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German Leaks Raise More Nuclear Fears



Written by Julio Godoy

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BERLIN, 8 July 2008 (IPS) - Confirmation that radioactive brine has been leaking for two decades from a German underground deposit for nuclear waste is yet another blow to the idea that nuclear power can safely increase electricity generation and simultaneously reduce emissions.

Radioactive leaks from the nuclear waste deposit Asse II near Braunschweig in Lower Saxony, some 225 km southwest of Berlin, were first discovered in 1988. The state-owned Helmholtz Institute for Scientific Research, which operates the centre, officially admitted the leaks only 16 June 2008, under pressure from the German press.

Helmholtz spokesperson Heinz-Joerg Haury told German daily Sueddeutsche Zeitung that researchers "did not consider that the leaks were worth a declaration to the press. We did not have the feeling that the public would be interested in knowing that radioactive brine is leaking in Asse II."

Asse II, a former salt mine, is the oldest nuclear waste deposit in Germany. The abandoned mine was transformed into a deposit for nuclear waste in 1967, following the scientific hypothesis that rock salt pits are the best geological structure to store radioactive waste.

But in 1988, radioactive brine started to leak through the mine's walls. The site operator never informed the public.

Germany officially has four deposits for nuclear waste. Two other sites, Gorleben and Morsleben, are also abandoned rock salt mines. A fourth, Schacht Konrad, also in Lower Saxony, is a former iron mine.

No one has yet found a durable solution for storing nuclear waste, that remains highly radioactive for centuries.

France continues to deposit thousands of tonnes of highly radioactive waste into its nuclear fuel reprocessing plant at La Hague on the Normandy Atlantic coast, close to the English Channel.

In Germany, power plant operators have been "temporarily" storing nuclear waste in Gorleben, some 150 km northwest of Berlin. They are waiting for the government to decide whether it is geologically suitable as a definitive storage site.

Morsleben was the German Democratic Republic deposit for radioactive waste, and is now being dismantled (former East and West Germany reunited in 1990). Asse II is officially considered a "research site".

By June 2008, some 80,000 litres of a radioactive salt solution had accumulated there. The brine, eight times above the radioactivity limit, has been pumped to a deeper level, but some 30 litres of radioactive brine continue to leak every day.

In Germany, the maximum limit of radioactivity for material stored in open air is 10,000 Becquerel per kilogram. The Becquerel is the standard international unit of radioactivity, equal to one radioactive disintegration (change in the nucleus of an atom when a particle or ray is given off) per second.

Caesium 137, the chemical that is setting off the radioactivity from the brine, is produced from the detonation of nuclear weapons and as a by-product from nuclear power plants. It was most notably released into the atmosphere from the 1986 Chernobyl accident.

The Helmholtz institute is seeking to minimise the risks. "The Caesium 137 (detected in Asse II) will have lost its radioactivity in 90 years," Haury told the press. "Until then, the salt solution containing it is 950 metres deep, and safe."

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Many others are not so sure.

"If the salt solution comes in contact with the radioactive waste, it can provoke uncontrollable chemical reactions," Rolf Bertram, professor emeritus for physical chemistry at the University of Braunschweig told IPS.

Geologist Wolfgang Kreusch says the leaks at Asse II are reason enough to reconsider the storage of radioactive waste in salt mines.

Kreusch, scientific counsellor to the village of Wolfenbuettel, less than 10 kilometres from Asse II, told IPS that "the heat emissions from the radioactive waste would lead to the heating up of the rock salt walls in the mines. This in turn can cause tensions in the salt structure, and leaks.

"And leaks in salt blocks are the worst possible event in a 'definitive' storage site for highly radioactive waste," he added.

Employees at Asse II say the mine is in danger. Gerd Hensel, project manager at the Helmholtz institute, admitted to local people that some pillars in the mine "have the phase of cracking already behind them."