

E.ON Kernkraft GmbH Innovative insulation for more safety

Removable and reinstallable cassette insulation on the live steam safety valve stations (SSV stations) reduces energy losses in the Isar 2 nuclear power plant.



Insulation

Fire Protection

Noise Control

With an annual production of over 12.306 billion kWh of total power, Block 2 of the Isar nuclear power plant is one of the most productive reactors in the world. The live steam safety valve stations, consisting of four loops, are one of the most important safety devices in the power plant. They serve to regulate pressure during the operation of the power plant.

CUSTOMER

E.ON Kernkraft GmbH

PROJECT

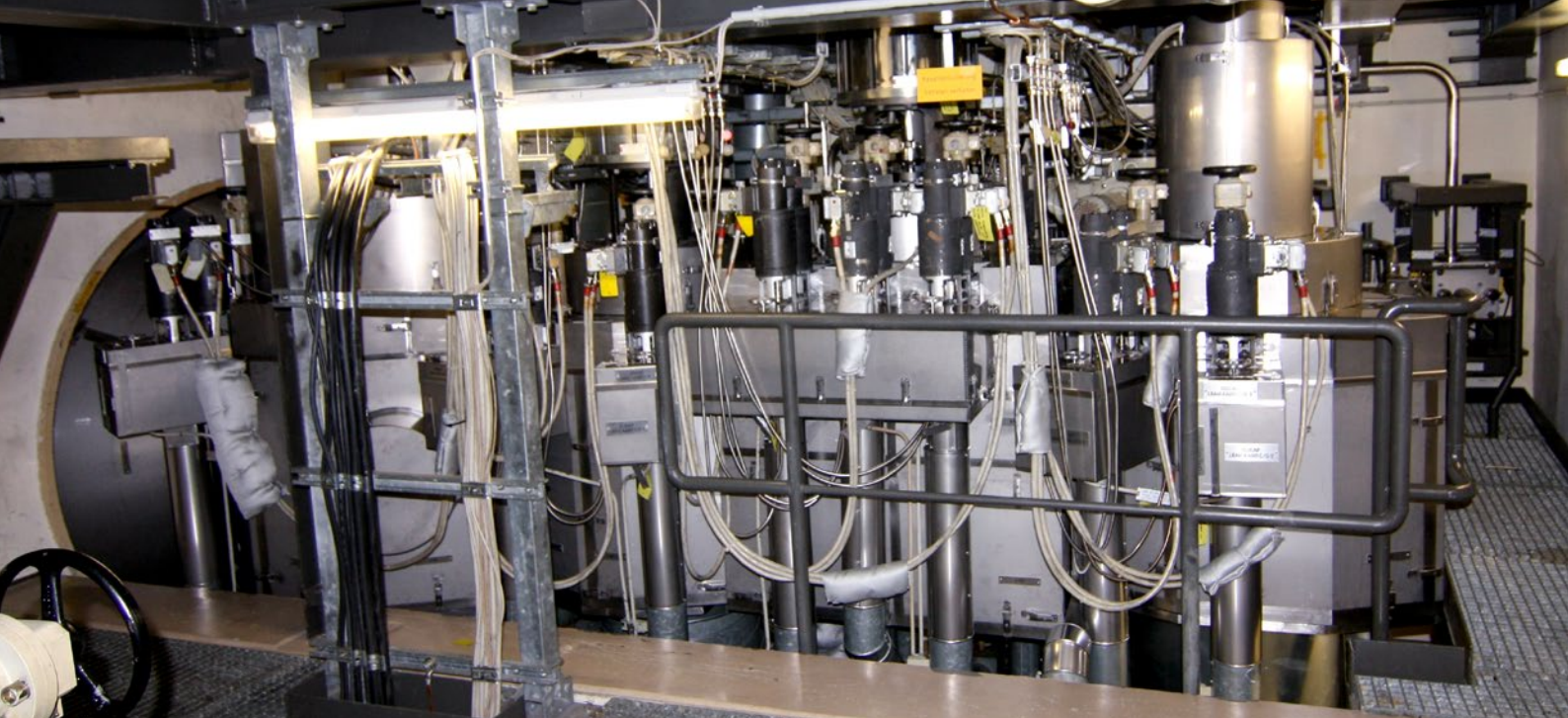
Thermal insulation in the Isar 2 nuclear power plant

PERIOD OF EXECUTION

07/2009–08/2012

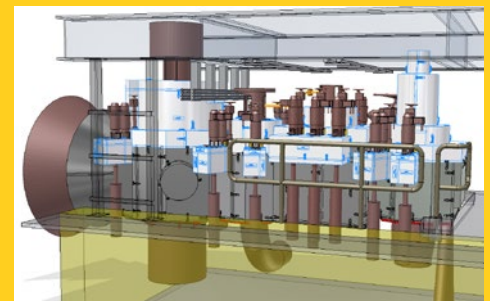
SURFACE INSULATED

220 m²



In the course of modernization of the Isar 2 nuclear power plant, G+H replaced the insulation of the SSV stations in the block. Using a 3D model that detailed all areas of the particular station, a custom-made insulation system was designed. This construction allows partial deinstallation and reinstallation of all insulation systems. In total, G+H mounted 80 ISOCAP® insulation cassettes and mattresses with thicknesses between 20 and 220 mm on each loop of

the SSV stations. To increase the level of safety and improve fire protection, the installers mounted stainless steel sheets on the lagging. After that, the whole system was analyzed for convection flows, empty spaces were eliminated, and sealing mattresses as well as convection seal rings were mounted on through-holes in pipes and servo-motors. This keeps the temperature distribution in the valves homogeneous.



TASK

- Complicated mounting of insulation systems that can be removed and reinstalled
- Homogenization of the temperature distribution in the valves
- Reduction of energy losses
- Increase the level of system safety and occupational safety

SOLUTION

- Creation of a 3D model of the valve blocks
- 3D design of the insulation system
- G+H ISOCAP® insulation cassettes and mattresses
- Covering of the convection seals with stainless steel sheeting

ADVANTAGES

- Reduction of the room temperature by up to 12.5% while simultaneously shutting down one of two air conditioners
- 20 K lower surface temperature on the insulation
- Reduction of the particle and suspended material loads to a minimum