

# NUCLEAR MONITOR

A PUBLICATION OF WORLD INFORMATION SERVICE ON ENERGY (WISE)  
AND THE NUCLEAR INFORMATION & RESOURCE SERVICE (NIRS)

## 150 GERMAN TOWNS WANT NUCLEAR POWER ENDED

Local power utilities in Germany have formed an anti-nuclear power alliance saying that planned longer running times for nukes are endangering their plans to invest billions in climate-friendly green energies.

**(706.6028) Diet Simon** - The local governments have coalesced to resist the power giants E.on, RWE, EnBW and Vattenfall, which run nuclear stations. The local utilities are pressuring the federal government to either drop the nuclear extension or shut down coal burning stations instead. Lengthening the running times of atomic plants, as the present government intends to do, offers the companies billions in extra profits.

The threat to stop the climate-friendly local investments has weight because it involves double-digit billions of euros. Municipal utilities produce 10% of Germany's power supply. They run many gas-fuelled and combined heat and power stations and produce above-average rates of power from green sources.

A report commissioned by them finds that extending nuclear power production would cement the predominance of the four nuclear producers for years. The move by the local utilities makes it harder for the right of centre government of Chancellor Angela Merkel to extend the running times of the country's 17 nuclear power stations beyond 2022, the nuclear cut-off date agreed between power producers and the previous Social Democrat-Greens government.

The issue is fraught between the business-friendly Liberal and Conservative parties forming the present government. Some in the government want only a short extension, others and

the nuclear lobbies want long ones.

There is apparently agreement on at least half the additional profits flowing to public budgets. That's not enough for the local utilities. They argue that if a nuclear extension can't be stopped politically, either all the extra profits of the nuclear producers should go to public budgets or lawmakers need to think about structural market interventions.

In that scenario legislators should force nuclear power producers to shut down their coal-burning stations on the same scale as the nuclear capacities are left longer on the grid.

That would not only keep competition in the power market balanced, they say, but also cut CO2 output and drop wholesale power prices. The association of municipal works which groups 800 enterprises says the government needs to be aware that extending nuclear generation would be a massive intervention in market conditions.

The association points out that in the expectation of nuclear generation ending, many local utilities have planned investments in more decentralised and climate-friendly power production. Extending nuclear generation would take the necessary dynamism out of the restructuring of energy production, the association argues.

Meanwhile the Federal Environment Agency (UBA), Germany's central federal authority on environmental matters, responsible to the environment ministry, has demanded a 100% green-sourced

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power supply for the country by the middle of the century. UBA President, Jochen Flasbarth, has called on the power industry to focus all its efforts on achieving the goal.

He argues that climate protection demands that all fossil sources be successively replaced by renewables. Flasbarth told a summit of power companies: "In my view the only modernisation of the power supply has to be 100% green sourcing." It was an

extremely ambitious goal, he said, but unavoidable and fundamentally achievable. "Not just climate change but also the finality of fossil resources make this modernisation inevitable."

Flasbarth said there was ever decreasing need for the basic power load to be coal or nuclear-fuelled. The nukes should go first, then coal. By mid-century renewables could also replace gas burning stations to take over the entire power supply. Electricity

production accounts for about 40% of Germany's carbon dioxide emissions.

**Source:** [www.de.Indymedia.org](http://www.de.Indymedia.org), 17 March 2010

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## INIDA: PROFITS FOR FOREIGN INVESTORS, RISKS FOR TAXPAYERS

**At the last minute, the Indian Government deferred the introduction of the "Civil Liability for Nuclear Damage Bill" on March 15, after strong opposition. Aware that the bill's non-introduction was seen as a setback, the government belatedly initiated a major salvage operation to retrieve lost ground with briefing a panel of Congress MPs on the legislation. Indian Prime Minister Manmohan Singh reportedly wanted the bill passed in advance of his visit to Washington in April but could now aim for its passage before US President Barack Obama visits India, likely later this year.**

**(706.6029) WISE Amsterdam** - The civil nuclear liability bill is a deeply flawed piece of legislation that the government has done well to develop cold feet about. The fatal flaw is the bill's perspective. The aim of any reasonable nuclear liability law should be to provide adequate and speedy compensation to the victims of a nuclear accident.

But this one, the Civil Liability for Nuclear Damage Bill seeks to burden the Indian taxpayer and encumber the rights of victims of any potential radioactive release from a foreign-built plant. The special Indian law limiting liability in amount and in time has been sought by Washington for its nuclear-exporting firms, with the largest two, Westinghouse and General Electric (GE), set to win multibillion-dollar contracts to build several commercial nuclear power reactors.

The Indian government had finally released the text of its controversial nuclear-accident liability Bill early March. The text not only confirms the concerns expressed earlier over key elements of the proposed law but also raises additional issues of worry. This proposal is risky for several reasons, including the fact that it provides the nuclear reactor manufacturers the

option to maximise profits by reducing building and safety standards without fear of prosecution.

The bill is crucial to the operationalisation of the Indo-US nuclear deal, but India is under no international obligation to pass this bill which, in reality, attempts to convert the liability of a foreign reactor supplier into a rather pathetic compensation, to be paid by the Indian taxpayer. Though the bill is America-centric, if passed it will apply equally to reactors supplied by France and Russia for which presumably different, and as yet unpublicised, conditions would have been put in the contracts.

What stands out in the Civil Liability for Nuclear Damage Bill is the extent to which it goes to aid the business interests of the foreign reactor builders. Under the Bill, the foreign reactor builder — however culpable it is for a nuclear accident — will be completely immune for any victim-initiated civil suit or criminal proceedings in an Indian court or in a court in its home country. The Bill actually turns the legal liability of a foreign reactor supplier for an accident into mere financial compensation — that too, pegged at a pittance and routed through the Indian

state operator of the plant. Foreign suppliers will have no direct accident-related liability.

Another key issue relates to the rights of victims. The Bill ensures that victims of a disaster involving a foreign-built reactor will not be able to sue the builder in its home country. Worse still, the Bill blocks the victims from suing the foreign supplier even in Indian courts.

In fact, the Bill seriously shackles Indian courts. All nuclear-damage claims will be dealt with by a Claims Commissioner or a Nuclear Damage Claims Commission, and any award made "shall be final" and cannot be appealed in any court. *"No civil court shall have jurisdiction to entertain any suit or proceedings in respect of any matter which the Claims Commissioner or the Commission, as the case may be, is empowered to adjudicate under this Act and no injunction shall be granted by any court or other authority in respect of any action taken or to be taken in pursuance of any power conferred by or under this Act,"* according to Clause 35. The Bill also limits liability in time, with Clause 18 stating: *"The right to claim compensation for any nuclear damage caused by a nuclear incident shall extinguish if such claim is not made within a period of 10 years from the*

*date of incident...*”. That provision was retained despite the Environment Ministry's note of caution that the 10-year time limit was untenable because damage to human health from a serious radioactive release “involves changes in DNAs, resulting in mutagenic and teratogenic changes, which take a long time to manifest.” And although the Finance Ministry, in its comments on the Bill, had warned the proposed law would “*expose the government to substantial liabilities for the failings of the private sector,*” the Bill essentially seeks to give foreign reactor

builders a free ride at the Indian taxpayer's expense. The Indian Bill, in effect, amounts to a huge hidden subsidy by protecting foreign reactor builders from the weight of the financial consequences of accidents. If the Bill is passed, the costs of doing business in India for foreign suppliers will be low but the assured profits will be high. To cover the maximum potential compensation payable for an accident, a foreign builder will need to take insurance for a mere Rs. 500 crore (US\$109 million or 80 million Euro). What is more, the

foreign builders are being freed from the task of producing electricity at marketable rates. The state operator NPCIL (Nuclear Power Corporation of India Limited) will run the foreign-built reactors, with the state subsidising the high-priced electricity generated.

**Sources:** Brahma Chellaney in *The Hindu* (India), 13 March 2010 / *The Asian Age*, 15 March 2010 / UPI, 16 March 2010 / *The Times Of India*, 17 March 2010

**Contact:** WISE India

## PROPOSAL: COOLING TOWERS REQUIRED FOR NEW YORK REACTORS

**New York state has followed neighbouring New Jersey in introducing draft policy requiring certain industrial facilities, including nuclear power plants, to construct cooling towers. The move could cost nuclear operators in the state over US\$2 billion to comply. In 2001, a report by the Nuclear Information and Resource Service (NIRS) and the Safe Energy Communication Council (SECC) shows how many US nuclear power plants kill large numbers of marine wildlife, including endangered species, as a result of their cooling systems.**

**(706.6030) WISE Amsterdam** - The 2001 report, "Licensed to Kill: how the nuclear power industry destroys endangered marine wildlife and ocean habitat to save money", criticizes the use of "once-through" cooling systems. These systems use enormous quantities of water - typically 500,000 gallons (1.9 million liters; a US gallon = 3,785 liter) of water per minute - to condense the steam after it has passed through the turbines. This water also contains wildlife from the sea, lake or river it is drawn from.

Now, the New York Department of Environmental Conservation (DEC) released a draft policy on 10 March, calling for power plants and other facilities that use water for cooling purposes to recycle and reuse that water through a process known as "closed cycle cooling" technology. It said its plan will help implement "best technology available" requirements under the federal Clean Water Act. Previously, DEC has not prescribed a specific technology to achieve those best available technology requirements.

The proposed policy would apply to nearly all facilities designed to withdraw

20 million or more (US) gallons of water per day and that require a State Pollution Discharge Elimination System (SPDES) permit - unless an operator can demonstrate that closed cycle cooling technology cannot physically be implemented at a particular location. In such a case, DEC will require other technologies to achieve essentially the same level of protection for aquatic life as closed cycle cooling. Such determinations, DEC said, are made when an operator applies for or renews a SPDES permit.

The six nuclear reactors in the state - which supply almost one-third of electricity - may require some US\$2 billion (1.5 billion Euro) in investment to continue operating. DEC said: "Steam-electric stations such as fossil fuel and nuclear generating plants use by far the greatest volume of cooling water from our lakes, rivers and marine district." New York steam-electric plants use over six trillion (US) gallons of cooling water annually, resulting in the impingement and entrainment of more than 17 billion fish of all life stages each year, according to DEC estimates.

According to DEC, unlike a "once through" cooling process where water is drawn from a lake or river and subsequently discharged back into it, closed cycle cooling technology re-circulates the water instead of discharging it after one use, reducing the impacts on aquatic life by more than 90%. It said that the policy "will add significant protections for New York's vital fisheries by slashing water intake at certain power plants and other industrial facilities."

DEC notes in its draft policy that California is developing a policy to establish wet closed-cycle cooling as the performance benchmark in meeting requirements of the Clean Water Act. The state has set draft compliance dates of 2018 for non-nuclear facilities and 2021 for nuclear facilities.

Exelon warned in January that it might have to close its Oyster Creek nuclear power plant after New Jersey officials issued a draft permit requiring cooling towers to be constructed. The plant currently discharges heated water into a canal that is connected to Barnegat Bay, a small brackish arm of the Atlantic Ocean.

Currently, of the USA's total of 104 nuclear power reactors, 60 use once-through cooling from rivers, lakes or the sea, while 35 use wet cooling towers.

Nine units use dual systems, switching according to environmental conditions.

**Sources:** WISE News Communiqué

544, 2 March 2001: "Cooling water systems kill marine wildlife" / World Nuclear News, 19 March 2010

**Contact:** NIRS

# NUCLEAR FUEL WASTE STORAGE: END OF THE ROAD FOR "THE SWEDISH SOLUTION"?

**After nearly three decades of R&D efforts, close observers are asking themselves if perhaps the Swedish nuclear industry hasn't reached a dead end concerning nuclear waste storage. The question arises after SKB AB, the industry's jointly owned company for nuclear waste solutions, published a "preliminary" environmental impact statement (EIS) on the KBS-3 scheme in December of last year. The report fails to meet even rudimentary requirements of an EIS. On the whole, it seems a half-hearted effort.**

**(706.6031) WISE Sweden** - In January 2010 the SKB AB unilaterally declared the termination of public consultations on the project (consultations mandated by the Swedish Environmental Code, 1998). SKB AB makes no apologies, but simply notes that long-awaited updates will be filed together with the formal application. This is a blatant violation of the Code (ch. 6, para. 4), which requires that the public be given an opportunity to discuss and question all the aspects covered in an EIS.

Consultations are an integral part of the approval process. It should be noted, however, that the consultations have never been the dialogues envisaged by the lawmakers. (\*1) SKB has shown a lack of interest that borders on hostility on the part of SKB AB. As the largest umbrella organization, MKG (the Swedish NGO Office for Nuclear Waste Review\*2), puts it: *"The company's chief purpose in the consultations appears to have been to rebut and reject participants' comments and questions rather than discuss them in any open manner"*.

It is a matter of public record that the KBS project has encountered difficulties with both of the man-made barriers that are intended to isolate the fuel waste. KBS-3 involves storage of spent fuel rods in copper canisters, about 400 meters down in granite bedrock. No resolution of the problems (uncertainty about the behavior of

the clay buffer in the repository after closure, and empirical evidence that copper corrodes, even in the absence of atmospheric oxygen) has been reported.

Add to this a recommendation in January of this year from the Swedish National Council for Nuclear Waste, a body of scholars that advises the Swedish Government on issues relating to nuclear waste storage, that retrievability of the waste should be considered. The recommendation is a total reversal of government policy. SKB AB has earlier made a point of how difficult it would be for anyone to access and retrieve the contents of a KBS repository, once sealed.

## The approval process

An EIS, addressed to one of Sweden's Environmental Courts, must accompany all applications for permits to undertake a project. Sets of requirements concerning aspects that have to be taken into account are set out in the Code and in the Law on Nuclear Technology (KTL) (1983).

Briefly the approval process is this: SKB AB submits an application as provided in both the Environmental Code and KTL, which incorporates criteria set out in the Radiation Protection Law. The application under the Environmental Code is considered by the Environmental Court; the application under KTL is considered by the regulator, the Nuclear Safety Authority. The Court and the Authority submit their findings to the Cabinet, which decides whether or not the project is allowable. (The Cabinet may choose to override the findings of the Court. This happened in a previous case involving the upgrading of reactors at Ringtails)

## A "preliminary" EIS

The essential purpose of an Environmental Impact Statement is to describe a project's actual, probable and possible consequences for human beings and the natural environment. The document SKB AB issued in December 2009 is marked "preliminary", but even that label hardly prepares the reader for what is to come. The most central issues – those relating to the long-term safety of the repository, the choice of method and evaluation of alternative methods, the siting – receive the least attention. The company states, without supporting argumentation, that the proposed method for storing nuclear fuel waste will not have any impacts on human beings or the natural environment.

The principal faults – those to be discussed here – are (1) a nearly total absence of discussion of radiological consequences, in either the short or long term, (2) a failure to update safety analyses since the most recent report in 2006, then clearly "work in progress", (3) an overall limitation of the time-frame to the construction and loading phases, (4) no attempt to justify the choice of KBS-3 in terms of "best available technology", which would entail serious evaluation of alternative methods, (5) SKB AB's literal interpretation of the so-called "zero alternative", i.e., as making no attempt to do anything, only to "make do" with what already

exists, and last, but hardly least (6) no attempt to convince either the court or the general public that the location (immediately adjacent to the Forsmark reactors in Östhammar) is the best Sweden has to offer.

The Swedish environmental groups are unanimous in their criticisms of an extraordinarily poor document and focus on essentially the same points. Interestingly, in addition, two municipalities – one of which the intended site of the repository – criticize the document, as does the provincial government of Åland (Finland). The following comments synthesize these comments.

### **Radiological consequences and safety**

Three of the document's 348 pages are devoted to long-term safety.

The criticisms of the environmental movement fall into two categories: complaints about SKB AB's procedure, and concern about the actual safety of the KBS project.

#### *Procedure*

The procedural complaints are specifically Swedish. Briefly, they focus on SKB AB's failure to submit updated safety data and analysis for consultation.

The most recent safety report (SR-Can) was published in 2006. A lot has happened since then. For one thing, the more detailed investigation of the two prospective sites has produced a lot of data. Also, SKB AB has acquired and presumably implemented new modeling software. A progress report published in 2007 assured readers that new modeling software would greatly improve the company's ability to understand interactive processes and to assess risks. Also, the above-mentioned problems concerning bentonite clay and copper corrosion have surfaced since the 2006 report. None of these developments are discussed in the EIS document.

Secondly, the preliminary EIS is essentially limited to the construction and loading phases of the project, i.e., the next 70 years or so. The reason given for this is that there will not be any leakage from the repository for at least

100.000 years. Consequently, there are no effects and environmental consequences to be reported. This is pure conjecture on SKB AB's part.

The EIS comes nowhere near fulfilling the requirements of an EIS according to Swedish law.

Scenarios should be elaborated for all possible contingencies: one or more broken canisters, erosion of the buffer, climate-instigated flooding of the repository in sea water, a serious accident in a Forsmark reactor, deliberate incursion, a terrorist attack, societal developments that lead to abandonment of the facility, etc. Low probability does not eliminate the need to consider all that may go wrong.

Time and again the radiation protection authority, SSI (now part of SSM) has urged the company to pay more attention to risk management and safety analysis. As late as 2007 authorities called for better quality assurance of the predictive models and pointed to the need to consider the eventuality that the repository might leak early on in the process. Time and again the company has procrastinated. First, until the prospective locations were inventoried, then until the safety follow-up would be published (it hasn't been), and now for the findings of dozens of technical reports that both exist (there are references to specific pages) and do not exist (they have yet to be published). Why the secrecy?

#### *Safety concerns*

The key factors in terms of long-term safety are the *toxicity* of the waste, the *extreme length of time* involved, and the risk of *nuclear proliferation*.

The radiological safety of the project remains by far the most important aspect. In contacts with the public, however, SKB AB has consistently played down issues relating to the high rates of radiation in the fuel waste and the long-term threat from long-lived isotopes. As MKG, the largest umbrella group puts it: "*Had the environmental movement not been present at the consultations, the average citizen would most probably have been left with the impression that it was simply a question of burying a bunch of copper canisters*".

A major question with regard to long-term safety is the prospect of a coming ice age. The repository must withstand at least one period of glaciation, which entails enormous stresses.

The integrity of the bedrock will have been compromised by the installation itself. Will a KBS-3 repository only 400 m. down in the midst of a tectonic zone survive?

### **Retrievability**

Non-retrievability is a criterion for what may be considered a "final storage" solution in Swedish law. Two of the original aims of the KBS project were to produce a repository that (1) prevents unlawful handling of nuclear waste, and (2) requires no supervision or maintenance. Neither of these aims has been achieved.

There is no discussion of the need to guard or monitor the KBS-3 repository. On the contrary, the company continues to maintain that no supervision will be necessary.

The environmental movement's position is this: There is plutonium in a nuclear waste repository for over 100.000 years. This means that a repository of the KBS type has to be guarded that long. And, clearly, there is a need to monitor emissions from the repository after it is sealed.

### **BAT? Who's to say?**

Back in the 1980s, SKB engineers were quick to settle on the KBS concept. For many years, any backing away from KBS-3 might endanger the nation's commitment to nuclear energy.

The environmental movement's principal complaints concern

- Uncertainty about the performance of the man-made barriers (copper canisters and clay buffer);
- The scarcity of copper as a resource;
- The waste of the remaining energy in spent fuel;
- No fuel waste repository should rely primarily on man-made barriers.

The KBS-3 system is often described as a "multiple barrier system", in which the barriers are copper, bentonite clay and the bedrock. We consider this description misleading. There may be

three tiers in the system, but they are all mutually dependent. Functional redundancy is a fundamental principle in safety engineering. That is, all functions of importance to safety should be independent, each able to guarantee safety on its own.

The task before SKB AB today, as they finalize their application for permits to build, is to demonstrate that the Best Available Technology (BAT) will be used at every step and in every phase of the handling and storage of fuel waste and other high-level nuclear waste, while showing that the methods in question have been proven reliable. SKB must show that the KBS-3 method uses raw materials and energy efficiently and economically, and the company is expected to discuss the pros and cons of each alternative relative to the KBS-3 method.

Is this Mission Impossible? To show that KBS-3 makes use of the best available technology presumes that other methods have been evaluated. Consideration of alternative methods has been required by law since the late 1980s, but SKB AB has consistently refused to spend time, money or effort on any of them. That refusal now undermines the company's claim that KBS-3 is the best available technology.

Deep boreholes have emerged as the principal alternative to KBS-3. (\*) MKG, who recommend this alternative, characterize its treatment:

*"Over the years, MKG notes, the company's treatment of the literature on deep boreholes has increasingly focused on the problems associated with the method, and most recently, SKB AB has constructed additional problems on its own that have no basis in empirical study".*

SKB AB, for their part, has stated that the company has no need of further data.

### **The barriers**

Nuclear fuel waste needs to be kept away from human beings and the biosphere for hundreds of thousands of years. It is unreasonable to believe that man-made barriers can do this over such a long time span.

The gaps between the models' predictions and actual performance of the clay and copper have widened considerably in recent years. At the same time SKB AB has shown less interest in further empirical study of the barriers. As the deadline for the application approaches, the company finds itself unable either to describe the performance of the barriers or to verify the accuracy of the models.

A key assumption from the start of the KBS project is that there would be no corrosion of the copper canisters in an oxygen-free environment. Judging from what has been published, however, no long-term studies of corrosion in a simulated repository setting have been done since the early 1980s. There has been no systematic follow-up, and no evidence has been published to support the models' (theoretical) assurance that the rate of corrosion will decline one thousand-fold in the repository environment. On the contrary, say researchers at the Royal Technological University in Stockholm, the KBS canisters may fail after only 1000 years. Obviously, SKB AB's presumption of safety requires some form of validation.

There are concerns about the behavior of the bentonite clay buffer. Will it swell at the rate posited? Analyses of data presented in the most recent safety analysis performed by Swedish regulatory authorities (2006) suggest that it may take thousands of years before the clay has filled the repository chambers. Will the clay remain in the repository through an ice age, considering all the hydrological and seismic events glaciation entails? The Radiation Safety Authority has expressed concern that SKB AB has been optimistic about the risks of erosion.

Finally, most of the empirical studies done to date have approximated the bedrock formation at Oskarshamn, not the much drier rock at Forsmark. No replications adapted to the actual site are planned, SKB AB has announced.

### **Is Forsmark really the best place?**

SKB AB's localization process has not been systematic, has not been based on a priori criteria, and has been guided by other priorities than long-term environmental safety. The criteria for

selection of the location have changed with the progress of the process. In the end, the company confined its investigations to the two nuclear energy municipalities, Oskarshamn and Östhammar (Forsmark). The choice seems to have been made more on the basis of political acceptance than geological suitability – which, of course, loses all relevance in the context of 100,000 years. Is Forsmark really the best Sweden has to offer?

SKB AB has not seen fit to outline the motives underlying the choice of site. Some drawbacks are obvious, however. The proposed site is coastal, the bedrock is in a (currently passive) shear zone (i.e. a fault), and the rock is drier than that originally envisaged for the KBS concept. The shallow positioning (400 m. underground) leaves the repository at risk of inundation by sea water – which may have chemical as well as mechanical impacts on the crucial clay buffer.

The environmental movement also questions the wisdom of siting repositories next to reactors.

We also favor an inland site, where leakage can better be contained and retarded (up to one thousand-fold), and the Baltic Sea is not the immediate recipient.

### **The Baltic Sea – a "robust recipient"?**

FUD-report 2007 (p. 362) describes the Baltic as "the ultimate destination" of leakage from the KBS-3 repository – which the company believes will occur sooner or later in the "life" of the repository. Planned reliance on dilution in the biosphere is not acceptable to environmentalists.

To consider any sea an "appropriate recipient" for radioactive leakage reflects a poor understanding of ecological relationships. The best farmland in the province around Forsmark was sea bottom "only yesterday" in relation to the time the waste will remain a danger.

SKB AB has to clarify how they can state that the environmental impact of releases of drainage from the repository will be "modest" in as much as "the recipient is judged to be relatively robust". No support for the statement is given.

Åland, an archipelago between Sweden and Finland, lies only 60 kilometers from the proposed site. Consequently, the islanders – including the provincial government and the Municipality of Eckerö – are particularly sensitive to the use of the Baltic Sea as a recipient of possible leakage from the repository. Ålanders urge that cumulative effects of nuclear installations around the Baltic Sea be taken into account. The Municipality calls for a stop to the radiological pollution of the Baltic. All comments from Åland object to a coastal siting of the Swedish repository.

The people of Åland are also concerned that SKB AB plans to transport all fuel waste to Forsmark by sea. The EIS, they point out, lacks all discussion of how an accident at sea might be handled. In view of the overall condition of the Baltic Sea they question the wisdom of allowing transports of this kind in Baltic waters.

#### Conclusion

When one has read the EIS and the well-founded criticisms of it, the question arises: How could SKB AB get it so wrong?

The responses reviewed offer a number of possible explanations.

- Might it be over-confidence on the part of the company's engineers and management? Are they so convinced that all will function perfectly, that they see no reason to problematize their scheme? Does the corporate culture at

SKB encourage critical thinking?

- Can it be that SKB still believes that the Environmental Code should not apply to nuclear technologies – a standpoint they lobbied for intensively for many years?
- Some groups put it down to the company's subversion of the consultation process. Had they only been willing to listen ....

Whether or not consultations are a futile exercise, the environmental groups and the Municipality of Östhammar argue that the process cannot be terminated until all relevant data and information have been put on the table. Several groups call for a continuation, but with some other, less partisan body in charge of the meetings and their documentation.

Whatever the reasons, the fact remains that SKB AB seems to have a long way to go before they can fulfill the requirements of the law. And the issue of retrievability alone is enough to send the company's engineers back to their drawing boards for a long, long time.

#### Notes:

\*1- For a personal assessment of the consultation process, see Hultén, C (2007) "Still Waiting for Glasnost", posted at <http://www.nonuclear.se/archive/>

\*2- The umbrella organization includes the Swedish Society for Nature Conservation with nearly 140.000 members and local chapters throughout Sweden. MKG has full-time staff devoted

to nuclear waste storage issues.

\*3- For a presentation of the deep borehole approach see Åhåll, KI (2006). Final Deposition of High-level Nuclear Waste in Very Deep Boreholes, posted at <http://www.nonuclear.se/archive/>  
See also: Nuclear Monitor 661, 11 October 2007: "Comparative study of public involvement in radioactive waste management" and Nuclear Monitor 673, 5 June 2008: "Sweden: radiation protection authority faults fundamentals in KBS repository scheme"

With one exception the documents, in Swedish only, may be downloaded at [www.nonuclear.se/archive/](http://www.nonuclear.se/archive/). The Eckerö community response may be accessed at [mkg.se/uploads/Samradsinlaga\\_Eckero\\_2010000305](http://mkg.se/uploads/Samradsinlaga_Eckero_2010000305).

**Contributors:** Ålands Natur & Miljö/ Aktionsgruppen för ett atomkraftsfritt Åland; Milkas (Swedish Environmental Movement's Nuclear Waste Secretariat); OSS/Avfallskedjan (OSS/The Waste Network); SERO – Sveriges Energiföreningars Riiks Organisation Sveriges Naturförening/MKG (Swedish Society for Nature Conservation/Swedish NGO Office for Nuclear Waste Review); Eckerö community (Åland); Östhammar community (Sweden); Ålands landskapsregering

**Source and contact:** WISE Sweden, Charly Hultén

## SLOVAKIA – THE GHOST OF SOVIET NUCLEAR – CONTINUED

In 2007, the European Greens developed a video to illustrate the atmosphere of manipulation around the development of the Mochovce 3 and 4 nuclear power blocks in Slovakia. It had the title "the Ghost of Soviet Nuclear". Then, it referred to the fact that an Environmental Impact Assessment (EIA) for this 1970s designed nuclear reactor was refused on the basis of a valid 1986 construction permit – issued well before the ousting of the communist regime in 1989. Also, finances were tweaked by capping the fees for decommissioning and waste for Slovenske Elektrarne (SE), the 66% daughter of the Italian utility ENEL, and financial advantages including a no-dividend period for 34% owner the Slovak State.

#### (706.6032 Greenpeace EU Unit -

Since the release of "the Ghost of Soviet Nuclear" video in 2007, under pressure from the public, a court case run by over a hundred complainants initiated by Greenpeace and Za Matku Zem, and complaints from the European

Commission, ENEL and the Slovak Government gave in and started an EIA procedure in 2009. The public was invited to submit comments and hearings were organised in Bratislava, Vienna and Ezstergom (Hungary). ENEL wanted to show that it had nothing to

fear and that it can play to the rules. Well, not exactly. From the start, ENEL made clear it did not want to wait for the outcome of the EIA procedure before starting construction. ENEL Director Paolo Ruzzini was shocked by the delay that 4,5 years of court

procedures had caused to the Belene nuclear project in Bulgaria and it was made clear from the start that the EIA was not going to cause any delays. The Slovak government allowed the EIA to be finished only before the final operation licence would be given – construction could start.

In the run-up to the EIA hearings, Mochovce spokes person Robert Holy produced a power point presentation to discuss with the Ministry of Environment how to reduce the impact of these meetings. Unfortunately, this document landed in the hands of Energia Klub and Greenpeace in Hungary. The proposed prevention of a hearing in Vienna or blocking dissent by organising a demonstration from nuclear workers in front of the hearing venue did not work. Although the presentation prominently stated that public and media attention had to be kept to the minimum, partly because of this gaffe, the hearings got wide international media coverage. The town of Vienna collected over 200.000 submissions to the EIA procedure. Also Hungary was active, not in the least because of the fact that Hungarian territory in the 30 km zone around Mochovce was conveniently left out of the analysis and emergency organisation structure.

ENEL / SE finished their responses on the input from the public in the end of 2009. From the 99 submissions made by Greenpeace International, 90% was not addressed or the response diverted from the issues raised. Only 3 suggestions were taken over, 2 of them concerning the quality of English of the text. Alternatives were not deemed necessary, the reservoir near the town of Slatina that was build – according to its own EIA – to guarantee cooling water for Mochovce had according to SE nothing to do with the project, nuclear safety and security were not issues to be discussed in an environmental impact assessment. Of course, such omissions and blatant disregard for public participation will be corrected by the responsible authority – in this case the Slovak Environmental Ministry. The Ministry gave an independent auditor the task of assessing all input in the EIA. Independent? Well, not exactly. The auditor is director of the DECOM consultancy, a 100% daughter of VUJE,

the main construction contractor of Mochovce 3 and 4. The final assessment therefore follows virtually completely the promoter's remarks. The Ministry finds itself now in court after Greenpeace appealed against this situation.

In the mean time, ENEL / SE started construction. Prime Minister Robert Fico already had cut the ribbon on 3 November 2008, but that was merely a symbolic act to give some pro-nuclear input to the European Nuclear Energy Forum that was to start the next day in Bratislava. The Aarhus Convention on public participation, however, prescribes that public participation, like that during an EIA, has to take place when all options are still open. In plain language that means, before construction is started. The independent building authority UJD, which also happens to be the nuclear regulator, had to give several permissions to continue on the basis of the myriad of changes made in the project. It could have easily held those until the EIA procedures would be finalised, but the Slovak government and ENEL pressed on and UJD gave the go-ahead. As a result, the entire EIA procedure is now under investigation by the UNECE Aarhus Compliance Committee, which is expected to give a verdict before summer. And when the Ministry comes with its final verdict on the EIA report, it is likely that Greenpeace and Za Matku Zem will go to court to test these irregularities also under Slovak and European law.

#### **International Day of Action**

Because of the EIA manipulations, concern in Austria has also been growing. A coalition of NGOs has called for a day of action on 24 April, just before Chernobyl Day, to highlight the link between the Soviet Ghosts of that catastrophe and Mochovce, which is only 150 km away from Vienna. ENEL also ran into trouble with financing the estimated 3 billion Euro budget. In 2008, a bank-loan of 800 million Euro was frozen on request of the nine bank strong consortium because of concerns about the Mochovce project. ENEL then decided to fund the project from its own reserves and now taps into the proceeds of billions of Euros received by the issuing of bonds. Needless to

say, none of the bond prospectuses mentions the risks attached to Mochovce.

The Soviet Ghost does not only appear around Mochovce. Slovakia started procedures for a sixth block at the nuclear power plant in Jaslovske Bohunice. This is to be developed by the state utility JAVYS, that is also responsible for nuclear waste and the decommissioning of the three closed blocks in Bohunice. Slovakia chose as strategic partner the Czech energy giant CEZ, of which JAVYS and SE used to be a part before Czecho-Slovakia split in 1993. The choice was made without a public tender, although according to Economy Minister Jahnatek 17 firms had expressed interest. But friends come first. This, however, is against European procurement rules and the European Commission is currently investigating whether the choice of CEZ is not illegal. In the mean time, JAVYS and CEZ founded the firm JESS for implementation of the plan for a new nuclear reactor. CEZ is currently tendering for a constructor of five nuclear power stations in the hope to get a mass-discount. One or maybe even two of them would be destined for Bohunice. Speculation runs wild about whether this will go to the Russian / Czech consortium lead by Skoda JS or whether the former-Soviet friends will dare to open up to something new.

**Source:** jan Haverkamp, Greenpeace EU Energy Campaigner

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## IN BRIEF

**Utility tries to 'block' sun in Hawaii.** In a popular Simpsons episode, the diabolical Mr. Burns builds a giant disc to eclipse the sun and force Springfield's residents into round-the-clock reliance on electricity from his nuclear power plant. It's pitch-perfect cartoon sarcasm, but with a foot firmly in reality: the fledgling U.S. solar industry faces an array of Burnsian obstacles to its growth across the country.

In Hawaii, for example, the state's largest utility Hawaiian Electric Company (HECO) is making a blatant effort to block homes and businesses from installing rooftop solar panels, a move that could strangle Hawaii's burgeoning homegrown solar industry, prevent residents and businesses from saving money, and keep the state addicted to imported oil. If there is anywhere that should be blazing the trail to a clean energy future, it is Hawaii. The islands are blessed with abundant sun, winds, and waves, yet today rely on imported fossil fuels for more than 96 percent of their energy. Hawaii consumers pay the highest electric rates in the nation. The state is trying to chart a new course, but the utility is resisting change and fighting to limit solar access to the local grid.

In so doing, HECO is holding back much more than just Hawaii. It is hindering an important experiment with solar energy that could provide valuable information to consumers, entrepreneurs, utility owners and policymakers throughout the U.S., because the program Hawaii is considering is the feed-in-tariff.

**<http://unearthed.earthjustice.org>, 18 March 2010**

**German minister lifts 10-year ban on Gorleben.** The political and technical battle over the fate of Germany's repository for high-level nuclear waste accelerated, as German Environment Minister Norbert Roettgen announced he was lifting the 10-year moratorium on investigation of the Gorleben salt dome in Lower Saxony. The moratorium was declared in 2000 as part of the nuclear phase-out agreement between the nuclear industry and the then Socialist-Green government. On March 15, Roettgen promised "an open decision-making process and a safety analysis that would be subjected to international peer review". The Gorleben opponents allege that the government plans to privatize nuclear waste storage. "If these plans are implemented, those producing the waste would also be in charge of determining its ultimate repository," the opponents argue.

Gorleben has been under consideration for the disposal of high- and intermediate-level waste and spent fuel since 1977, when it was selected by the Lower Saxony government as the only candidate for investigation, in a process that is still criticized for eliminating alternative sites too early. A total of about 1.5 billion Euro (US\$2 billion) was spent on the site investigation between 1977 and 2007. Opponents have just presented to the media a CD compilation of leaked government documents from the 1970s and 1980s showing that expert studies showing Gorleben to be unsuitable were simply ignored. First spontaneous protests about the resumption of work have taken place in Gorleben.

Immediately after the announcement of lifting the moratorium, some 300 people demonstrated and were forcibly evicted by the police using pepper spray. At the same day some 5.000 people demonstrated at the Neckarwestheim nuclear power plant in southern-germany against possible life-time extension. It was the biggest demonstration at the plant in over 20 years. The national anti-nuclear power movement is gearing up for Chernobyl day, when demonstrations in Biblis (southern Germany), Ahaus (middle Germany) and a 120 km (!) human chain in northern Germany will take place to show massive popular resistance against nuclear power.

**Nuclear Fuel, 22 March 2010 / [www.ausgestrahlt.de/](http://www.ausgestrahlt.de/) [www.de.indymedia.org](http://www.de.indymedia.org)**

**Sellafield: Radioactive birds.** Seagull eggs at Sellafield (U.K.) are being destroyed in an attempt to control bird numbers because of fears they might spread contamination after landing and swimming in open nuclear waste ponds. Sellafield said the pricking of eggs was reducing gull numbers around the site and stressed there was no public health concerns. However Cumbrians Opposed to a Radioactive Environment (CORE) said the gulls could fly well away from the site and spread contamination. In 1998 there was a cull of pigeons because they landed on buildings around Sellafield and spread contamination off-site. One garden in Seascale had its soil declared as low level waste because of the problem.

**N-Base Briefing 644, 11 March 2010**

**S-Korea to build nuclear reactor in Turkey?** On March 10, an agreement was reached between Turkey's state power company Elektrik Uretim (EUAS) and Korea Electric Power Corp (KEPCO), a state-controlled utility, on technical studies for the construction of a nuclear power plant to be built in Sinop, on Turkish northern coast of Black Sea. The South Korean company had earlier said it was in talks with Turkey to sell APR1400 (Advanced Power Reactor 1400), pressurized water reactor. Turkey, again, plans to build two nuclear power plants, one in Sinop on the northern coast of Black Sea and the other in Mersin on the southern coast. Construction of nuclear infrastructure could start in the short-term, said South Korean Deputy Prime Minister Young Hak Kim, speaking at a Turkish-South Korean business conference in Istanbul.

Turkey has long been eager to build nuclear power plants. A Turkish-Russian consortium led by Russia's Atomstroyexport had been the only bidder in a 2008 tender to build Turkey's first nuclear power plant in Mersin. However, Turkey's state-run electricity wholesaler TETAS canceled the tender following a court decision in November 2009. (See Nuclear Monitor 698, 27 November 2009: "Another setback on Turkey's nuclear dream"). Turkey has cancelled four previous attempts to build a

nuclear plant, beginning in the late 1960s, due to the high cost and environmental concerns.

**Xinhua, 10 March 2010 / Reuters, 10 March 2010**

**RWE: U.K. hung parliament danger for new reactors.** RWE chief executive designate Volker Beckers has warned that a hung Westminster parliament following the forthcoming election could threaten the prospects of new reactors being built in the UK. He said a hung parliament might make it inconceivable that utility companies would invest the huge sums needed to build the reactors. The Liberal Democrats opposed any new reactors and they might be involved in a new government, he said.

A 'hung parliament' is one in which no one political party has an outright majority of seats. This situation is normal in many legislatures with proportional representation, or in legislatures with strong regional parties; in such legislatures the term 'hung parliament' is rarely used. However in nations in which single member districts are used to elect parliament, and there are weak regional parties, such as the United Kingdom, a hung parliament is a rarity, as in these circumstances one party will usually hold enough seats to form a majority. A hung parliament will force either a coalition government, a minority government or a dissolution of parliament.

**N-Base briefing 645, 17 March 2010**

**Announcement: Anti Nuclear European Forum (ANEF) on June 24, in Linz, Austria.** ANEF was established 2009 as counter-event to ENEF (European Energy Forum) since ENEF failed to fulfill ENEF's official objectives and was/is used one-sided as a propaganda instrument for the promotion of nuclear power instead. Within ANEF negative aspects of nuclear energy will be discussed on an international level. ANEF is organized by the Antinuclear Representative of Upper Austria in cooperation with "Antiatom Szene" and "Anti Atom Komitee". The participation of international NGOs is very important because it needs a strong signal against the nuclear renaissance.

The organizers would like to warmly invite you to participate in ANEF. Please let us know as soon as possible if you, or someone else from your organization, is considering to participate in ANEF by sending an informal email to office@antiatomszene.info. The detailed program will be available soon and will be sent to you upon request. Accommodation will be arranged for you. Further information on ANEF is published on [www.anef.info](http://www.anef.info). Learn about ANEF-Resolution here: <http://www.anef.info/?q=en>.

**Pakistan: US-India deal forces it to keep making weapons material.** Pakistan cannot participate in global negotiations to halt the production of high-enriched uranium and plutonium for nuclear weapons because the US-India nuclear cooperation agreement has tilted the regional strategic balance in India's favour, a leading Pakistani nuclear diplomat said February 18. Zamir Akram, Pakistan's Ambassador to the Conference on Disarmament in Geneva said that under the US-India deal on nuclear cooperation, India may now import uranium under IAEA safeguards for its civilian power reactors. Because of that, India can devote its domestic uranium resources to production of fissile material for nuclear weapons, he said.

Last year, the Nuclear Suppliers Group, NSG, representing 45 members of the Nuclear Non-proliferation Treaty, NPT, agreed to lift nuclear trade sanctions against India, a non-NPT party. That action permitted the US-India deal to enter into force. In coming months, the US-India deal will most likely cause friction at the 2010 NPT Review Conference. Every five years, the NPT's 189 parties hold such a review conference. The 2005 event was bitter and sharp in language and tone and resulted in no consensus conclusion between developing nations and advanced nuclear countries. How to deal with Israel and Pakistan (non-NPT-parties) in the wake of the US-India deal now deeply divides non-proliferation and disarmament advocates.

**Nucleonics Week, 25 February 2010**

**U.K.: Camp against nuclear rebuild.** From 23 to 26 April 2010 at the Sizewell nuclear power stations, Suffolk. The U.K. government is planning to go ahead with a new generation of nuclear power stations. Not only is this a totally daft idea with heavy consequences, but it also diverting attention and investment way from the real solutions to climate chaos. Come and join us for a weekend of protest, networking and skill sharing. The camp will be held very near the existing power stations and the weekend will include a tour of the proposed site for Sizewell C and D reactors and anything else you would like to add.

Contact: [mellcndeast@cnduk.org](mailto:mellcndeast@cnduk.org)

For many more actions on Chernobyl day visit: [www.chernobyl-day.org](http://www.chernobyl-day.org)

**Japanese islanders oppose nuke plant construction.** On Tuesday March 23 opponents of the construction of a nuclear power plant on an island in Kaminoseki, Yamaguchi Prefecture, Japan, forced Chugoku Electric Power Corporation to cancel an explanatory meeting. More than 100 residents of Iwashima island refused to allow officials of the company to disembark after they arrived by boat at the harbor. Kaminoseki's jurisdiction includes several islands. The proposed construction will take place on the island Iwashima.

The company has held 15 meetings in other areas under the Kaminoseki town jurisdiction after applying for construction approval in December. The Tuesday meeting was to be the first for Iwashima island residents, many of whom are opposed to the plan first proposed in 1982. Chugoku Electric officials said they will try again.

**The Asahi Shimbun, 24 March 2010**

## WISE/NIRS NUCLEAR MONITOR

The Nuclear Information & Resource Service was founded in 1978 and is based in Washington, US. The World Information Service on Energy was set up in the same year and houses in Amsterdam, Netherlands. NIRS and WISE Amsterdam joined forces in 2000, creating a worldwide network of information and resource centers for citizens and environmental organizations concerned about nuclear power, radioactive waste, radiation, and sustainable energy issues.

The WISE/NIRS Nuclear Monitor publishes international information in English 20 times a year. A Spanish translation of this newsletter is available on the WISE Amsterdam website ([www.antenna.nl/wise/esp](http://www.antenna.nl/wise/esp)). A Russian version is published by WISE Russia and a Ukrainian version is published by WISE Ukraine. The WISE/NIRS Nuclear Monitor can be obtained both on paper and in an email version (pdf format). Old issues are (after two months) available through the WISE Amsterdam homepage: [www.antenna.nl/wise](http://www.antenna.nl/wise).

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US and Canada based readers should contact NIRS for details of how to receive the Nuclear Monitor (address see page 11). Others receive the Nuclear Monitor through WISE Amsterdam.

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