

# Information on the Research Mine Asse II

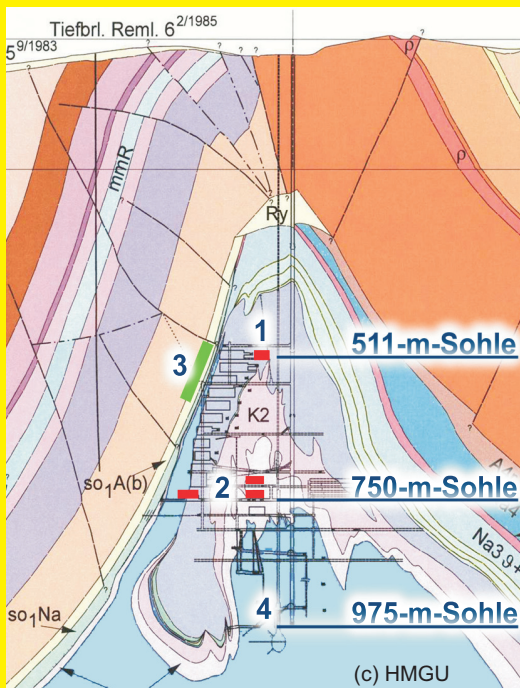
The Research Mine Asse II is located in the Asse ridge of hills close to the village Remlingen in the district Wolfenbüttel. Nuclear waste was deposited here in the 60s and 70s – for research purposes.

These experiments have been terminated, but the waste remains in the pit. Brine influx into the allegedly stable and dry repository was known even when the deposition began. For 20 years there has been an influx of 12 m<sup>3</sup> per day. Now the mine is supposed to be flooded together with all the deposited nuclear waste. This is unacceptable! We demand the retraction of the nuclear waste, unless a comparison of various options points out a better solution for the further handling of the waste.



## Time Line

- 1964/65 The extraction of rock salt ends and the salt mine is bought by the Helmholtz Zentrum München (HMGU) for research on nuclear repositories.
- since 1967 Trial deposition of 125 000 barrels containing low level radioactive waste and later of 1300 barrels of intermediate level radioactive waste.
- 1978 End of depositions in Asse II with the running out of approvals.
- 1979 Dipl.-Ing. Hans-Helge Jürgens warns that structural stability is not given and water could enter the mine.
- 1988 Influx of 12 000 liters of brine per day starts from the adjoining rock on the southern flank. The exact origin is unknown and the influx cannot be stopped.
- 1992 Approval that the mine can be backfilled with salt residues.
- 1995 The experiments with radioactive materials end and the backfilling with salt begins.
- 2002 Besides radionuclides and large amounts of toxic chemical substances, the inventory from the HMGU also contains 102 tons of uranium, 87 tons of thorium, 11.6 kg plutonium and radium with a total activity of 3.1E+15 Bq.
- since 2002 Concepts to flood the mine with a watery solution of magnesium-chloride (MgCl<sub>2</sub>) are developed.
- since 2005 Backfilling of the exploration at greater depths below 775 m with Salt and a MgCl<sub>2</sub>-solution.
- January 07 The HMGU submits a final operation plan for the “wet closure” to the state's mining office (LBEG).
- April 07 The mining office asks the HMGU to rework the final operation plan.
- April 23, 07 A lawsuit is filed demanding the use of nuclear legislation concerning ASSE II.
- Sep 4, 08 The federal ministry for research and the federal ministry for the environment announce a change of the operator of ASSE II. The Federal Office for Radiation Protection (BfS) will take over the repository on January 1, 2009, and from then on the facility will be treated according to nuclear legislation (while so far only mining legislation was applied).



## Radioactive Inventory

### (1) intermediate level waste

1293 barrels  
level at 511 m  
1 cavern  
5E+15 Bq when deposited  
1.1E+15 Bq (on January, 1 2005)  
150 kg uranium  
3 kg thorium  
0,6 kg plutonium

### (2) low level waste

124 494 barrels  
levels at 725 m and 750 m  
12 caverns  
2.8E+15 Bq when deposited  
1.8E+15 Bq (on January, 1 2005)  
102 t uranium  
87 t thorium  
11 kg plutonium

(1) The barrels with intermediate level waste were pushed from the level at 490 m into cavern 8a on the level at 511 m.

(2) The barrels with low level waste were first stacked, but later on most were dumped into the exploitation chambers and covered with salt grit.

(3) Location of the brine influx through which 12 m<sup>3</sup> of liquid enter the mine per day.

(4) Brine swamp on the 975 m level. 74 m<sup>3</sup> of highly polluted Cs-137 brine were brought here from cavern 12 on the 750 m level.

## Safety Issues

Almost any salt mine has problems with its structural stability due to its cavities. Both the Helmholtz Zentrum München (HMGU), the former operator and a subsidiary of the federal government, and the regulatory authorities have always claimed that the nuclear waste is stored dry and safe. Recently, both sides had to acknowledge that Asse II is not a dry mine and points of brine influx existed even before any nuclear waste was deposited. Arguing that the brine influx cannot be sealed and the structural stability of the mine structure is endangered, the HMGU promotes a premeditated flooding of the complete mine including the nuclear waste!

It is clear that in the case of flooding the waste barrels will completely disintegrate within 10 to 100 years. The fluid that has thus become radioactive will then be pressed out of the mine structure through the rock pressure and reaches deep strata of saltwater. These strata have direct contact with the biosphere. The sole remaining question is how much radioactive material will take how long to reach our environment and where this will happen.

The takeover of operations by the Federal Office for Radiation Protection (BfS) was announced in September 2008. This won't make a single barrel of nuclear waste safer. The goal of this change must be the cutting of old insider relationships, the application of nuclear legislation and achieving a comprehensible and transparent comparison of the different options for the handling of the waste. This must aim at the best achievable safety and should not be governed by economic considerations. Currently, a detailed plan exists only for the flooding of the nuclear waste. This project is depreciated for the enormous risks and dangers described above. As alternative, a complete retraction of the nuclear waste has been sketched in a rough concept. The retraction of the intermediate level waste is currently considered in detail, while a detailed planning for the retraction of the low level radioactive waste (more dangerous through the large amounts and radionuclides with longer half life) remains to be carried out.

Nuclear waste must be stored dry and bound. This was not possible in Asse from the start. This mine was never suitable for the storage of nuclear waste and offers the worst imaginable circumstances. As long as no concept is proven to be safer than a retraction of all nuclear waste, this is the only sensible option.

## Further Information

### Web-sites...

- Asse II – Koordinationskreis (coordination circle):  
<http://www.asse2.de>
- Aktion Atommüllfreie Asse (action nuclear waste free Asse):  
<http://www.aaa-wf.de>
- aufpASSEn (watch out) e.V.:  
<http://www.aufpassen.org>
- Operator of the repository:  
<http://www.hmgu.de/asse>  
<http://www.bfs.de/de/endlager/asse>

## Demands of the Remlingen Declaration

Asse II is not a normal mine, but Germany's largest existing nuclear repository. The overburden at Asse is neither tight, nor stable, nor dry. The rock movements have increased unexpectedly and since 1988, 12 cubic meters of water flow into the pit. The nuclear waste cannot be continuously protected from uncontrollable influxes. Originating from this necessity, the operators want to fill the mine with a liquid solution and turn the nuclear waste adrift and leave it irretrievable.

This plan knowingly accepts the disintegration of the packaging and the pollution of the ground-water through leaking radionuclides within a few years.

- We demand not to decommission Asse II by flooding of the mine. The nuclear waste has to be kept in a condition that allows its retraction. All necessary measures for a possible retraction have to be planned and their legal approval cleared. The mine must be stabilized immediately to allow a retraction.
- In parallel, all alternatives to flooding and retraction need to be developed and evaluated in a public and reproducible process. The risks need to be analyzed by independent experts and the research methods and their results have to be published.
- Basis for all plans and decisions has to be the nuclear legislation with its specific regulations; especially, concerning the public participation in the process.
- As the federal government is not willing to apply nuclear legislation, we support the lawsuit by Asse resident Irmela Wrede and provide financial backing through the Asse II legal assistance fund.
- The catastrophic experiences from Asse II must have consequences for any further dealings with nuclear energy. Whoever takes these experiences serious, must come to the conclusion that the further production of nuclear waste is fundamentally irresponsible.

*Remlingen, 4th April 2007*

### ... Support

Besides your active contribution, you can support our criticism concerning the final repository for nuclear waste through a donation to one of the following organizations:

*Account Holder:* **Asse-II-Rechtshilfefonds e.V.**  
(legal assistance fund)  
**IBAN:** DE20269910661127233000  
**BIC:** GENODEF1WOB  
*Bank* **Volksbank Braunschweig/  
Wolfsburg**

*or:*  
*Account Holder:* **aufpASSEn e.V.** (Donation  
receipt possible)  
**IBAN:** DE16430609674002143900  
**BIC:** GENODEM1GLS  
*Bank* **GLS Gemeinschaftsbank eG**