



Press release

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New laboratory for research on final repository

SKB's new bentonite laboratory at Äspö north of Oskarshamn is being inaugurated today. The new laboratory complements the Äspö Hard Rock Laboratory (HRL), where SKB has for the past ten years been conducting research relating to the planned final repository for spent nuclear fuel. The bentonite laboratory will make it possible to conduct large-scale tests of the properties of the bentonite and to further develop the industrial handling process.

Bentonite is a volcanic clay that swells and seals out water. The clay fills several important functions in a final repository. It will act as a safety barrier surrounding the copper canisters of nuclear fuel and protect the canisters from corrosion and rock movements. Bentonite-like clay may also be used to backfill the deposition tunnels in the repository after closure.

In the new laboratory, SKB will build further on the knowledge that already exists from tests on Äspö and adapt the handling procedures to production conditions in the final repository.

“We will now be able to simulate different conditions that may occur in a final repository, for example different water flows. We will also be able to refine the industrial handling of the bentonite so that we can use the best available technology. Among other things, the methods for installing the bentonite around the canisters will be further developed,” says Mats Ohlsson, head of the Äspö HRL.

SKB has been conducting research and development on methods for safe disposal of nuclear waste for about 30 years. The method SKB has developed (KBS-3) entails placing the waste in five centimetre thick copper canisters and embedding the canisters in bentonite clay. The final repository will be built at a depth of about 500 metres in the rock.

Site investigations are currently under way in the municipalities of Oskarshamn and Östhammar. A preliminary safety assessment based on data from both sites shows that good prospects exist for building a safe final repository in both municipalities. SKB plans to submit an application for a permit to build the final repository in one of these municipalities at the end of 2009.

More information: Anni Bölenius, press manager, +46 8 459 85 87, +46 70 567 67 04,
David Gunnarsson, project manager, +46 8 459 84 06, +46 70 552 70 78

Svensk Kärnbränslehantering AB

Mailing address Box 5864, SE-102 40 Stockholm, Sweden

Street address Brahegatan 47

Telephone +46 8 459 84 00 *Fax* +46 8 661 57 19

www.skb.se

Corp. ID No. 556175-2014 Domicile Stockholm