



20 February 2000

## **Sweden Chooses Copper for Nuclear Waste Disposal**

Reproduced with the permission of Reuters News Service

Sweden, leading the way on long-term nuclear waste handling, will soon keep used radioactive uranium out of harm's way in new oxygen-free copper canisters with a life span guaranteed at 100,000 years.

"We chose it because it is the best material against corrosion," said Peter Nygard, chief executive at the Swedish nuclear waste and fuel handling company, Svensk Kärnbränslehantering (SKB).

SKB was set up in 1984 by the power industry to run the disposal of the uranium which remains dangerously radioactive for 100,000 years.

Sweden is phasing out nuclear power and plans to start the used uranium storage programme by 2015, burying 8,000 tonnes of waste underground in rock in 4,000 caskets made of 60,000 tonnes of the new oxygen-free copper.

The special copper has been in use only for 15 to 20 years, and will be made into containers 50 millimetres (two inches) thick and five metres (16.5 feet) long. The uranium sticks will be placed into steel inserts inside the canisters.

Copper, which is a recyclable metal and used traditionally for building roofs, water pipes, air conditioning and electrical devices to improve conductivity, has been treated for total removal of oxygen to acquire the longevity.

"The oxygen-free copper has a life-time of 100,000 years but could last up to five times longer," said Pertti Mäkinen, product manager at Finnish Outokumpu Copper Products, a major European copper producer which is developing the canisters and is vying for the Swedish business.

And copper, which competes with titanium, stainless steel and glass on anti-corrosiveness, has added benefits in that it is one of the more resistant as well as cheapest materials.

Nygaard also said the choice of copper, which typically is recycled every 30 to 50 years, fits the bill as a natural material found in nature's circulation.

"About 80 percent of the copper ever to have been produced is still in use and will continue to be recycled again without any effect on its properties," he said.

Sweden is not alone as a future buyer of the oxygen-free copper, with interest growing in other countries. Neighbouring Finland, which has four nuclear reactors, has already decided to use the material to build containing barrels.

"We are looking to Canada, France and east Asia for future prospects," said Makinen.

*Story by Eva Sohlman*

**Further information:**  
**European Copper Institute**  
**Hans De Keulenaer, Electric & Electronic Program Manager**  
**Tel : +32-2-777 70 84**  
**E-mail: [hdk@eurocopper.org](mailto:hdk@eurocopper.org)**

**European Commission–DG17**  
**<http://europa.eu.int/en/comm/dg17/thprojb.html>**