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THE WORLD'S NUCLEAR NEWS AGENCY
News in Brief / No. 49 / 8th November 2004

SKB Begins Tests On Horizontal Copper Canisters

Swedish nuclear fuel and waste management company SKB has begun tests at the Äspö Hard Rock Laboratory (HRL) near Oskarshamn, Sweden, aimed at evaluating the effectiveness of placing copper canisters horizontally instead of vertically in a deep geological repository.

SKB said horizontal canisters may require less rock excavation and could therefore be a more economically and environmentally attractive option for storing high-level nuclear waste. Tests with vertical canisters are already being conducted in the laboratory.

The tests, which will last until 2007, are being partly funded by the EU as part of its ESDRED (Engineering Studies and Demonstrations of Repository Designs) project. The project, which has a budget of 18 million euros, sets out to demonstrate the technical feasibility of the construction, operation and closure of a deep repository (NucNet News No. 86, 14th April 2004).

The tests at the Äspö HRL are divided into two phases, the first of which is under way and will continue until 2005. During this phase, the technology for horizontal canisters will be developed and technical research carried out. During the second phase, tests and assessments of long-term safety will be conducted.

Christer Svemar, head of Äspö HRL, said the concept is based on the same barrier principle SKB has been developing for 20 years: copper canisters surrounded by bentonite clay and crystalline bedrock. "The tests will provide answers to whether the technical and safety related requirements can be met by horizontal canisters."

In 2008 SKB is planning to submit an application to develop a deep repository. The application will be based on vertical copper canisters, with a possible switch to horizontal canisters at a later date.

The company is considering two possible sites for the deep repository, at Östhammar and Oskarshamn. The projected cost of the repository is 23 billion Swedish kronor. A final decision on where it will be located is expected from the Swedish government in 2010.

Source: SKB
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