Atomic energy

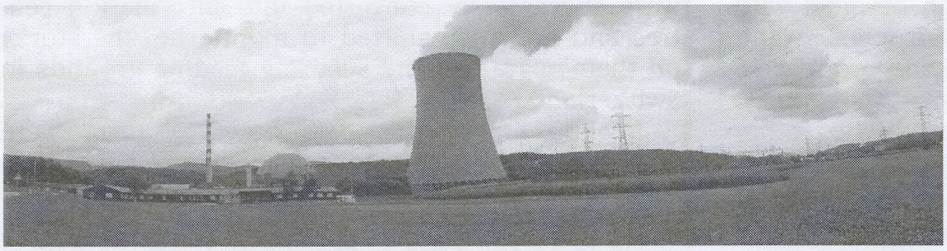
Energy supplier demands new nuclear plant

Swiss electricity company Atel has broken the taboo surrounding new nuclear power plants, submitting an official request to build a facility in canton Solothurn.

Environmental organisations are already threatening to take up the fight against the project, which could go to a nationwide vote for approval.

Atel says that a new reactor is needed to cover an electricity shortfall that is expected in the coming years and which cannot be covered by existing sources such as hydro-electric power.

It has already expressed its preference for a site next to the Gösgen reactor in canton Solothurn in northwestern Switzerland, which has been operating since 1979. According to the company, the site fulfils all the criteria for the construction of a new facility, including available land, proximity to the power grid and water for cooling.



The planned reactor would be built next to the Gösgen site

The new reactor would belong to a third generation of power plants. It would produce up to 1,600 megawatts of power, and would also include a smaller than usual hybrid cooling tower.

The total investment is expected to be up to SFr 7 billion, a cost that Atel – shortly to merge with western Switzerland's biggest electricity provider, EOS - will not bear alone. It is looking for partners and is in talks with the operators of other Swiss power plants.

Atel says it also has the support of the authorities, both in the commune of Däniken where the plant would be built and at the cantonal level.

Apart from a request from the commune not to build a new cooling tower, initial local opposition seems minimal. However, the promoters could eventually face a nationwide vote on whether construction can go ahead.

Both opponents and supporters of nuclear power estimate that it will take at least 12 years before the reactor is built. However, the Federal Energy Office believes it could take up to 18 years before the process is completed.

Opponents are preparing to fight the project all the way.

The fight over nuclear energy promises to get tougher in the near future. Two other power companies, Axpo and BKW Energie, intend to submit requests to replace two ageing reactors at Beznau in canton Aargau and Mühleberg in canton Bern.

In 1990, Swiss voters approved a ten-year moratorium on new nuclear facilities. The decision came only a few years after the Chernobyl disaster.

By 1998, the government had decided in principle that Switzerland would abandon nuclear power.

But at the end of the moratorium, the pro-nuclear lobby began calling for new plants, saying it would help cut production of greenhouse gases and dependency on fossil fuels.

In 2003, voters rejected two proposals, one calling for a new moratorium, another demanding the end to Swiss nuclear energy.

The nuclear energy law introduced in 2005 confirms that atomic power is not dead, but submits any new projects to a possible nationwide vote.

In February 2007, the cabinet decided to replace existing nuclear power plants and build gas plants to avoid an energy shortfall.

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ATOMIC ENERGY

A nuclear power plant is driven by energy that is released through the fission or splitting of an atomic core.

The isotope uranium-235 is the material that is normally split or "burned". The atomic fuel must contain around 3 per cent of this isotope for the atomic reaction to work.

The process is supported by water that serves as a moderator and also acts as a conductor for the energy produced.

This energy is delivered to heat exchangers where steam is generated in a second cycle which then drives turbines and power generators.

The excess heat is released into the environment - into a river, as in Beznau and Mühleberg, or through cooling towers, as in Gösgen und Leibstadt.

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