer substation

- EPC contract:
 - Building work
 - 420 kV SF6 – A and B busbars
9 bays with double Circuit breakers
 - Auxiliary System
 - Internal cabling
 - Crane (Simple)
- EPCI 420 kV substation Cabling
- Frame Agreement
 - Control System



Sogn – as built



Sogn Transformer substation

- Site preparation
- EPC:
 - Building for SF6 and Control System (20 * 60 * 15)
 - 420 kV SF6 – double busbars
11 bays with double CB's
 - Aux. System
 - Internal cabling
 - Crane (for SF6 assembly)
- EPCI 420 kV substation cabling
- Transformer T4 (200 MVA 300 (420) / 47)
- Frame Agreement
 - Control System



Tunnel (Sogn – Ulven)

- Tunnel:
- Around 7 km
- Side 22 – 25 m²

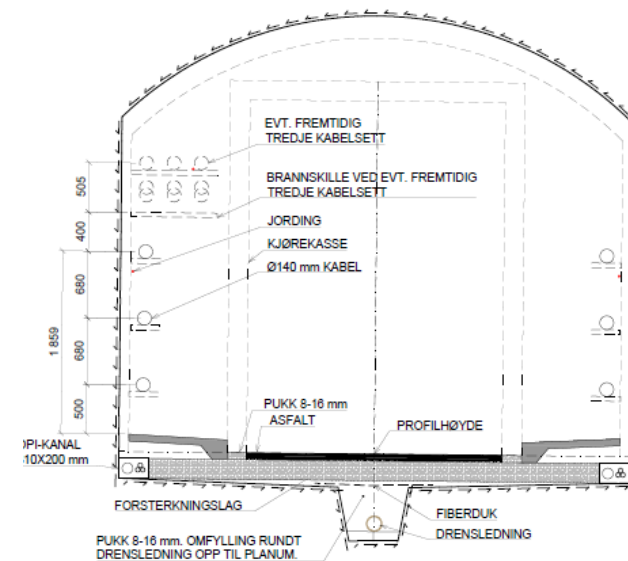
- Starting points: Sogn – Ulven + one in between

- Alternative with tunnel is not decided.



Cabling

- Technical data:
 - 420 kV 2x3x1 x 2500 mm² Cu Milliken.
 - PEX-insulation
 - Flame retardant
- Length: approx. 6,5 km
- Installation on wall
- Tunnel is not decided yeat

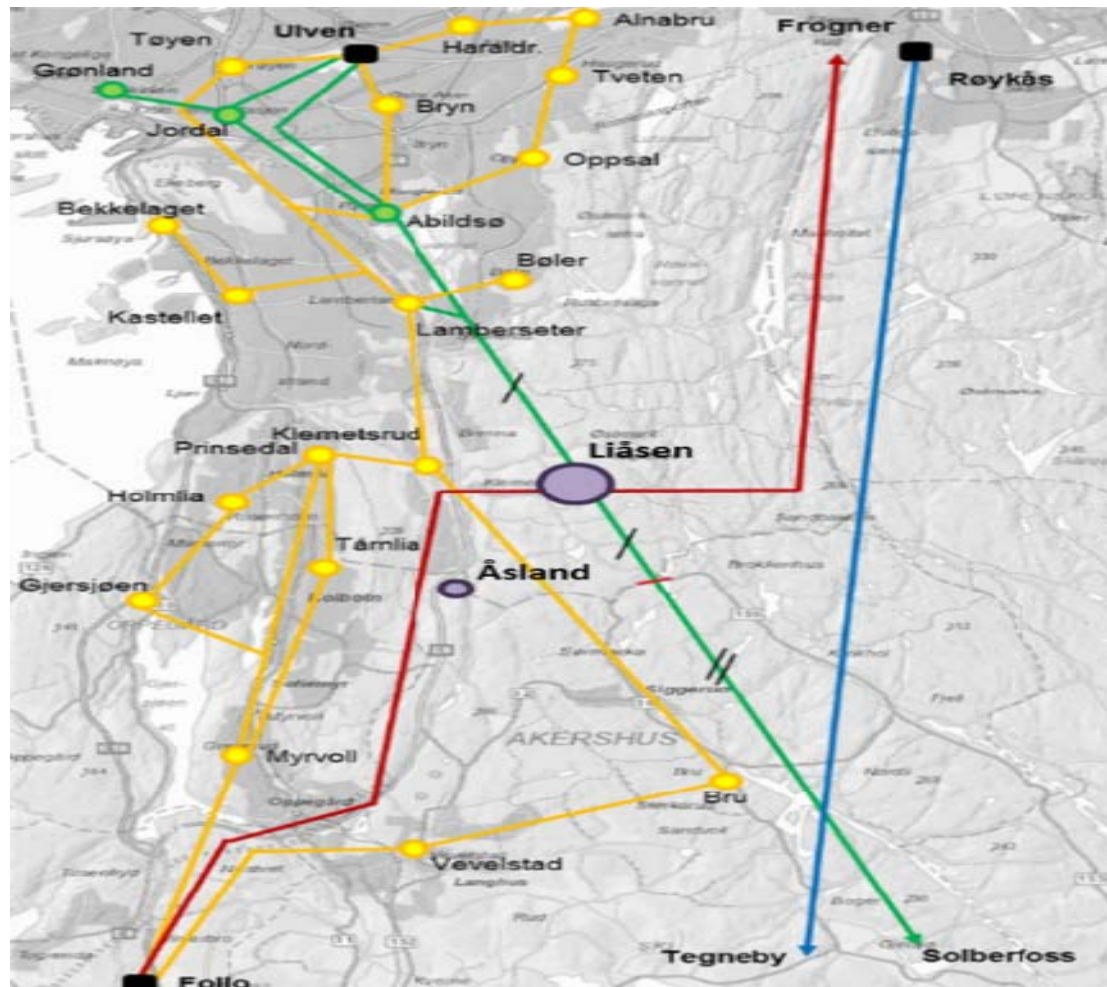


Ulven Transformer substation

- 1 Transformer (300 MVA 300 (420) / 132)
- Site Prep.
- EPC contract :
 - Building for SF6 and Control room (20 *60 * 15)
 - 420 kV SF6 – double bus-bars
9-10 bays with double CB's
 - Aux. System
 - Internal cabling
 - Crane (SF6)
- EPCI 420 kV substation cabling
- Frame agreement
 - Control System



Liåsen Transformer substation



Liåsen Transformer substation

- Site Prep.
- 2 Transformers: 300 MVA (420 / 132 kV)
- EPC contract :
 - Building for SF6, Transformers and Control room
 - 420 kV SF6 – double bus-bars
6 bays with double CB's
 - Aux. System
 - Internal cabling
 - Crane (SF6)

 - 132 kV SF6 6 bays
 - Aux. and control System
- EPCI 420 kV substation cabling
- Frame agreement
 - Control System



Procurement

- Procurements in Statnett
- Procurement strategy
- Future procurements for Nettplan Stor-Oslo phase 1
- Procurement Team (Single point of contacts for this project in tendering phase)



Procurements in Statnett

- All announcements will follow public procurement regulations and purchase regulations for utilities sector
- Basic principles for all procurement
 - Competition
 - Equal treatment
 - Predictability
 - Transparency
 - Verifiability
 - Non-discrimination
 - Proportionality
 - Good business practice



Procurements in Statnett:

- Statnett uses Selicha as a qualification system
 - How to be supplier to Statnett?
See, <http://www.statnett.no/Om-Statnett/Anskaffelser/Hvordan-bli-leverandor/>."
- Communication
 - Via single point of contact
 - Contiki procurement web portal
- Competition with negotiation procedure



Procurement strategy

- Minimize risk of accidents and injuries
- Meet the goal of the project.
- 15% cost reduction program.
- Synergies by coordinating the procurements
- Coordination with other projects
 - Transformer deliveries
 - Pre-qualification for GIS Equipment



Forthcoming procurements for the first phase of Nettpplan Stor-Oslo



Preparation contract for the Smestad substation

Contract format: General execution contract, NS 8405

Tentative schedule:

Enquiry: May. 2016

Start-up: Sept. 2016

Completion: Feb. 2017



Smestad-Sogn tunnel incl. hall for GIS, 25m² x 5 km

Statnett

Contract format: General execution contract, NS 8405

Tentative schedule:

Enquiry: Jun. 2016

Start-up: Jan. 2017

Completion: March. 2019

Energizing cable: Nov. 2020



420 kV Cable set Smestad-Sogn

Scope: Length, 4 km

Contract format: Engineering, procurement, construction and installation (EPCI)

Tentative schedule:

Enquiry: Jun. 2016

Start-up cable installation: March. 2019

Energizing: Nov. 2020



EPC contract for 420 kV GIS Smestad substation

Statnett

Scope: 9 bays with double CB, double busbar

Contract format: Design and build contract, NS 8407

Tentative schedule:

Enquiry: Jun. 2016

Start-up: Jan. 2017

Completion: April 2019

Energizing: Nov. 2020

Interface against:

ICT – Statnett

Control systems – Framework agreement

420 kV cabling to GIS – Prequalified suppliers



Preparation contract for Sogn substation

Statnett

Contract format: General execution contract, NS 8405

Tentative schedule:

Enquiry: Not defined

Start-up: May. 2017

Completion: Sept. 2017



EPC contract for 420 kV GIS Sogn substation

Statnett

Sogn: 11 bays with double CB, double busbars

Contract format: Design and build contract, NS 8407

Tentative schedule:

Enquiry: Oct. 2016

Start-up: Sept. 2017

Completion: Sept. 2019

Energizing: Nov. 2020

Interface against:

Transformer – prequalified suppliers

ICT – Statnett

Control systems – Framework agreement

420 kV cabling GIS – Prequalified suppliers



Sogn-Ulven tunnel, 25m² x 7 km

Contract format: General execution contract, NS 8405

Tentative schedule:

Start-up: March. 2018

Completion: Sept. 2020



420 kV Cable set Sogn-Ulven

Scope: Route length, 6,5 km

Contract format: Engineering, procurement, construction and installation (EPCI)

Tentative schedule:

Enquiry: Not defined

Start-up cable installation: Sept. 2020

Completion: April. 2022

Energizing: Nov. 2022



EPC 420 kV GIS for Ulven subsubstation

Scope: 9-10 bays with double CB, double busbar

Contract format: Design and build contract, NS 8407

Tentative schedule:

Start-up: April. 2019

Completion: April. 2022

Energizing: Nov. 2022

Interface against:

1 transformer – Prequalified suppliers

ICT – Statnett

Control systems – Framework agreement

420 kV cabling to GIS – Prequalified suppliers



145 kV GIS for Hamang temporary solution

- *Contract format:* KLM (Contract conditions for delivery and installation)
Tentative schedule:
 - Enquiry: June. 2016
 - Start-up: Jan. 2017
 - Completion: June. 2018
 - Energizing: Oct. 2018
- Separate contract for building/construction works.



EPC for 420 kV + 132 kV GIS Liåsen

Scope 420 kV: 6 bays, double CB, double busbar

Scope 132 kV: 6 bays

Contract format: Design and build contract, NS 8407

Tentative schedule:

Enquiry: Q3. 2016

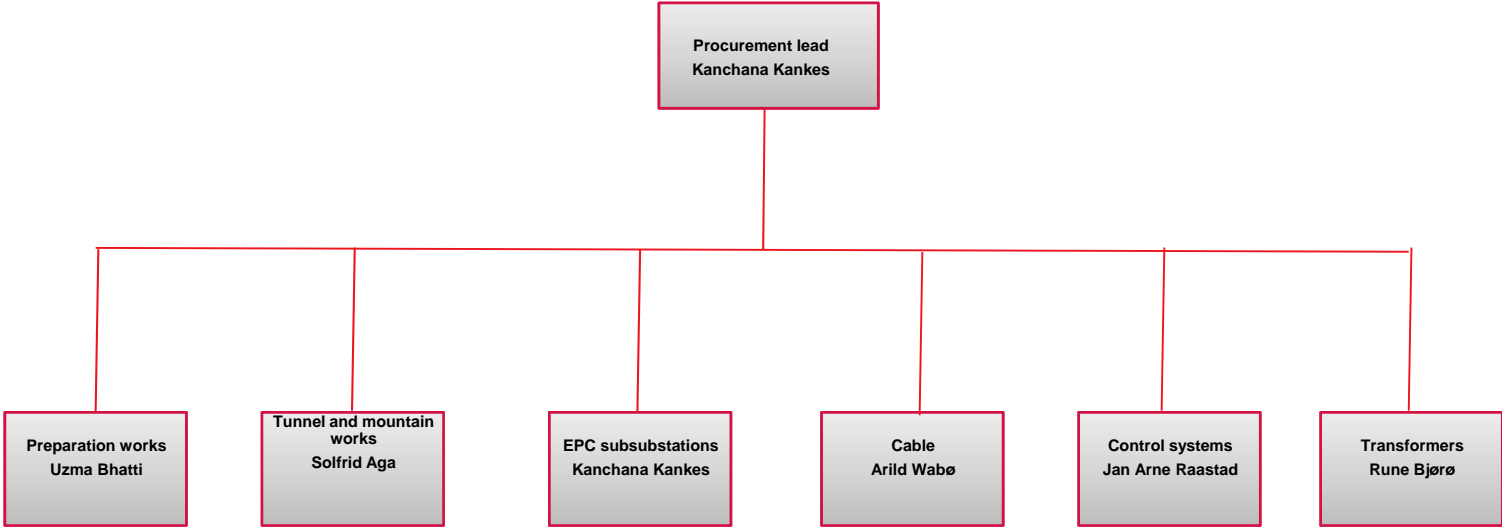
Start-up: Q1. 2017

Energizing: Q1 2020

- Interface against:
 - 2 transformers – Prequalified suppliers
 - Control systems – Frame work agreement
 - ICT – Statnett
 - 420 kV cabling EPCI – Prequalified suppliers



Procurement team, Single point of contacts



Thank you for your attention



Questions

