Loviisa Nuclear Power Plant, Finland

55 million
Euros saved by investing and using NURES® and CsTreat.

Removal of cesium from evaporator concentrates, since 1991 (continues).

Power Plant: Loviisa NPP
Location: Loviisa, Finland
Surrounding water environment: Gulf of Finland
Power output: 2 x 488 MWe, VVER-440-type
Customer: Fortum Power and Heat Oy (internal project)
Operation period: 1991 (continues)

DESCRIPTION OF THE PROJECT

Fortum found it very early that treatment of evaporator concentrates would be a most efficient system in optimization of the whole waste management chain. For this reason Fortum developed Nuclide Removal System, first for cesium removal, and later for strontium, cobalt and other corrosion products. This work continues also for development of other radionuclides.

RESULTS

Several campaigns have been carried out to treat concentrates with NURES and CsTreat. About 200 m3 have been treated during each campaign and until the end of 2013 totally 1460 m3 had been treated. As a result of this treatment there are only 0,272 m^3 of CsTreat left as waste. In Loviisa CsTreat is used in 8 liter columns. Thus there are 34 spent columns left as waste, and they can be disposed of in three concrete containers, with outer volume of about 1,7 m^3, each.

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