

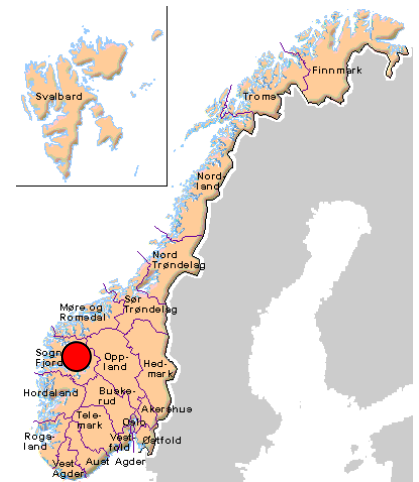


Tamrock Tunnel drilling rig

Nydalselva kraftverk Skei i Jølster Norge

Oppdragsgiver (Client):
Nydalselva Kraft AS

Eier(e) (owners):
Anders A Førde,
Jon Arve Førde,
Kjell Olav Førde,
Bjørn Førde,
Aage Førde,
Petra Førde,



Nøkkeldata (key figures):

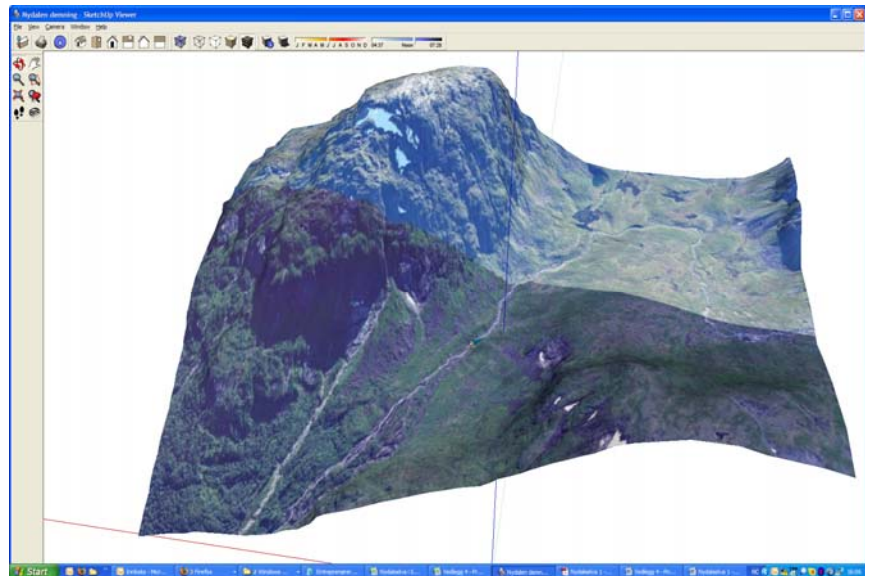
- H 620 m bto
- Qm 0,644 m³/s
- Qt : 0,966 m³/s
- P : 5.000 KW
- E : 21 GWh
- Kostnad – 80 mill kr
- Kr/GWh – 3,81

Byggetid (construction time):
16 måneder (months)

Byggeår (year):
10/2009 – 10/2011

Idriftsettelse (commissioning):
10/2010

Finansiering (financing):
Sparebanken Møre (local bank)



Demning og rørgatetrase



Pelton nozzels



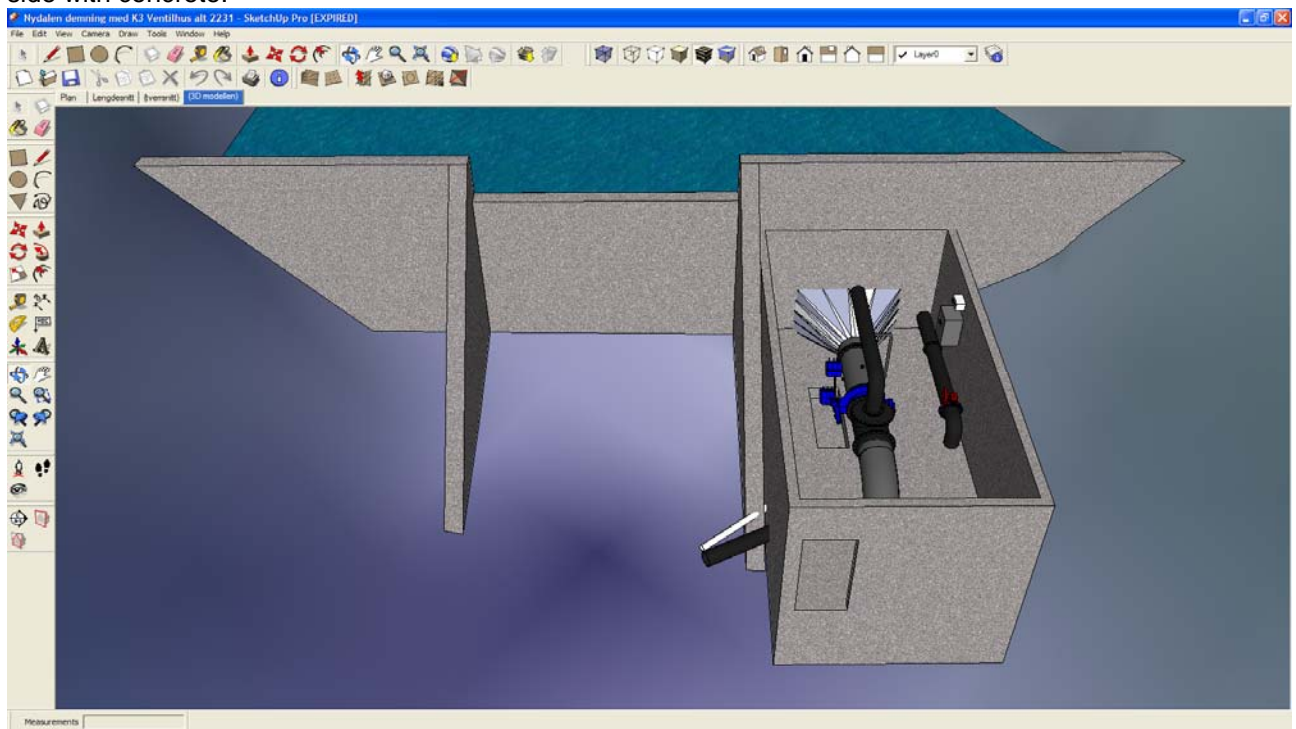
Kraftstasjon

Brief project description

Sofienlund is the responsible engineer for the whole project comprising the following main key design elements: initial planning and concession application, conceptual design, detail design of intake dam and intake structure, penstock, powerhouse, tailrace channel, complete electro-mechanical works and high voltage 6,6/22kV transformer. We will also be responsible for the commissioning.

The project will be a storage reservoir project located on the western part of Norway. The small creek of Nydalselva has an average water flow of about 0,64 m³/sec. The turbine scaling will be $Q_t=1,4 * Q_m$. There is no storage reservoir and the project will be completely a run-of.-the-river type project.

The dam site will be on a moraine foundation in a V-shaped gauge. The dam will therefore be constructed as a moraine earth fill dam with local materials. The dam will thus be secured with a front plate on the water side with concrete.



The new intake will be a concrete structure constructed as an integrated part of the new dam downstream the present dam. The volume of the intake reservoir is estimated to about 1,5 mill m³. The valve house is outlined above.

The waterways from intake will be through a 700 m rock tunnel and in total 1800 m penstock with DN 700 pipes of ductile cast iron. The total gross head will be 520 m. The slope is quite steep and at an average of 1:3 and with at a maximum of 1:2. The penstock will be buried with a minimum of 1 meter overburden.

The powerhouse has to be founded on moraine and gravel. Consequently, the weight of the construction has to withstand the dynamic water forces from the penstock at about 350 ton. The power house construction will also be solid concrete since the location may on occasionally suffer from avalanche.

The power grid is only 500 meters away and a 22 kV high voltage power cable will connect with the power grid.

Project team

Project manager	Einar Sofienlund,
Hydrology	Einar Sofienlund,
Civil engineer	Jann Biedilae,
Mechanical engineer	Bjorn Undrum,
Electrical engineer	Einar Sofienlund,