

Risavika gas power plant**Type of work**

Concept definition study (phase 1 and phase 2) of oxyfuel power plant with CO₂ capture.

The design basis was the report "Concept & Feasibility Study" for a 40 MWe gas power plant with zero emission done by Lyse Energi AS and CO₂ Norway AS with support from Nebb Engineering, Det Norske Veritas, Sweco Grøner AS, Energiparken AS and Clean Energy Systems Inc (CA, USA). Lyse Energi and Research Council of Norway funded this study.

Concept description

70 MWe gas oxyfuel power plant with near zero emission of CO₂ and NO_x, based on a newly developed and patented oxyfuel gas generator and a combined gas/steam power cycle developed by Nebb. Key objectives were to increase overall thermal efficiency and reduce investment cost.

Client

ZENG AS

Project cost: 5.0 MNOK

Project duration: Started in September 2006, finished in November 2007.

Project sponsored by Gassnova, Shell and Statoil.

Nebb Engineering delivery

- Process and utility systems development and design
- Heat and material balances (With extensive process simulation work)
- Equipment specifications
- Plant layout and buildings
- Safety and reliability assessments
- Investment and operation cost

Specifications for gas turbine, compressors and steam turbines were done in close cooperation with Siemens Industrial Turbomachinery AB.