

Finland to build world's first permanent nuke waste facility

November 12 2015



Finland has approved construction of the world's first nuclear waste repository, near the Olkiluoto nuclear power station

Finland's government gave the green light Thursday for the construction of the world's first permanent repository designed to store nuclear waste for 100,000 years.

"The government granted Posiva Ltd a licence to construct a spent

nuclear fuel encapsulation plant and disposal facility at Olkiluoto," it said in a statement.

The underground tunnels, where the radioactive high-level nuclear waste is to be buried, already go down to a depth of between 400 and 450 metres (1,300-1,480 feet) near the Olkiluoto nuclear power plant in Eurajoki in western Finland.

The tunnels have already been constructed to study and verify the solidity of the area's rockbed where the waste is to be housed for around 100,000 years before its level of radioactivity begins to dissipate.

"This is the world's first authorisation for the final repository of used [nuclear waste](#)," Finland's Economy Minister Olli Rehn said at a press conference.

A similar project is under way in neighbouring Sweden where a final decision on the construction hasn't yet been made.

The storage method consists of encapsulating the spent fuel in copper-coated containers, placing them deep underground in a hole in the rock which is then sealed with a buffer of bentonite clay, a volcanic ash that swells when mixed with water.

Some experts have warned that a new glacial period could extend a permafrost as deep underground as 800 metres (2,600 feet) but Posiva's representatives said the plan is to monitor and, if necessary, to move the encapsulated waste.



Underground tunnels near Olkiluoto already reach 400-450 metres below ground

"Finland's radiation safety centre has assessed the method," said Rehn.

The cost for the repository's entire life cycle, up to 100,000 years, is estimated at 3.5 billion euros.

© 2015 AFP

Citation: Finland to build world's first permanent nuke waste facility (2015, November 12) retrieved 27 June 2024 from <https://phys.org/news/2015-11-finland-world-permanent-nuke-facility.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.