

NUCLEAR MONITOR

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ACCIDENT BRINGS THORP ON BRINK OF EARLY CLOSURE

The leak of 83 cubic meters of dissolved nuclear fuel at Sellafield's THORP reprocessing plant could not have come at a worse time for the plant's operators British Nuclear Group (BNG). Consisting of an estimated 22 tons of dissolved fuel from a European customer and including some 160kg of plutonium, the leak occurred just days after British Nuclear Fuels (BNFL), of which BNG is one of four business groups, handed ownership of the Sellafield site and THORP to the Nuclear Decommissioning Authority (NDA) on April 1.

(628.5689) CORE - In readiness for the NDA takeover, BNFL launched BNG in 2004 as a specialist clean-up business within BNFL to achieve clean-up and decommissioning work at UK nuclear sites 'quickly, safely and cost-effectively'. It joined BNFL's other main groups Westinghouse, Nuclear Sciences & Technology Services and Spent Fuel Services.

For a contractor seeking to impress its new bosses that it is fit to hold the Sellafield contract, an accident of this magnitude - projected to close THORP for 'months' - is not the most impressive start, especially at a plant already several years behind with its orders. Officially classified as an INES Level 3 Serious Incident, BNG estimates radioactivity levels in the liquor to be around 100,000 TBq

(Chernobyl released 89,000 TBq) though some believe this to be a highly conservative figure. At Level 3, the leak is THORP's worst yet and is the first to be recorded at Sellafield since 1992 when the older magnox reprocessing plant sprung a similar but smaller leak.

Opened in 1994, THORP should have reprocessed around 7000 tons of spent fuel by March 2004. Two-thirds of this business was contracted with overseas customers. However, a litany of in-plant accidents and incidents, and problems in down-stream processes such as vitrifying THORP's liquid High Level Wastes, means the original target is still some 1500 tons short of being achieved. Now in its 12th year - and facing further delays because of the accident - THORP's status as an "asset"

on the NDA's books looks decidedly suspect.

The cause of the leak is given as fractured (clean break) pipe in THORP's Feed Clarification Cell at a point where the pipework feeds into one of two accountancy tanks. During normal transfer through this cell to THORP's Chemical Separation plant, the dissolved liquor would be centrifuged to remove any remaining solids and then fed into the accountancy tank where the liquor is weighed and its fissile component accounted.

First detected on 18th April when operators realized that material already sheared and dissolved had not reached the accountancy tank, in cell cameras pinpointed the source and extent of the leak. How long the pipe had been leaking remains one of the issues under investigation by a BNG Board of Investigation and by the Nuclear Installations Inspectorate (NII). The NII will also be looking at the frequency of equipment checks by BNG prior to the accident and whether there may have been breaches of licensing conditions.

The first stage of THORP's recovery involves pumping the liquor from the floor into a separate tank in the Feed Clarification cell from which it will be fed back into the system probably via the centrifuge. With a possible start

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this week, BNG has estimated that pumping will take four weeks. An additional complication is the discovery that as the liquor leaked into the cell, it partially dissolved some steel framework alongside the accountancy tank. Whether this framework, used occasionally to calibrate the accountancy tank itself, can be repaired is currently unknown as are the implications of the presence of dissolved steel in the liquor on the cell floor.

In parallel with the pumping program, the second recovery stage will entail an assessment of how and if, with no human entry into the highly radioactive cell, the fractured pipe can be repaired. If it cannot be repaired, further decisions must be made on the viability of restarting THORP using only the second accountancy tank - and what reliance can safely be placed on the integrity of its pipework which will share an identical history to the suspect pipework involved in the accident.

These assessments and decisions are not only for engineers and safety regulators but also for the NDA who, as new owners, will want to know repair costs and timings as well as, for

example, how operating on one accountancy tank would reduce future reprocessing throughput. Any closure of THORP or limits on its operations will inevitably result in loss of revenue and therefore a shortfall in NDA's money to finance Sellafield's clean-up program.

Following the accident, the NDA has said that a review of THORP's future, planned for later this year, will now be brought forward. Whilst one NDA spokesman has publicly suggested that it may not be worth re-opening the plant at all, its chairman, Sir Anthony Cleaver, has pointed out that any final decision on THORP will be a matter for UK Government.

Other than its interest in the repair program, the NDA will have other major issues to consider when deciding whether THORP should continue operating until BNG's projected closure date of 2010. Most contentious of all will be the justification for reprocessing several thousand tons of British Energy's (BE) Advanced Gas Cooled reactor (AGR) fuel, which was contracted in the 1990's for THORP's 'post-baseload' period (the second ten years of operation). With no new orders and

with dwindling contracts for this period from German utilities, this AGR fuel is the only business left for THORP. In 'recycling' terms, there can be no reason for reprocessing this fuel for, as BE has repeatedly pointed out, it has no use whatsoever for the uranium and plutonium that would be recovered. Further, BNG has confided to some NGO's that, once the more lucrative overseas contracts are completed, it would be uneconomic to reprocess AGR fuel on its own.

The current accident has therefore come at a defining moment for the plant, with a majority of overseas business completed and only the prospect of 'uneconomic' business to come. The relevance of this crossroads for THORP is unlikely to be missed by the NDA whose eventual recommendations - involving best use of taxpayers' money - could sway the Government into an early closure of the plant.

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NETHERLANDS: DISCUSSION ON BORSSELE CLOSURE DATE

On May 18, activists from Greenpeace occupied the site of Borssele, the sole remaining nuclear power reactor in The Netherlands as a result of the renewed debate on its future, which re-started when members of the government again put the official closure date into question.

(628.5690) WISE Amsterdam - On February 16, when most NGOs involved in energy issues were celebrating the entering into force of the Kyoto protocol, the Dutch Secretary of State for the Environment (The Netherlands no longer has a Minister for Environmental Affairs) announced that the government is seeking ways to keep the Borssele nuclear power plant open for 20 more years.

The coalition government (three parties of right-wing Conservatives), in 2002, agreed upon the closure of the

last Dutch commercial nuclear power station in 2013, at the end of its natural lifetime (40 years).

However, the government has so far failed to come up with a comprehensive and/or inspiring plan for more renewables, energy efficiency or even new investments in cleaner power stations or wind farms. The Dutch will probably only be able to meet the Kyoto targets because half of the savings on CO2-emission are to be met with projects in other countries via the Clean Development Mechanism (CDM).

And as the Dutch energy market has gradually been liberalized and left to the market, the owners of the Borssele nuclear reactor can successfully claim that it is not up to the government to decide when the reactor should close. The Dutch system allows a plant that fulfills safety requirements to be awarded an open-ended license; Borssele has one.

The utility, EPZ, has stated that it should receive between 700 and 1200 million Euros in compensation from the government if 'forced' to close in 2013. This claim has led the Dutch

25 YEARS AGO

What happened 25 years ago? We go back to news from our 1980 WISE Bulletin, comparing anti-nuclear news then and now.

Then

In *WISE Bulletin* vol. 2 nr. 3 we wrote about a citizens' hearing for radiation victims: "During the past 35 years, hundreds of thousands of soldiers, nuclear workers and private citizens were exposed to ionizing radiation from nuclear weapons, detonations and from nuclear facilities. On April 11-14 those people will receive recognition at 'Citizens' Hearings for Radiation Victims' in Washington DC." (*WISE Bulletin*, March/April 1980)

The U.S. tested a total of 1,054 nuclear devices between 1945 and 1992. Until 1963 a total of 289 atmospheric tests were conducted in the Pacific and Nevada test site, releasing large amounts of radioactivity into the air. Soldiers, at close proximity to the blasts, were exposed to the radiation and at larger distances citizens were exposed due to radioactive plumes ('downwinders'). Many people were also exposed to radiation in the weapons production facilities, such as uranium mines. (www.nuclearweaponarchive.org, 6 August 2001)

Now

After long-term lobbying and pressure building, the US currently has two programs of financial compensation for damage to health. In 1990 the Radiation Exposure Compensation Act was adopted. The RECA recognizes past activities and illnesses (workers and citizens) that can be related to radiation exposure. Claims made by 10,000 people have been recognized, most being uranium workers, downwinders (near the Nevada site) and workers employed at the test site. In total about US\$770 million has been allocated.

The US Department of Veteran Affairs is responsible for claims from ex-soldiers. Some 400,000 US-soldiers were exposed to radiation by US nuclear explosions (including Japan, 1945). In some cases, past radiation exposure must be reassessed before compensation can be recognized. Veterans' organizations fear that these calculations are based on incomplete and incorrect data: unreliable radiation monitoring data, missing and re-occurring archives. (Research Laka Foundation, April 2003)

In 2000, the newspaper *USA Today* revealed that some 300 private companies were involved in early nuclear weapons production. Neither the companies nor the government ever told the thousands of workers that they were exposed to hazardous levels of radiation, frequently hundreds of times higher than the limits considered acceptable in those days. At least one-third of those companies did not protect workers with proper equipment. Not only were the workers exposed to health hazards, but many people in the communities surrounding these facilities were also exposed as the companies dumped toxic into air, soil and water. (*WISE News Communique* 535, 6 October 2000)

According to the Institute for Energy and Environmental Research (IEER), an estimated 80,000 people who lived in or were born in the U.S. between 1951 and 2000 will have contracted or will contract cancer as a result of the fallout caused by atmospheric nuclear weapons testing. Some 17,000 of these cases are expected to be fatal. IEER made the calculations in 2002 after having studied a 1997 report by the National Cancer Institute (NCI). The report showed that between 11,300 and 212,000 U.S. citizens were estimated to develop thyroid cancer because of milk contaminated by iodine-131 from testing at the Nevada site. (*WISE/NIRS Nuclear Monitor* 564, 8 March 2002)

NGO world and communities at large to re-start their opposition for the first time in maybe 15 years. Groups are increasing efforts to put pressure on parliament and the government to stick to the original closure date of 2013.

The State Secretary for the Environment hired two consultants to initiate talks with the main stakeholders, behind closed doors, to identify possibilities for making a dirty deal; if the environmental movement would accept the postponement of closure to 2033 then the 'saved' money (from not compensating the utility) would then

be spent on renewable energy projects and investments.

Divide and rule

In the first round of this tense and highly political game all the environmental NGOs refused to participate, not wanting to "...bargain on nuclear energy". The offer of such a deal has served to galvanize the Dutch anti-nuclear movement and in response to the political war games, a coalition of eight environmental groups responded with an action.

Greenpeace Netherlands and WISE have been increasing the number of its actions against nuclear energy and

earlier this year, 200 drums with 'radioactive waste' were placed in front of parliamentary buildings. On

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May 18, Greenpeace managed to occupy the Borssele site and some activists even climbed onto the reactor dome. This was a major embarrassment for both the government and the utility as just a few months ago, the entire nation was shaken by the news that a would-be Muslim terrorist had been arrested with detailed maps of the nuclear power station. Greenpeace easily walked onto the site with 40 people and 12 of them occupied the dome for a day, painting a huge crack to symbolize the expected problems of ageing reactors.

Other players (opinion makers, civil servants, environmental and energy consultants, etc) in the debate are much more open to the idea of a deal (postponed closure in exchange for money for renewables). The consultants are now attempting to play the divide-and-rule game by trying to expose supporters of a deal.

Although not written in stone yet, it seems that the government wants to keep Borssele open until at least 2033. This has far reaching consequences for the discussion on radwaste and reprocessing. In a new report ("Ontwikkelingen met betrekking tot eindverwerking van gebruikte brandstof", NRG, April 2005), the government published new details on the status of Dutch plutonium stocks;

in the last 15 years, despite almost annual parliamentary debate on reprocessing, no details were ever published on the exact status of Dutch reprocessing contracts. The government has decided that there are still no relevant developments to stop reprocessing (despite, for instance, the 'new' terrorism threat).

The State Secretary and his staff have, of course in confidentiality, been allowed to view the reprocessing contracts with Cogema for the first time ever. After some discussions both Cogema and Borssele agreed to reveal the following information on Dutch plutonium:

- EPZ claims that ownership of Dutch plutonium (Pu) stocks is transferred, or will be transferred, to others for recycling as MOX fuel. Borssele itself does not and will not use MOX. This counts for both the already produced (separated) Pu as well as the Pu still to be produced
- Of the 2.5 tons Pu already produced, 23% was sold to the Kalkar and Superphenix fast breeder projects, 31% was sold for recycling in MOX, 31% is still in storage with the aim to be used in MOX later, as is the remaining 15%. The total amount of separated plutonium owned by The Netherlands is 2.3 tons (Dec. 31, 2004); 0.4 tons from

Dodewaard and 1.9 tons from the Borssele reactor.

Of the 280 tons of reprocessed uranium produced till now, 126 tons has already been re-enriched and used for re-loading into Borssele and 139 tons has been transferred to others. EPZ "expects to find a solution" for the remaining 15 tons.

In February when the future of Borssele was debated, a Dutch businessman announced his intention to build a small (25 Mw) Pebble Bed nuclear reactor in the Netherlands, to be used as a stand-alone energy source for high-energy consuming industry in the Rotterdam harbor area. As he put it, "the question whether I will go to the Ministry and start the process for a license depends largely on how much resistance I meet in society".

The large utilities active in the Dutch energy market are also reviewing their positions on nuclear power. Although none are expected to announce plans to build a large reactor, it is clear that there is a rapid change in thinking occurring, not only within the general public (polls show support for nuclear growing steadily) but, and more importantly in the short term, also within the circles of decision makers.

Source and contact: WISE Amsterdam.

GERMANY: PHASING OUT THE PHASE OUT?

After the disastrous May 22 election result for the ruling Social Democrat/Green government in North Rhine Westphalia, Prime Minister Gerhard Schroeder announced that general elections would be held later this year. The German nuclear industry had, however, already started preparations for the period after the planned 2006 elections, anticipating a change in government. With the prospect of a Christian Democrat government, the nuclear phase-out seems further away than ever.

(628.5691) WISE Amsterdam – Germany's phase-out plans (a result of consensus talks) had long been criticized by many. Anti-nuclear groups alleged that the phase-out schedule saved the nuclear industry by diffusing the immense pressure for the immediate closure of all plants. Popular resistance fell apart when the Green party, part of the coalition government, defended the phase-out and as a result, many Greens involved

with anti-nuclear groups stopped being active on a local level. On the other hand, many people felt that a phase-out is better than nothing and were satisfied with the SPD/Green government achievements on the matter.

What most now fear is that, if the CDU win the a general election, the party would have time and opportunity to manipulate public opinion to adopt the "nuclear is not so bad, since it

helps to combat climatic change" view before the public can see that the road to gradual phase-out is in fact viable.

The four utilities with nuclear power reactors, E.ON, RWE, EnBW and Vattenfall Europe, were not particularly disappointed with the outcome of the consensus talks in 2000 or with the phase-out schedule. So far after 5 years, just one reactor was shut

down, on May 11, as a result of the phase-out plan; the 36 year-old 375 MW reactor at Obrigheim. Some would claim it as the second reactor closed due to the agreement but utility operating the facility insisted that the closure of Stade was for economical reasons alone.

Before the 2000 agreement, reactor lifetimes were unlimited in Germany. The industry agreed to limit lifetimes (to an average for each reactor of about 32 years) in exchange for a government agreement not to interfere with the routine operations of reactors or otherwise take political decisions that 'discriminated' against nuclear power. The SPD/Green government passed it into law with an additional amendment banning new nuclear reactor construction in Germany, making the agreement a de facto phase-out law.

In the last five years, German utilities have enjoyed the fruits of the agreement. Smooth operations of reactors without any hassle about licenses and equally smooth license procedures for transports; by June all spent fuel for foreign reprocessing would have been transported. So in reality, the utilities now have more to lose by, seemingly, continuing the phase-out scenario.

In the past few months politicians from the German opposition parties of the Christian Democrats (CDU/CSU) and the Free Democrats (FDP), have stated that they would 'reverse' the phase-out agreement should they be in a position to form a coalition after the general elections. Of course the result of an election can never be taken for granted (in democratic countries that is); in the 2002 general elections, the SPD & Greens were expected to suffer a defeat but remained in power despite losing part of their following.

The utilities have been preparing for the general elections scheduled for 2006 but now elections could be held this autumn (September at the latest) and the ruling government is expected to be heavily defeated. Although not yet certain, it is very likely that

elections will be held prematurely because the German constitution does not allow for such maneuvers. The government and the Bundespräsident must first agree on procedures to circumvent the constitution before a date can be set.

In May, the Deutsches Atom Forum (German Nuclear Forum) gathered at Nuremberg. Industry sources boasted that "the way out of the phase-out will be to extend it, not to overturn it" and are making plans to apply for lifetimes extensions for all 17 nuclear power reactors soon after the elections. "A 40-year license would give us breathing room to set up a procedure for licensing for an additional 20-years as in the US", one executive told *Nucleonics Week*. Such an amendment process could happen in as little as six years. According to the phase-out schedule, five reactors are planned to shut down (Biblis A & B, Neckarwestheim-1, Brunsbuettel, Isar-1, and Unterweser, about 5,500 MW installed capacity) in the period 2007-2010. By signing the agreement in 2000 the utilities effectively pledged not to attempt a reversal of the phase-out. They still claim that the position is being honored, and view lifetime extensions as unconnected with any attempts reversing the phase-out.

Following the NRW elections, CDU spokespeople have already stated that they too would favor lifetime extensions were they to form a government after the general elections. At the same time they stated that new nuclear capacity in Germany is "not imaginable" and Vattenfall Europe CEO Klaus Rauscher has agreed with this statement. Whether or not this is just a strategic move to avoid stirring anti-nuclear sentiments too much at the moment remains to be seen. A decision on new capacity in unnecessary, especially not if lifetimes of existing reactors are extended.

On Monday May 23, after the Sunday elections, E.ON and RWE shares rose and were top gainers of the German blue-chip DAX index, with E.ON rising 3.4%, and RWE up 2.6%. As nuclear-linked shares gained favor, solar

energy stocks suffered as the market grew anxious that there would be fewer subsidies should Schroeder be defeated. SolarWorld shares plunged 10%.

Meanwhile another interesting case is slowly surfacing. Top executives from the utility EnBW did not take part in the important German Nuclear Forum meeting in May. EnBW officials have stated several times over the last months that they will continue to follow the phase-out schedule and that it will shut all its five – Obrigheim was the first – reactors, even if there is a shift in government policy. Chief executive, Utz Claassen, said, "We cannot start to take action against something we agreed to as an industry, and we will stand by that." Local politicians and officials from other utilities happy EnBW did not attend the Forum, claim that EnBW is taking this position because it is in the interest of its main shareholder EdF (Electricite de France). There is the suspicion that EdF is using EnBW to sell French nuclear energy in Germany and in order to facilitate that, generating capacity in Germany has to decrease.

As another direct result of the May 22 elections, anti-nuclear groups are demanding that the North Rhine Westphalian government cancel planned waste transports from the Rossendorf nuclear research reactor to the interim high-level waste storage facility at Ahaus. The Red/Green government of the state of NRW no longer has a political mandate 'to create irreversible facts' following the recent heavy election defeat, according to the groups.

Last year (in March 2004) the Christian Democrat political leader in NRW (Juergen Ruetters) introduced a resolution in the federal state parliament requesting the construction of an interim waste storage facility at Dresden-Rossendorf and a halt to transports to Ahaus while no long-term solution exists for the storage of spent fuel. Since Ruetters will be the next NRW prime minister (CDU won the elections), the defeated NRW

government, still officially 'in charge' for bureaucratic reasons, can do nothing to change this. But even so, it will not happen. From May 30, three road transports (of in total 18 MTR-2 Castors) from Rossendorf to Ahaus (600 kilometers) are due to take place. In Ahaus 4,000 police officers will be stationed during the three weeks (approximately) that the transports will take.

One of the arguments against the transport is the agreement (part of the

consensus) that radioactive waste ('spent fuel') would be stored on-site and would not be transported to centralized interim facilities. But, industry and authorities claim that a research reactor is not a nuclear power plant and thus the spent fuel does not need to be stored on-site.

The fact that the Greens will soon return to an opposition role in NRW, will hopefully inspire people to again become active in social and environmental struggles, and to

protest against the coming Castor transports.

Sources: *WISE News Communiqué* 532, 27 June 2000; *Nuclear Engineering International*, 26 April 2005; *Nucleonics Week*, 12 & 19 May 2005; Press release BI Ahaus, 23 May; *Frankfurter Allgemeine Zeitung*, 24 May; Reuters Planet Ark, 24 May 2005 (with thanks to Peter Diehl)

Contact: WISE Amsterdam

SWEDEN: ENVIRONMENTAL COURT HARD ON NUCLEAR ENERGY

For the first time, nuclear energy in Sweden has been tested against the requirements of the nation's Environmental Code, introduced in January 1999. Unsurprisingly, it fails the test. According to the Court nuclear energy is neither environmentally sound nor sustainable but it referred a final decision to the Government.

(628.5692) **WISE Sweden** - In October 2004, the Government announced that the remaining reactor at Barsebäck in southernmost Sweden would be shut down on May 31, 2005. Shortly after this announcement, Swedish power companies announced their intention to upgrade four of the remaining ten reactors, starting with Ringhals 1 and 3 south of Göteborg.

The plan consists of two parts: a rise in the thermal effect and the installation of new turbines (required by the higher temperature). The planned increase in thermal effect would amount to 420 MW (reactor effect); an upgrade of all four reactors would yield an increment of about 1.5 times the effect of Barsebäck 2. At an estimated cost of SEK 10-15 billion (US\$1.5-2.2 billion), the Swedish Nuclear Power Inspectorate endorses the scheme and the responsible minister has also expressed favor.

Since the introduction of the 1999 Environmental Code, all high-risk projects and projects that may be expected to have significant impacts on the environment must be reviewed and approved by a Supreme Environmental Court. Sweden's twelve reactors were built before the Code and, consequently, the upgrade plans are one of the first instances when the

environmental impacts of nuclear power have been assessed. The Supreme Environmental Court in Vänersborg completed its appraisal in April.

The Court abstained from issuing an order but published its judgement of the merits of the application in a document of nearly 150 pages. The Court's "Assessment", in the last 20 pages of the document, is damning. The conclusion is that nuclear energy has no place in a sustainable Sweden.

The reasons, according to the Court, are principally: (1) the high level of risk, (2) the unsolved problem of what to do with spent fuel and other wastes, (3) the great amounts of unused (wasted) energy in effluents from the plants.

None of this is news to critics of nuclear energy, but within the context of Swedish jurisprudence to date the Court adds new dimensions on each count.

Take risk assessment, for example. In Sweden, the focus has been short-term and extremely narrow. RP authorities have discounted the risk associated with nuclear energy, perceiving the likelihood of an accident as quite low. Indeed, the authority and the

Government have termed the risk "negligible". Swedish authorities have adopted internationally accepted, but in the eyes of the Court wholly inadequate, measures for "consequences", namely, the calculated number of deaths due to acute radiation sickness.

In contrast, the Court argues for a much broader and longer-term approach to radiological consequences, one that includes not only deaths, but also illness (e.g. curable leukemia, operable thyroid cancer, mental anguish). In addition, the Court asked what the consequences would be for vital resources like the soil and water, land use and food production and for how long? It reached the conclusion that no matter how low the probability, the consequences of an accident are so great that the combined risk factor is entirely too high.

When it comes to waste, the Court reviewed the progress reports on the so-called "Swedish method" (KBS-3), i.e., deposit in granite formations 500 m underground at coastal sites, and concludes that no effective method exists and neither does the Court see "[any] guaranty that such a method will be arrived at". This alone, the Court notes, would be sufficient ground to reject the application. This

was yet another slap on the hands for the Nuclear Power Inspectorate, who have supported KBS-3 from the start.

It comes as no surprise that the Inspectorate is now complaining that the Court has trespassed onto its turf. But it is not simply a "turf war" between two institutions. At the core, it is a contest between the 1984 Law on Nuclear Technology and the 1999 Environmental Code. Until the Code, the Law had precedence in all matters relating to nuclear power.

The bottom line

However, despite its judgement the Court did not follow through and use its power to deny the application. Instead, it referred the decision to the Government giving the reason that according to the Environmental Code, when a judgement made on environmental grounds runs contrary to other major public interests, the decision

may be referred to the Government.

The Court makes it clear that nuclear energy is neither environmentally sound nor sustainable. With regard to risk it said, "The judgement as to what degree of negative impacts (skada) is acceptable is not influenced by the importance [to society] of the activity in question" At the same time, the Court acknowledged that the Ringhals reactors produce a good share of Sweden's electricity. Consequently, the decision should be made by politicians, whose duty it is to weigh the conflicting interests.

Having assessed nuclear energy — its operations, wastes, and exceedingly low energy efficiency — on purely environmental grounds, the Court shifts responsibility squarely onto the shoulders of the Swedish Government. The Social Democrats are split on the subject of nuclear. Officially, the

Government has declared its intent to phase out, but many of the unions, and a significant number of local government politicians, question the feasibility of a phase-out. In Sweden, nuclear energy is widely perceived as a guaranteed source of cheap electricity and anything that might cause energy prices to rise is seen as a threat to jobs.

Will the Social Democrats approve a measure that will increase and prolong Sweden's dependence on an environmentally unsustainable source of energy? Or, will they admit the error of their ways (for some 40 years) and actually take a further step toward phasing out?

It is not yet known when the Government will reach a decision on the matter.

Source and Contact: Charly Hultén at WISE Sweden

NEW NUCLEAR PLANTS FOR BLAIR'S BRITAIN?

British Prime Minister, Tony Blair, takes up office again having presided over a masterful campaign, ably assisted by the nuclear lobby, Department of Trade and Industry (DTI), esteemed scientists and various other interested parties, which has seen the dying nuclear power industry reinvented as would-be savior to a world desperate for easy solutions to the difficult and complicated issue of climate change.

(628.5693) **WISE Amsterdam** - Ever desperate to protect its political legacy and maintain/restore its (already tarnished) image, Tony Blair's government in its 2003 Energy White Paper left open the option of a possible return to the already failed technology of nuclear power, claiming that it would be irresponsible to exclude it from the mix when considering the best tools with which to combat the global warming.

As in the case of other difficult and unpopular decisions facing the UK government, the decision not to make any decision on excluding nuclear from the future energy mix was calculated to again show the British public how reasonable Blair is; how he never shies away from difficult issues and how he and his government always consider what is in the country's best interest whether it is

popular or not. That was the message circulated by the government's luster mongers (aka spin doctors) upon the release of the White Paper and it is again being reiterated following the Labour party's marginal victory in the recent UK general elections.

In the run up to and during much of the general election campaign, the topic of the environment was largely ignored; the deceptions over the Iraq war taking centre stage in most debates. But days before the UK was to go to the polls, the Green party issued an alert, suggesting that the government would open the door to new nuclear, ostensibly to combat climate change, if re-elected.

For several years now, nuclear power opponents have argued as to whether the nuclear power industry was actually in resurgence as it claimed or

whether the talk of possible orders for whatever amazing, shiny new and improved third, fourth or fifth generation reactor design being peddled at that time was just that, talk.

But in the past year, the industry in the UK has been given reason to hope and has, with a little help from friends in high places, managed the PR coup of the century. From zero to hero in just a year: that should earn someone a million pound bonus...

The nuclear lobby then struck PR gold when, presumably unprompted, the eminent environmentalist Professor James Lovelock – often described as the 'father' of the movement – gave an interview to *The Independent* in May 2004 in which he declared that nuclear energy was the only practical (and green!) answer to global warming and called for massive expansion

immediately. This began a chain reaction that has allowed the government and nuclear supporters alike to dream of the day when nobody bats an eyelid at the thought of a NPP going up in the neighborhood. But this should remain that, a wet dream for the truly warped of mind.

The usual New Labour tactics have been employed prior to and since the election. Super secret Whitehall documents have been leaked to newspapers and government advisors, who are usually shy and retiring types, have been forced out into the daylight to 'explain'. In one 'confidential' document seen by *The Observer*, the director general of energy policy at DTI advised that the decision on new nuclear needed to be made urgently and pointed out that it was "...generally easier to push ahead on controversial issues early in a new parliament". So there you go Tony.

It is being suggested that should the UK not build at least 10 new NPPs immediately, the country will be sent back into the dark ages of sewing by candlelight and other such nonsense. It was even reported that Blair believes that energy efficiency, and measures to promote/facilitate it, would not work in Britain. And pray why not?! Would it really be impossible to get people to use efficient light bulbs and ask them to get off the sofa to turn the television off?

Probably not but imagine a government not even wanting to try! Would spending billions of more British pounds on technology and an industry that has, time and time again, shown itself to be incompetent, uneconomic, irresponsible, dangerous and a complete failure really be the best decision for Britain?

Maybe Tony will decide to ask the people, but most probably not. A recent opinion poll commissioned by the BBC program *Newsnight* showed that 52% of those asked said it was wrong for the government to consider nuclear energy as a source for the future compared to 39% who thought it was right. 57% also chose renewables

as the most feasible energy sources to meet future demands while reducing CO2 emissions, 21% chose nuclear.

The government's chief scientist, Sir David King, was wheeled out to issue denials to speculations that nuclear would be making a rapid return and he did so, calling it premature. Is that New Labour speak for, yes but we will confirm it later? King also said that the UK would have to spend US\$16 trillion on building new nuclear capacity in the next 25 years. Yes, 16 trillion. But then again the prime minister has said that approving new nuclear would depend on the economic viability of the plants and a solution for the waste problem.

If this is true then we can all rest easy in the knowledge that, without some Enron-style creative accounting, no nuclear plant could ever be economically viable and no waste solution will ever materialize. However, given that recent history has proven that the British government is not averse to 'misrepresentation' on occasion, we should not rest at all.

The prime minister is also said to be considering the appointment of an independent commission to examine the case for new plants in the UK. If this is the same kind of 'independent' commission as those that have investigated other unsavory matters concerning government misdemeanors then, again, we should hold out no hope.

There are some signs though that any attempt to force this decision through would be contested by critics inside the cabinet as well as on the backbenches of parliament. Margaret Beckett, the environment secretary, has signaled willingness to fight any plans to introduce new nuclear and critics predict a mass rebellion on the backbenches.

There is also the behind-the-scenes fight between Beckett's Department of the Environment and the DTI, which would of course love to see new plants going up around the UK. Officials at DTI have long been committed to

building new plants and in 2001 joined an international consortium to build the next generation of reactors. If this happens, billions would be invested in science and engineering in the UK, which could also explain why the likes of the Royal Society and Royal Academy of Engineering (RAE) seem to be taking an increasing interest in all things nuclear.

The New Statesman reported this week that the RAE even published a paper last year on suggesting that new plants could produce cheaper energy than coal. "Too cheap to meter..." really, again so soon?! They really need to get new material.

Trade and Industry secretary, Alan Johnson, during an interview with the *Financial Times*, suggested that the decision would be made this year whereas the prime minister is keener to 'correct' the impression that the decision has already been made. The possible timeline for how and when any decision will be taken remains unknown – until it 'leaks' from a 'secret' document no doubt.

References: *New Statesman*, 23 May 2005; RENEW newsletter, May/June 2005; *Financial Times*, 16 May 2005; *The Guardian* 4 & 10-12 May 2005; BBC News online, 10, 12 & 16 May 2005; AFP, May 12 2005; *The Observer*, May 8 2005; *WISE/NIRS Nuclear Monitor* #621-622, "A back door comeback. Nuclear energy as a solution for climate change?"

Contact: WISE Amsterdam

THE MOST MENACING PREDATOR ON THE LOWER SUSQUEHANNA RIVER

There is a loud and growing chorus of nuclear power proponents who refuse to acknowledge the daily threats to clean air and water produced by the 'peaceful atom'. However, when it comes to water consumption, fish kills, chemical leaks, thermal inversion and effluent discharges, nuclear power plants are viewed as a benign monster.

(628.5694) **EFMR Monitoring Group** - Most people in the Northeastern state of Pennsylvania (USA) are unaware of the damage inflicted on the Susquehanna River by nuclear generating stations. These plants consume millions of gallons daily to cool their superheated reactor core and perform normal industrial applications. Since they began operating in 1974, Three Mile Island-1 and Peach Bottom-2 & 3 have returned water at temperatures in excess of 110 degrees Fahrenheit (43 degrees Celsius), and discharged chlorinated water (necessary to minimize bacterial contamination of turbines) and Clamtrol (chemical agent used to defeat Asiatic clam infestation) directly into the Susquehanna River. Millions of fish, fish eggs, shellfish and other organisms are sucked out of the Lower Susquehanna River and killed by nuclear power plants annually.

The fall and rise of uranium prices. As press reports claiming uranium prices are 'exploding' appear and the number of new uranium exploration licenses thus increase (even in Europe: Finland, Sweden), it is time to pay some attention to it. Historically, the uranium price has varied considerably in response to supply and demand, although an open market did not exist in the early times since the U.S. government was the sole purchaser. By the end of the 1970s, the spot price had peaked at approx. US\$ 43/lb U3O8 in response to increased U.S. government demand; it soon leveled off to approx. US\$ 10/lb U3O8, leading bit by bit to the shutdown of nearly all conventional mining in the U.S.; only in-situ leach mining continued at a low level.

With the end of the Cold War in 1989, large amounts of secondary resources entered the market, and the price kept fluctuating around this level in the

On July 9, 2004, the Environmental Protection Agency (EPA) issued the Final Phase II rule implementing Section 316(b) of the Clean Water Act. The first national standards for reducing fish kills at existing power plants was the result of over ten years of litigation by environmentalists and six states. The regulations must be implemented by September 7, 2005. The problem is that the proposed remediation system is dependent on a culture of corporate reporting that has failed miserably for over 30 years. Moreover, Exelon has slashed staffing at TMI and Peach Bottom by 10-25% over the last five years, and two of the hardest hit departments have been Health Physics and Environmental Monitoring.

Ad Crable, a former Peach Bottom nuclear plant employee said (in the Lancaster New Era, January 15, 2005)

IN BRIEF

1990s, with a minor peak in mid-1996 at US\$ 16.60/lb U3O8. At that time it appeared that secondary supplies would come to an end, but the price dropped again, until it reached a low of approx. US\$ 7/lb U3O8 by the end of the year 2000. Since then it has been rising, currently with increasing speed, and has more than quadrupled.

The first conventional mines in the U.S. have restarted after decades of inactivity and the uranium exploration business attracts all kinds of venturesome investors now; the list of uranium mining and exploration companies maintained at the WISE Uranium home page shows more than 250 entries now. The rise in prices even induced a new business model. In anticipation of a further rise in market prices, a company named Uranium Participation Corp., managed by uranium miner Denison Mines Inc., was established in March 2005, its sole

he was "sickened" by the large numbers of sport fish he saw sucked out of the Susquehanna. "When the water comes in, fish would swim in through tunnels and swim into wire baskets," the southern Lancaster County resident stated. "There were hundreds and hundreds of fish killed each day. Stripers and bass and walleye and gizzard shad and all kinds of fish. It took a forklift to carry them out".

For over three decades, nuclear power plants have been the most menacing predator on the Lower Susquehanna River. Finally, nuclear power plants are compelled to inventorize mortality rates and identify species of aquatic life affected by water intakes.

Source and Contact: Eric Epstein, EFMR Monitoring group, Harrisburg, USA. Email: ericepstein@comcast.net; website: www.efmr.org

purpose "to invest in, hold and sell uranium oxides in concentrates (U3O8)". Taking inflation into account, current price levels are still far below those at the end of the 1970s. In addition, the spot market price does not necessarily reflect the prices actually paid, since only a small fraction of the uranium is traded on the spot market; it is more a hypersensitive indicator of the short-term supply and demand situation. **WISE Uranium; www.antenna.nl/wise/uranium**

U-exploration in Mongolia: Blatant Colonialism. The homepage of the Canadian (Vancouver based) company UGL Enterprises Ltd reads: "Uranium Gold Copper. Mongolia is OURS to discover". One would expect that companies in 2005 have some PR-expert explaining how unwise it is to be so honest about their intentions. UGL reports that its search for "world

class uranium deposits" has led to the acquisition of a further six Mongolian exploration licenses. UGL has now acquired 10 uranium properties through license application or outright purchase, covering over 250,000 hectares throughout Mongolia. All of the properties were acquired for their prospective characteristics, including multiple uranium occurrences, radiometric anomalies and/or favorable geology for sediment-hosted, near-surface uranium deposits. The new licenses are located in the Mongolian provinces of Khovsgol, Khentii, Dzungobi and Dornogovi. Mongolia is a huge country (about three times the size of France) with a population of about 2.3 million, located between Russia and China. Mining is far and away Mongolia's leading industry, accounting for 50% of industrial output and more than 40% of its export earnings. The exploration boom began with the introduction of new foreign-friendly mining laws in 1997.

<http://www.uglenterprises.com> and UGL press release May 10, 2005

USA: Western Shoshone case against Yucca Mountain rejected. The Shoshone tribe is considering whether to appeal a federal judge's decision to reject their attempt to stop plans for a national nuclear waste repository at Yucca Mountain in Nevada. The Western Shoshone National Council had challenged the US Department of Energy's proposed use of the land, which is within ancient Shoshone territory, as violating the 1863 Ruby Valley Treaty (see *Nuclear Monitor* 624, 18 March 2005). Because "DOE has not yet applied for or been granted a license to operate" the repository, "any harm caused by disposing nuclear waste in Yucca Mountain cannot be characterized as 'immediate and irreparable' at this point in time," Judge Philip Pro said in the ruling. "[I]n the event circumstances change and plaintiffs are able to identify specific activities which would cause identifiable immediate and irreparable harm, plaintiffs may renew their request," Pro said. Robert Hager, attorney for the national council, said May 19 that he was "encouraged" by this part of the ruling. The court gave

DOE until July 20 to file a motion to dismiss on jurisdictional grounds the council's broader lawsuit opposing the repository project. Statement by Robert Hager: "The Western Shoshone National Council would like to thank Judge Pro for his thoughtful consideration of the claims brought under the Treaty. To the Western Shoshone people, the past and ongoing desecration of Yucca Mountain and Mother Earth hurts their individual and collective spirit, although we understand that kind of harm is not recognized by the law as "immediate and irreparable injury" that is required for a preliminary injunction. The Court has found that the Treaty of Ruby Valley may prohibit the use of Yucca Mountain and the entire Western Shoshone Territory as a nuclear waste dump, which is what this case is about. We are also encouraged by the Court ruling that the Western Shoshone Plaintiff's may again request an immediate injunction in the event circumstances change and activities at Yucca Mountain threaten immediate and irreparable harm."

Western Shoshone Attorney Robert Hager statement, 18 May 2005; Nuclear Fuel, 23 May 2005

Spain: Roundtable on phase-out. The national congress has voted to establish a parliamentary roundtable to discuss the gradual phase-out of nuclear power and broad changes in the Nuclear Safety Council (CSN). The legislators rejected a resolution calling for a plan to shut down the country's nine nuclear power reactors within six months and the immediate closure of the Garona BWR, the second-oldest unit in the country. The oldest - Zorita - is already scheduled to close next year. Prime Minister Jose Luis Zapatero - who won Spain's general election in 2004 - has pledged to follow through on his Socialist Party's pledge to phase-out nuclear power. After winning the elections he told parliament that his government would 'gradually abandon' nuclear energy and increase funding for renewable energy sources toward a goal of reducing greenhouse gas emissions. But he gave no details regarding the time frame for such a goal.

Representatives of utilities, nuclear stations, unions and politicians will attend the roundtable discussions.
WNA News Briefing 20 April 2004 and 24 May 2005

PFS license preliminarily approved; final NRC Commissioners' decision imminent. On May 24, the Atomic Safety and Licensing Board (ASLB), the adjudicatory arm of the Nuclear Regulatory Commission (NRC), approved the licensing of Private Fuel Storage (PFS), rejecting Utah's motion for reconsideration and paving the way for the NRC Commissioners to consider the matter. The Commissioners are expected to approve the project quickly (see *Nuclear Monitor* 626: "Opposition to PFS mounts from public interest groups and tribes"). PFS is the proposal made by eight commercial nuclear utilities to build and operate a "temporary" commercial high-level radioactive waste dump on the Skull Valley Goshute Indian Reservation in Utah. PFS will not reduce the risks posed by high-level radioactive waste even temporarily. Waste will always remain on-site at operating reactors, and by transporting it and storing it above ground in yet another part of the country, PFS will just make the existing problem worse. The "temporary" nature of PFS is also questionable, as this aspect of the project is completely dependent on the opening of Yucca Mountain, which has been beset with problems, and may never open.
Action Alert, NIRS, 24 May 2005

More money for Chernobyl Shelter Fund. At a pledge meeting in London on May 12, the European Commission announced an additional •49 million (US\$65 million) to the international Chernobyl Shelter Fund (CSF). The conference was organized by the European Bank for Reconstruction and Development (EBRD) and attended by representatives of the European Commission, all G8 countries and Ukraine. Russia will contribute to the fund for the first time. This additional contribution comes on top of more than Euro 600 million (US\$803 million) already pledged to the fund by 28 donor governments in 1997 and 2000. The EC has now committed a

total of Euro 239.5 million (US\$320 million) to the Fund since 1997, making it the main donor. The Chernobyl Shelter Fund is managed by the EBRD and was established in 1997 to fund the Shelter Implementation Plan (SIP). The European Union has been the largest contributor to the fund. The main objective of the SIP, which was developed collaboratively by the EU, the United States and the Ukraine, is to convert Chernobyl's reactor 4, destroyed by the accident, into "an environmentally-safe site". Under the plans, an arch-shaped confinement with a height of 100 meters and a span of 250 meters will be assembled in an area near the site and eventually slid across the old sarcophagus. It is designed to provide a solid containment for the remnants of the reactor. It will also be fitted with equipment to undertake works that will become necessary in the future, such as deconstruction of unstable parts of the old shelter and the removal of its radioactive inventory. The project is estimated to cost US\$1,091 million (Euro 815 million) and will be

complete by 2008-2009.

European Union, press release, 12 May 2005; EBRD press release, 12 May 2005

Secret documents on French N-test surface. Inhabitants of the Gambier Islands in French Polynesia have called for access to defence ministry files on the impact on their health of 30 years of French nuclear tests on Pacific atolls. The French defence ministry immediately described allegations, by two French dailies, that the army knowingly exposed the people of French Polynesia to heightened risks during nuclear tests in the 1990s as "baseless". On 18 May, the Liberation newspaper - citing a "secret military document" - said France has "concealed the risks that nuclear tests posed to the Polynesians" and had not protected citizens during a 1966 test. One day later, *Le Figaro* newspaper published excerpts from "secret documents" indicating that the preventive evacuation of the Gambier Islands in the Pacific Ocean was ruled out for "political and psychological reasons". The defense ministry spokesman did

not directly challenge the documents cited in the French media, but called for caution with respect to how they were interpreted. Roland Oldham, president of the "Mururoa e Tatou" (Mururoa and us) association of some 5,000 Polynesians who worked on the two nuclear sites in Polynesia between 1966 and 1996, recalls the very powerful "Aldebaran" nuclear test carried out in Mururoa from a barge on July 2, 1966 in the presence of then French leader General Charles de Gaulle. Oldham added that the fallout was carried by the wind to Gambier, 500 kilometers away. For 30 years, French Polynesia was the place where France conducted its nuclear weapons tests on the atolls of Mururoa and Fangataufa, west of the Gambier Islands, where a total of 193 tests took place — 41 atmospheric and 152 underground. The last atmospheric test, under a tethered balloon dubbed "Aquarius", took place on September 14, 1974 and the last underground test was on January 27, 1996 in Fangataufa
AFP, 19 & 20 May 2005

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THE NUCLEAR MONITOR

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