

SKB Submits New Cost Estimate for Sweden's Nuclear Waste Program; Presents New Research

As required by Sweden's *Nuclear Technology Act*, Sweden's spent fuel management company, Svensk Kärnbränslehantering AB (SKB), recently submitted a new cost estimate to Sweden's National Debt Office that reports the remaining costs for the Swedish nuclear waste program. SKB announced September 30 that the remaining future cost of the management spent fuel and radioactive waste from nuclear power will be SEK 151 billion (US\$16.1 billion), which includes uncertainties and future price developments. Costs are from 2027 in January 2025 dollars. New cost estimates are required to be drawn up every three years. The cost estimate submitted in 2022 was SEK 124 billion (US\$13.2 billion), and in 2019 was SEK 110 billion (US\$11.7 billion) (*SF* No. 1431 October 7, 2022).

Since the last cost estimate, several important milestones have been reached, including ground preparation for the deep geological repository (DGR) under construction in Forsmark, and expansion of the final repository for short-lived radioactive, SFR, is underway. In a few years, construction of the encapsulation facility in Oskarshamn will also begin.

SKB's CEO, Stefan Engdahl said of the price increase, "It is very positive that we are now building new nuclear facilities and that the work is going according to plan. Our cost increases are largely due to external factors such as inflation having increased by approximately 20% and the construction cost index having increased by approximately 25%."

The National Debt Office reviews the submittal to determine the fees nuclear power companies must pay into the Nuclear Waste Fund. As of September 30, the fund contained SEK 83 billion (US\$8.86 billion). Future financing will come from ongoing company contributions and investment returns. The government makes the final decision on fee levels.

SKB presents new research program

Also on September 30th, SKB submitted its eighteenth research program to the Swedish Radiation Safety Authority (SSM) that provides an overall picture of SKB's progress to date and describes the organization's future research, development, and demonstration over the next six years.

SKB reports a comprehensive research program for the management of radioactive waste and spent fuel every three years. The program is commissioned by SKB's owners and is required by law. This year's research program – RD&D

Program 2025 – covers the entire spectrum of management and final disposal of nuclear waste and spent fuel from nuclear power plants, with an emphasis on unlicensed operations.

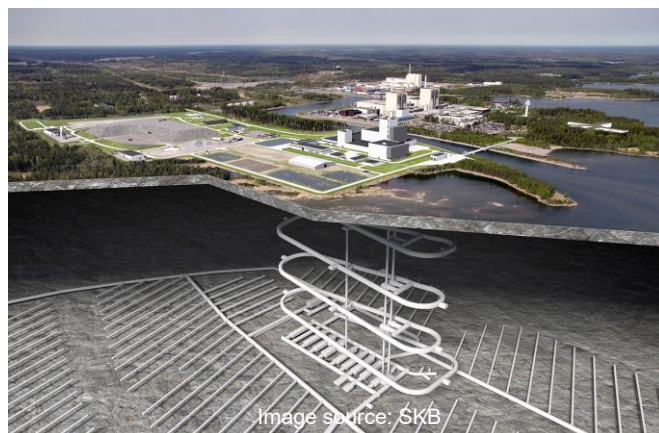


Image source: SKB

Sweden has six operating reactors at three plant sites - Forsmark 1, 2, and 3; Oskarshamn 3; and Ringhals 3 and 4. These six reactors have a total capacity of 6,937 megawatts electric. They are owned and operated by Vattenfall and E.ON. The licensees for Sweden's nuclear power facilities bear the responsibility for all costs for the Swedish nuclear waste program, including decommissioning and demolition of the nuclear power plants, and handling and final disposal of nuclear waste and spent nuclear fuel.

SKB was established in 1977 to develop and manage the country's spent fuel and radioactive waste. SKB is owned 36% by Vattenfall, 30% by Forsmark, 22% by OKG, and 12% by Sydkraft Nuclear Power.

Top Story

Deep Isolation resumes feasibility study for deep borehole disposal of Bulgaria's SNF

Late last year, Bulgaria's national waste management organization, the State Enterprise Radioactive Waste (SERAW), selected Deep Isolation to conduct a feasibility study to evaluate the use of the company's patented deep borehole disposal technology to provide safe, permanent disposal solutions for managing Bulgaria's current and projected inventory of radioactive waste that will require geological disposal. The United States Trade and Development

Agency (USTDA) announced the agreement on December 13, 2024 (*SF* No. 1542 December 20, 2024).

On January 27, 2025, pursuant to the Executive Order, “Reevaluating and Realigning United States Foreign Aid,” the USTDA instructed Deep Isolation to pause work on the study pending a review of all active projects for alignment with the Administration’s policies. On September 30, Deep Isolation confirmed the restart of the USTDA-funded feasibility study after the agency concluded that Deep Isolation’s work in Bulgaria is consistent with the Administration’s foreign policy priorities and programmatic efficiency objectives. Deep Isolation received authorization to resume work under the grant on September 24, 2025.

The study will support Bulgaria’s efforts to evaluate safe and cost-effective options for long-term management of its nuclear waste. Bulgaria’s inventory for potential borehole disposal includes Soviet-era spent fuel currently in interim storage, vitrified high-level radioactive waste, and future spent fuel from existing and planned new nuclear power plants.

Spent fuel management in Bulgaria

Bulgarian law incorporates the principle of not allowing the imposition of undue burden for spent fuel management to be left to future generations. The Strategy for the Management of Spent Fuel and Radioactive Waste includes various options for the management of spent fuel, and defines the most acceptable option had been to transport spent fuel to Russia for reprocessing, and return of the HLW for storage and disposal. Due to the changed geopolitical environment, however, this practice is no longer possible, although Bulgaria still is obligated to accept the waste resulting from reprocessing the spent fuel in Russia.

The Republic of Bulgaria has only one operating nuclear power plant – the Kozloduy Nuclear Power Plant, located on the Danube River near the town of Kozloduy, about 200 kilometers north of Sofia. The plant housed six reactors, but the first four reactors, Russian-built VVER-440 reactors, were shut down in accordance with European Union (EU) accession negotiations. Units 1 and 2 were closed at the end of 2002, and Units 3 and 4 were closed at the end of 2006. Decommissioning of Kozloduy 1-4 is expected to be completed by 2030.

Its two operating reactors, Units 5 and 6, provide about one-third of the country’s electricity supply with a combined power output of about 2,000 MWe. The two VVER-1000 reactors produce about 45 tons of spent fuel each year, which is stored in spent fuel pools at the reactor site and in a separate Wet Spent Fuel Storage Facility (WSFSF) on the Kozloduy site. Each pool at Units 5 and 6 has a capacity of 612 fuel assemblies.

The WSFSF was commissioned on the site of the Kozloduy plant in 1989 to provide additional space to store

Industry Calendar

- November 2-7, 2025
Scientific Basis for Nuclear Waste Management Symposium
Three Rivers Convention Center, Tri-Cities, Washington
<https://pnnl.cventevents.com>
- November 9-12, 2025
ANS 2025 Winter Conference and Expo (Including the IHLRWM topical embedded meeting)
<https://www.ans.org/meetings/view-wm2025>
Washington Hilton, Washington, DC
- November 13, 2025
NWTRB Public Meeting
<https://www.nwtrb.gov>
Westin Crystal City Reagan National Airport Hotel, Arlington, VA
- November 25-26, 2025
World Nuclear Transport Conference 2025
<https://wntc25.oa-event.com>
Six Park Place, London, UK
- January 21-23, 2026
38th INMM Spent Fuel Management Seminar
<https://inmm.org/news/events/38th-spent-fuel-management-seminar>
Hilton Alexandria Old Town, Alexandria, VA
- May 12-14, 2026
Used Fuel Management Conference
Savannah, GA

Details are available at:

<https://www.uxc.com/c/data-industry/Calendar.aspx>

spent fuel from the VVER-440 and VVER-1000 reactors. The spent fuel assemblies are stored in transport baskets under water in four pools.

The last return of spent fuel from VVER-440 reactors was carried out under the initial contract with Russia. Since then, all spent fuel from Units 1-4 has been transferred to the WSFSF for temporary storage. The capacity for VVER-1000 fuel is sufficient until the end of 2030.

A dry storage facility for fuel from the VVER-440 reactors was built and commissioned in 2012, and a 10-year license was issued in January 2016. It has a design lifetime of 50 years and a capacity of 72 CONSTOR 440/84 casks, each of which can store 84 VVER-440 assemblies (6,048 assemblies). The spent fuel must have been stored for at least three years in a spent fuel pool. Bulgaria plans to remove the entire amount of VVER-440 spent fuel from the WSFSF and load it into CONSTOR casks, thus allowing the use of the WSFSF only for the spent fuel from the operating plants.

On October 25, 2023, Bulgaria’s government announced it approved plans to build two new Westinghouse AP1000 PWRs for Units 7 & 8 at Kozloduy. Kozloduy 7 is scheduled to attain commercial operation in 2035, with Unit 8 possibly beginning operations approximately two to three years thereafter.