

# **Nuclear Waste Management in Germany – Mistakes and New Approaches**

A Brief Summary

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## ***1. The Story of Gorleben:***

The Gorleben site was selected for final disposal in 1977, for all types of radioactive waste, including high-level waste.

At that time, it was planned that the repository should be ready to receive the first waste containers before the year 2000.

There is a salt dome at Gorleben as host formation for the waste. The site was not selected for the high quality of the salt, however. It was chosen for political reasons alone:

- It situated in a poor agricultural region with high unemployment. It was assumed by the politicians responsible that people there would welcome any industrial enterprise, even nuclear waste.
- The surrounding region has low population density. Thus, it was assumed that local resistance couldn't be all that vigorous because there aren't many people there.
- Furthermore, Gorleben lies in a region which was then close to the border of the GDR. Many of the people endangered by the repository were living on the

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other side of this border. They could not take part in protests, nor file objections against the plans, for obvious reasons.

This site selection did not turn out to be a good idea. It was not good for the people in the region, who keep resisting the plans to this day. But it also did not help the pro-nuclear politicians and the nuclear industry.

No waste has gone down into the Gorleben salt down so far. Today, site investigation has not been officially completed yet. The licensing procedure has not yet begun.

The regional resistance is not the only reason for the enormous delays. There are sound scientific reasons to abandon this site:

- The layers of clay covering the salt dome have gaps, permitting free circulation of ground water above the dome.
- The salt dome actually has contact with ground water; salt has been dissolved in the recent geologic past.
- A repository in the Gorleben salt dome would not be protected by multiple barriers, as is generally required in nuclear technology.

At the moment, there is a moratorium for further work in the Gorleben salt dome. This moratorium could be lifted quite soon; on the other hand, it could last until 2010.

Today, the German Federal Government is planning to have a repository for high-activity waste ready by 2030 – in about 27 years.

In 1977, as already pointed out, it was planned to have a repository within 22 years.

The goal is actually 5 years further away now than it was thought to be in 1977. This could be called 'negative progress'.

(The situation is similar, if more complicated from a juridical point of view, for the Konrad repository project.)

## **2. A New Approach:**

A red/green coalition government came into power in Germany in 1998. In 1999, the Federal Minister for the Environment, Trittin, established an expert commission with the task of developing a site selection procedure for a nuclear waste repository (AkEnd, from the German 'Arbeitskreis Auswahlverfahren Endlagerstandorte').

This expert commission submitted their final report in December 2002. Their proposal included:



- A stepwise procedure to select several potential site regions to begin with, then narrowing the choice to select at least two actual sites for in-depth investigation.
- Geologic criteria to be applied during the site selection process.
- A procedure for public participation, to give all people concerned a say in the selection process.
- Criteria incorporating social and regional planning aspects to be taken into account in the process.
- A timetable for further procedures. In particular, public discussion and, possibly, revision of the AkEnd proposal according to the outcome of this discussion was to follow in the years 2003 and 2004 ('Phase II').

The work of AkEnd certainly constitutes a step in the right direction, in spite of its shortcomings<sup>2</sup>.

However, there has been no further progress since the end of 2002. Phase II (broad public discussion) should be about midway by now; it has not even begun yet and it doesn't look as if it would begin in the near future.

Industry and the opposition oppose the AkEnd proposal; and the red/green government appears hesitant and irresolute in their efforts to implement this proposal.

### **3. In a Deadlock:**

Indeed, the present situation in Germany can be characterized as a deadlock. The nuclear industry and the opposition insist that the Gorleben moratorium be lifted and that the site investigation be concluded as swiftly as possible – they say that the site is very likely to be found suitable, in spite of the problems which have been identified, therefore it should be used and the € 1.3 billion spent so far should not be wasted.

They also demand that the Konrad repository should go into operation as soon as possible.

The Federal Government, on the other hand, wishes to implement the AkEnd proposal. However, they are not consistent in their endeavour.

Whereas the central, most important idea of the AkEnd procedure is to start site selection from zero, without prejudices, from a 'white map' of Germany, so to speak, the government does not want to give up the sites of Gorleben and Konrad. (As mentioned above, there is merely a moratorium for Gorleben, whereas Konrad has

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<sup>2</sup> It is by no means perfect – alternatives to waste disposal in geologic formations are not considered; retrievability of wastes is not taken into account; the social and planning criteria are not binding and can be overruled.



actually been licensed in 2002.) The result is a half-baked mixture of a new approach with old mistakes, a policy which is self-contradicting.

It is not really surprising that the government could not assert themselves and win over opposition and industry to their standpoint, since it seems they don't really know what they want.

#### **4. The Lessons to be Learned:**

The situation in Germany seems thoroughly muddled. How can it be avoided to have similar delays, end up in a similar deadlock?

A lot of sound scientific thinking and reasonable consideration has been performed by AkEnd in Germany. For all its shortcomings, the AkEnd final report could be a basis for further discussion and improvement, with broad public participation.

The reason this does not work out in Germany are the ghosts from the past, which could not be exorcised: Gorleben (as well as Konrad).

An ill-considered site selection, without public participation, which took place more than a quarter-century ago, today blocks the new attempts towards a better procedure.

The lessons to be learned seem pretty obvious:

- No hasty and politically motivated or influenced site selection.
- Creation of the legal framework for a scientifically sound procedure of concept and site selection for waste management, completely without prejudice, and with broad public participation.
- No concept, no approach should be excluded from the considerations – with one exception: Exportation of wastes to other countries must be forbidden.
- Any site selection procedure must include the comparison of several sites.
- It must be guaranteed that the waste producers are paying for all costs which are incurred in this context.

The chances to implement these lessons in Italy appear good, since Italy is practically at square one, at the moment. These chances should not be ruined by muddling through with scientifically and politically unsound efforts.