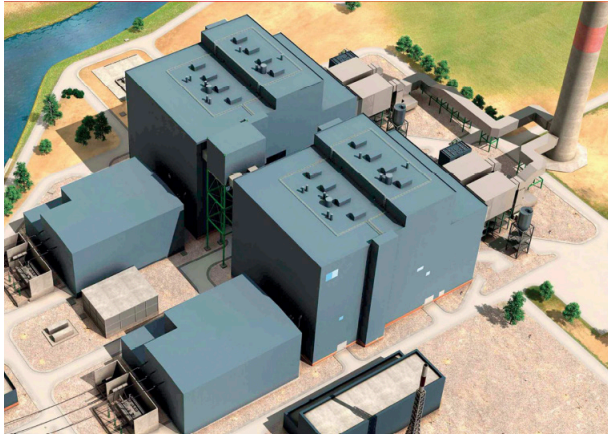


Narva, Estonia



Key facts about the plant

- 2x300 MW Auvère circulating fluidized bed power plant
- Owner: Eesti Energia
- Contractor: ALSTOM



Key facts about the chimney

- Completed in 2014
- Concrete chimney
- Cylindrical shape
- H 200m
- Outer $\varnothing = 13.2\text{m}$
- 1 carbon steel liner $\varnothing = 5,000\text{mm}$ + optional liner

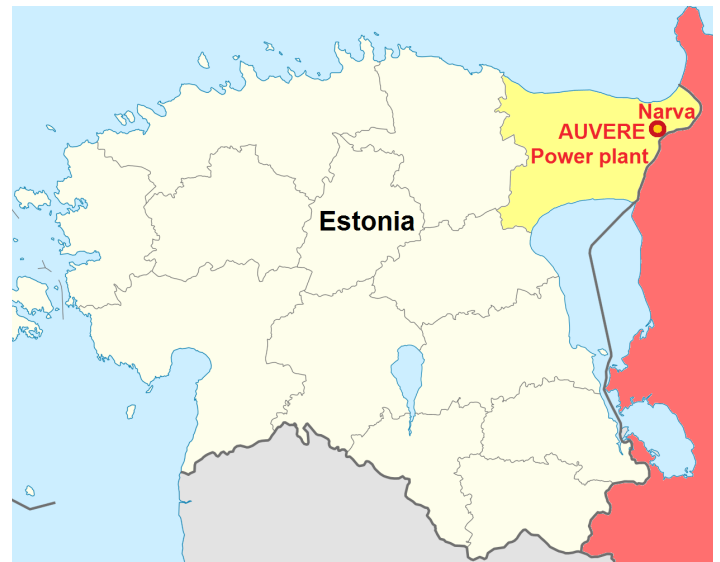
ALSTOM signed a contract with Estonia's state electricity provider, EESTI ENERGIA, to install a 2x300 MW power plant based on Circulating Fluidized Bed (CFB) boiler technology. The power plant is fueled with local oil shale.

A first 300 MW unit and a second identical optional one are included in the contract.

The Auvère power plant is located next to the Eesti Elektriijaam, the largest oil shale thermal fired power plant in the world with a full capacity of 1615 MW.

The complex is owned and operated by AS Narva Elektriijaamad, a subsidiary of EESTI ENERGIA, which also owns the "Balti Elektriijaam" next to Narva city.

In this power plant, FERBECK has been awarded an EPC contract of a 200 meter-high-concrete chimney by ALSTOM.

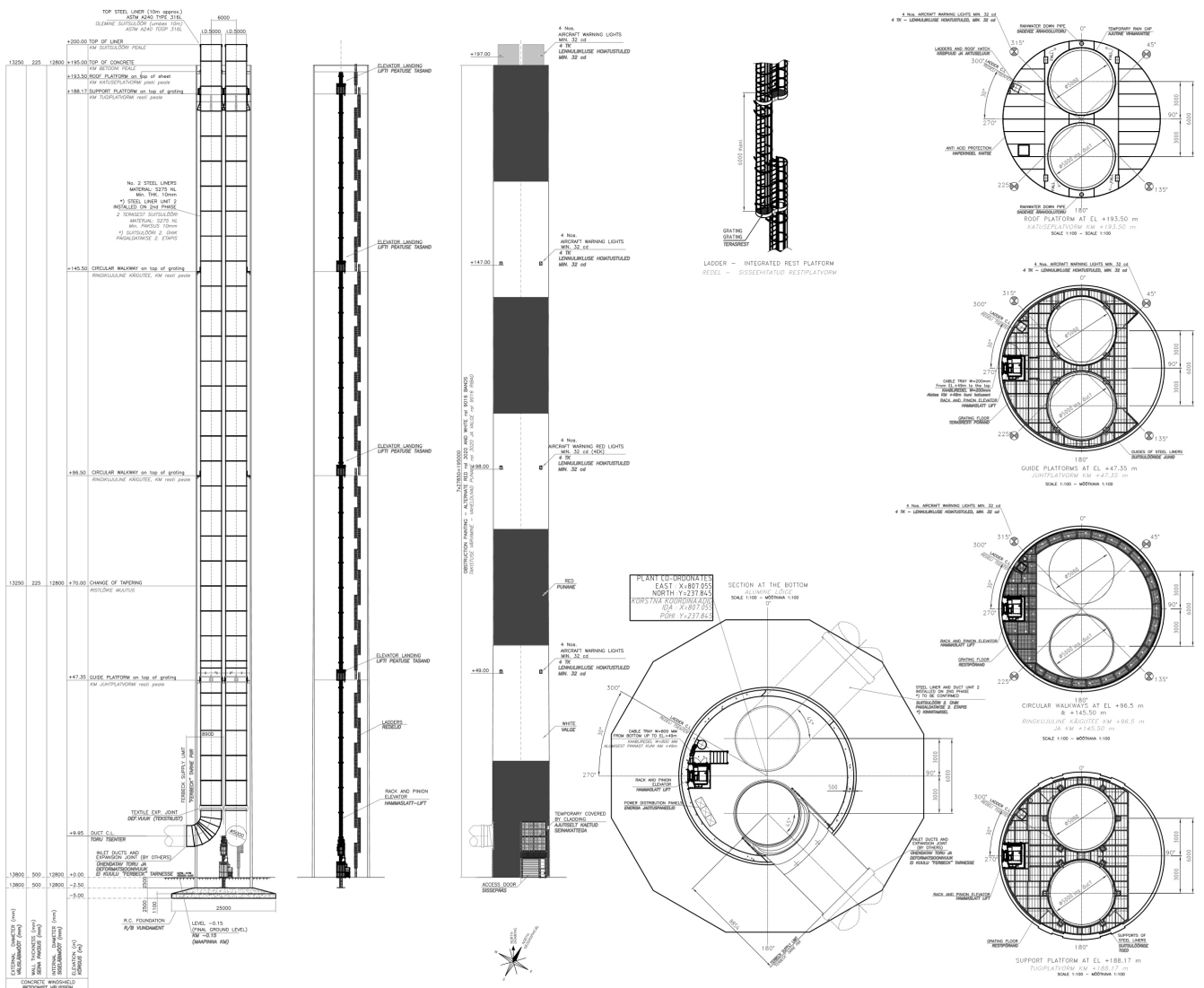
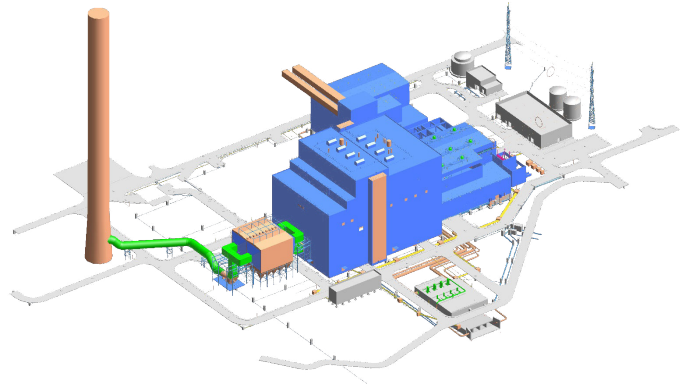




Concrete chimney

FERBECK's scope of work includes:

- foundation
- concrete shell
- outer shell coat
- steel platforms and walkways
- steel liner
- all other steel elements (doors, windows...)
- access lift and ladders
- electric system (lighting, inner power supply, aircraft signalization lamps...)
- lightning protection system



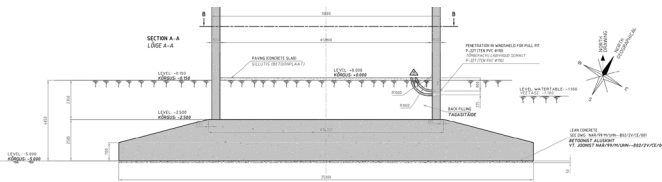


Foundation

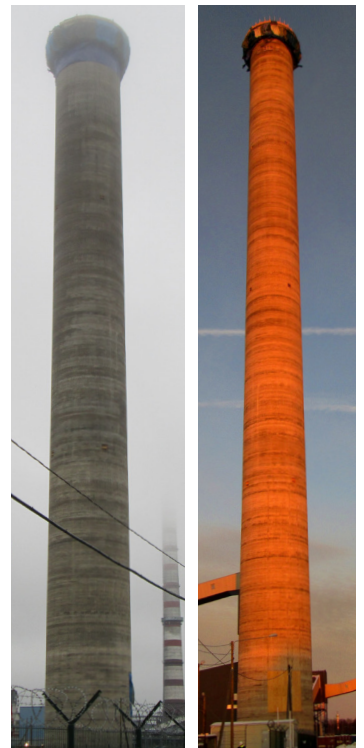
The foundation is made of 980 m³ of concrete and 80 tons of steel reinforcement with the following size:

- 25m x 25m
- h 2.5m at EL.-5m

The casting is performed in 22 hours.



Concrete shell



The outer concrete shell is made of 2,200 m³ of concrete and 220 tons of steel reinforcement with the following size:

- 13m of external diameter
- h 200m

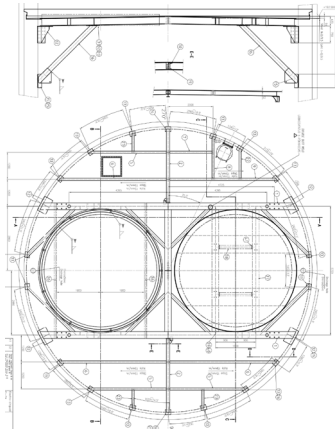
The casting is performed with a slipform operating 24/7.



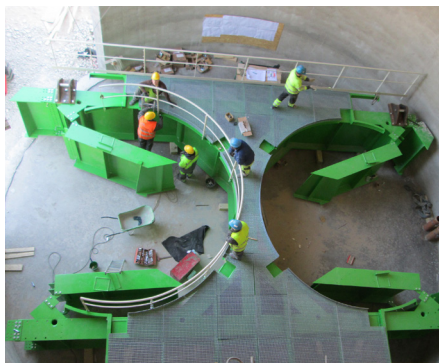


Platforms

- 5 platforms are installed inside the structure:
- roof platform at EL.+193.5m
 - bearing platform at EL.+188.3m
 - walkway at EL.+145m
 - walkway at EL.+96m
 - guiding platform at EL.+47m



Roof platform



Bearing platform

Preparation at ground level and implementation



Guiding platform

Preparation at ground level and implementation



Walkways





Liner

The inner liner is made of 34 segments for a total weight of 270 tons. It is implemented using heavy lifting jacks.

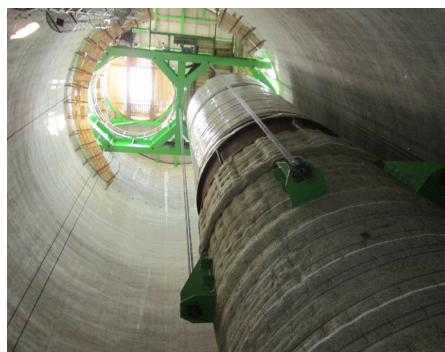


Liner manufacturing and storage before implementation



Liner fixed at the bearing platform

Inner liner assembly at the bottom of the stack. Heavy lifting jacks at the top of the stack



Lifting of the liner inside the stack

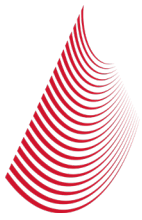


Liner top



Implementation of the elbow for the connection with the horizontal flue smoke duct





Overview of the plant

