

Technology | 31.10.2007

Germany Faces Shortage of Nuclear Safety Experts



The Atomic Egg was the shining face of Germany's nuclear future

Fifty years ago, Germany's first nuclear reactor was built near Munich. DW-WORLD.DE spoke to a safety expert about standards in today's German atomic plants and the possible problems for the future.

The Atomic Egg research facility near Munich was the site of groundbreaking research in the fields of physics, biology, chemistry and medicine. Experiments carried out there also helped, in part, pave the way towards the setting up of Germany's nuclear industry. It was an age when there was an almost naive belief in nuclear power. Fifty years on, the country is poised to phase-out atomic energy in 2020.

DW-WORLD.DE spoke to physicist Christian Küppers, of the Darmstadt Öko-Institut and a member of the government's advisory Radiation Protection Committee, about safety standards in German nuclear plants and potential problems ahead.

DW-WORLD.DE: How safe are the German nuclear power plants and research reactors in international comparison?

Christian Küppers: You can't really generalize. There are old and new ones, and those in the middle. The old ones are not only dated in the sense they've been operational for many years and subject to wear and tear. Safety requirements are now a lot higher. That means that long before Germany agreed to phase out nuclear power, people realized the old reactors do not meet current standards for new plants. For example, if you think about the debate after September 11, 2001 and the danger of air attacks, the new plants in Germany are designed to withstand an air crash, whereas the old ones are not. These are things that you can't change by making alterations.

Is this the case in other countries?

Most other countries have not considered this kind of construction to protect against the danger of air crashes. That also goes for countries like the United States and France that have a lot of reactors.

Are the reactors here in Germany older than in other countries?



Some of Germany's power plants are now firmly in middle age

German plants are relatively old in comparison with other countries. If you look at France, for example, the oldest reactors in France are the two blocks in Fessenheim on the German border. They were built more recently than Biblis B and Brunsbüttel. My theory is that if you don't have problems with people opposing atomic energy and you don't face any problems building new plants then it's easier to close the old reactors and build new ones that are more economical to run. It's a rather different story, if you know that everyone will be happy if an older reactor gets closed down, but you will not be allowed to build a new one. I do not say that you have to be in favor of atomic energy for that reason. So although there were once greater numbers of old reactors in France, they have now been closed down.

There were technical problems this summer in nuclear power plants in Brunsbüttel and Krümmel in the northern German state of Schleswig-Holstein. Do these also indicate a problem with the structure of the safety supervisory systems in Germany?

It is primarily the job of the German states to supervise safety. The government can step in if it realizes that the state is not carrying out this job properly. It varies from state to state. If you identify deficits in Schleswig-Holstein you can't say this reveals a general deficit in supervision in Germany. I think enough rules exist to allow proper supervision. The authorities have considerable powers. They can appoint experts to step in for example and carry out checks. The fact that they don't always do this is another matter. What could be a problem, particularly in the future, is that there are practically no young scientists who are very well qualified in the area of reactor safety. That means that both the operators and the authorities are competing for qualified staff. At the same time a lot of people are retiring.

Why is that the case? Is it linked to Germany's decision to phase out nuclear power?

It is not directly linked. It has become apparent over the last 10 to 15 years. The fact has been clear for some time that no new plants will be built in the foreseeable future so the industry didn't offer such good prospects for the future.

Is that linked to the Green movement?

Yes. But I have to say that the last plants were actually commissioned in 1980 or thereabouts. After that the electricity operators didn't order any new atomic power plants in Germany.



German opposition to nuclear power has had unexpected effects

How can the problem of finding new blood be addressed?

I know via the Radiation Protection Commission that chairs in the universities were no longer filled when professors retired. You have to ensure the money is there to retain such posts. On the other hand, you also have to publicize what is on offer. At first glance, it might look as if there will be no jobs after 2020, but after that there will be the phases when you have to dismantle plants. That will last at least a decade or two. To that extent, there are long-term prospects.

Research reactors in Germany are not included in the general nuclear phase-out. Don't they pose a potential danger?

A large research reactor also has a radioactive stock. It is much smaller than that of a normal nuclear power plant, but it is still big enough that it could have a catastrophic effect on the surrounding countryside. It would be a relatively restricted area, but if you look at Garching, then if the wind is blowing in an unfavorable direction and in the event of the worst possible accident, then it could mean that Munich would have to be evacuated.

There has been some criticism of the successor to the "Atomic Egg" in Garching. Is it justified?

The reactor was built using a type of uranium that can be directly used to build atomic weapons after enrichment. That occurred at a time when it was internationally agreed that we should be moving away from its usage and when Germany was also switching to less enriched uranium. We very much regretted the fact that it became operation using this type of uranium.

What do you see as one of the most important tasks facing the nuclear sector in Germany?

A permanent storage facility is needed for highly radioactive waste from reprocessing. Up to now, we have only explored the suitability of Gorleben. It would be good if swift progress were made. At least one other location should be explored and then a decision should be made about which is the most suitable and work should then be started. This is a problem that politicians like to postpone because it's not an issue that is likely to win them any friends. But it is a problem that has to be solved. I think that it is technically possible. But it has to be done. To keep on storing the waste above ground -- and it will remain there for at least another two decades in any case because the storage facility won't be ready -- is the most dangerous option.

Interview: Julie Gregson