

# NUCLEAR MONITOR

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## PBMR BUSINESS NEGOTIATIONS KILL PUBLIC DEBATE?

**A public debate, organized by the South African government to discuss proposals for a Pebble Bed Modular Reactor (PBMR), was cancelled just days before it was due to commence because of expected parliamentary elections. Opponents of the reactor plans however suspect that negotiations with possible new investor, Areva of France, were the real reason behind the “postponement”.**

**(604.5578) WISE Amsterdam** – The nuclear summit was to be held on 16 and 17 February and was seen by anti-nuclear groups as a meaningful opportunity to raise questions and concerns regarding the proposals for the experimental reactor.

But on 11 February, two working days before the summit, parliament cancelled the debate due to the announcement of new elections. Some international delegates scheduled to participate in the summit had already arrived in South Africa before they were informed. A new date for the nuclear summit of the Committee on Environmental Affairs will have to be decided upon by the next parliament, which is to be chosen in April.

Since other committees continued to function and the Minister for Finance still planned to give his budget speech, Earthlife Africa and other groups

suspect alternate reasons for the cancellation. French nuclear company Areva had planned negotiations with the PBMR (Pty) Ltd. Company in the week of 16-20 February on a possible investment into the PBMR Company.

The South African reactor project urgently needs money to proceed and Earthlife believes that the government, by calling off the debate, is attempting to prevent any anti-nuclear sentiment reaching Paris during the sensitive meeting.

By postponing the debate, the South African government has avoided several important questions begging to be answered. The issues of economic feasibility and waste were excluded from the Environmental Impact Assessment procedure and the nuclear summit was expected to be the platform to raise those issues. There is much concern about the eventual costs

of building the PBMR, estimated by electricity company Eskom at 12 billion rand (US\$ 1.9 billion). International experience shows that reactors often cost five to ten times more to complete than originally estimated.

Some pro-nuclear proponents have issued statements of satisfaction with the cancellation of the summit. Lean Louw, director of regulatory affairs at Silver Protea Nuclear Consortium, an economic empowerment company, told the newspaper Citizen that “it’s time for government to reject interference from First-World eco-imperialists and get on with the real world development needs of the developing world”, which he said included PBMR for South Africa.

### **Areva investment**

The South African delegation sought to offer Areva “industry technology rights and cooperation” in the development of the PBMR reactor. According to Areva the deal could be much broader than the reactor alone and could include fresh fuel supply, waste management and power transmission & distribution, raising speculation that Areva was offering PBMR investment in exchange for Eskom’s future T&D business. The delegation included representatives of the Department for Trade and Industry, Eskom and the Nuclear Energy Corp. (a state owned nuclear research company).

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**The next issue** (605/6) will be mailed out 12 March 2004 and will be a special issue on the 25<sup>th</sup> anniversary of the Three Mile Island accident. Next regular issue (607) will be mailed out 2 April.

**Oops!**  
**In our last issue, we mistakenly referred to Dr. Helmut Hirsch as Hirsh and are of course suitably contrite. Also within Dr. Hirsch's article, we stated that the Gorleben legal case was more complicated than that of the Konrad repository – what we meant to say was that Konrad was the more complex case. Apologies.**

The French talks followed a meeting between SA president Mbeki and his French counterpart Chirac last October. The PBMR Company desperately needs a new shareholder and in August 2003 it was expected that one would be found by 31 December, but that deadline was postponed until 31 March 2004.

The current shareholders are Eskom

(30%), the SA Industrial Development Corp. (25%) and British BNFL (22.5%). Another 10% stake is destined for black empowerment enterprises, but is presently administered by Eskom. The remaining 12.5% once belonged to Exelon but the American company withdrew in April 2003 for economic reasons.

The PBMR Company desperately needs a new investor because it is now faced with a lack in financing, which has delayed the project. It forced the company to delay some of the major technology development contracts, including a 260 million rand (US\$ 37.46 million) contract with the IST Nuclear company for fuel handling, reactivity control and gas conditioning. The work at IST continues but "at a slower pace".

Last spring Areva made an offer for participation that was limited to fuel fabrication and would have required the exclusion of BNFL from the project but that bid was rejected as "unacceptable".

One of the "carrots" for Areva is the proposal under the U.S. Energy Bill for a Very High Temperature Reactor (VHTR) for hydrogen production at the U.S. Idaho National Engineering & Environmental Laboratory (INEL). PBMR is looking to bid on the project and Areva is also preparing a proposal. Areva owning shares in PBMR would

merge the presently competing proposals and increase its chances on the U.S. market, leaving General Atomics as only other competitor.

According to PBMR (Pty) Ltd. the two-day talks in Paris were successful but concluded without final decisions being made.

#### **Leukemia case**

The postponement also coincides with the deafening silence from the nuclear industry regarding the integrity of its health record. Its flagship in South Africa, the French-built Koeberg NPP, has been accused of falsifying the medical records of Ron Lockwood whose leukemia, developed while working at Koeberg, was hidden from him. His medical records were altered, and he was persuaded to apply for early retirement

**Sources:** *Nucleonics Week*, 12 and 26 February 2004; email from Earthlife Cape Town, 17 February 2004; press release Environmental Justice Networking Forum, 17 February 2004; *Business Report*, 23 February 2004

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## **IS INDONESIA READY TO GO NUCLEAR?**

**Over the past decades several different Indonesian governments have announced plans for the construction of one or more nuclear power stations. During those years several national and international environmental organizations (WISE included) neglected to report the proposals, certain in the knowledge that they would never be developed. Although Indonesian NGOs fighting the successive plans were supported globally, no attempts were made to raise the alarm internationally. The latest rumors however are to be taken more seriously.**

#### **(604.5579) WISE Amsterdam -**

According to a senior government official, work on the much-disputed Muria nuclear power plant (PLTN) in Jepara, Central Java, is soon to begin. Arnold Y. Soetrisanto, head of the Nuclear Energy Development Center of the National Nuclear Power Agency (BATAN) said that the agency would commence a feasibility study into the project sometime this year. "The

power plant will consist of six generator units, each capable of generating 1,000 megawatts (MW)," he said. The announcement was made following a visit from representatives of Korea Hydro Nuclear Power Co LTD on 9 February.

The project is expected to supply 7,500 megawatts for the Java-Bali transmission network. Currently, the

total base-load capacity of the national electricity company is less than 1,700 megawatt. BATAN's spokesman explained that the scheme would cost an estimated US\$12 billion and, according to the schedule, would be completed in 2016.

Building construction on the project would take around six to seven years. "We are cooperating with people

## 25 YEARS AGO

What happened 25 years ago? We go back to news from our 1979 WISE Bulletin, comparing anti-nuclear news “then” and “now”.

### Then

In *WISE Bulletin 4* we wrote about the plans for a fast breeder reactor in Japan, the Monju reactor: “nine-year old plans for Japan’s first indigenous fast breeder reactor are so strongly opposed that they are likely to remain as such. Socialist and Communist members of the prefectural assembly [Fukui], and labor unionists [...] are strongly opposed to the nuclear project. They collected signatures of 100,000 citizens opposing the project.” (*WISE Bulletin 4*, March 1979)

### Now

Despite strong protests, construction for the 246-MW reactor began in 1984 and by August of that year was connected to the grid after a decade of technical delays and costly preparations. But apparently a long operational life was not anticipated: on 8 December 1995 it was hit by a very serious accident when 3 tons of sodium coolant leaked from its cooling circuit. The possibility of a sodium leak is one of the major disadvantages of breeder reactors as sodium reacts rapidly (or even explosively) with air and water. (*WISE News Communique 444*, 15 December 1995)

The cause of the leak was found to be a defective weld of a temperature measurement tube, connected to the main coolant pipe. The welding was carried out in 1991 when the whole circuit was remodeled due to a design fault. An old tube had to be removed and replaced, causing the weak weld.

Luckily no radioactivity was released after the accident, but one official did die (by his own hand) one month later. The manager of the Power Reactor and Nuclear Fuel Development Corp. (PNC), then operator of Monju leapt from the roof of a hotel following a news conference where an extensive cover-up of Monju operators was revealed. It had appeared that plant officials took one hour before notifying authorities about the leak and that a video film of it was edited and concealed from the press and authorities. (*WISE News Communique 445*, 19 January 1996)

The current operator, the Japan Nuclear Cycle Development Institute (JNC), has always sought to restart the reactor. Maintaining it in condition for restart presently costs about 10 billion-Yen (US\$ 100 million) per year. Monju has played a key role in Japan’s nuclear fuel cycle program, including reprocessing and re-use of plutonium in breeders. Re-use of plutonium shifted to the use of MOX in other NPPs due to the shutdown of Monju. The government abandoned new breeder reactors from its 2000 long-term energy program. (*The Asahi Shimbun*, 29 January 2003; email WISE Japan, 26 February 2004)

Safety reviews for a restart and renovations began in 2001. In December 2003, the federal government approved a modification program but the time schedule is as yet unclear. Members of the Tsuruga City council are divided over the restart and the Fukui Prefecture governor still needs to decide whether he will allow the modification. There is still a process pending at the Supreme Court, following a Nagoya High Court ruling in January 2003 that nullified the original construction license of Monju. (Email WISE Japan, 26 February 2004)

Opposition to the plans continues and anti-nuclear groups, such as Stop Monju and Citizens’ Nuclear Information Center, are campaigning for a million petition signatures and have already collected more than 940,000. (*WISE News Communique 560*, 21 December 2001; email WISE Japan, 26 February 2004)

affected by the construction of the plant, we hope that they will agree with the project,” he said.

The proposal for the construction of the power plant drew strong protests from 1997 to 1998 during the New Order regime, but was never revisited during the Wahid government.

The latest developments originate from 1997 when the then Minister for Technology, Mr. Habibie, stated that the planned construction would be postponed for an uncertain amount of time. The explanation given was that “people are not ready to accept NPPs yet and there are no funds available”.

The aspirations to have a nuclear power plant go back to the early 1970s

when BATAN launched a commission to prepare for the installation. The first task was to investigate whether it would be possible to build a plant and in early 1974, before the commission released any conclusions, BATAN started looking for possible locations for the reactor.

With assistance from Italy, a feasibility study was implemented and in 1980, concluded that there were sites on the northern coast of central Java that could host a plant. Two years later the commission officially announced that nuclear power stations were not economically viable for Indonesia. The decision was clear in itself but BATAN persisted in its efforts to convince the public to believe in nuclear power.

The government in 1989 published guidelines outlining the activities to be undertaken in order to begin preparatory work for the construction of one nuclear power station. At the same time a team was set up to carry out ‘social marketing’ on the issue. The team included representatives from all ministries, BATAN, the national electricity company and the Independent Environmental Monitoring Board. The provincial policy department and the military command for Java were also part of the team.

Small teams of ‘juru penerang or ‘explainers’ were sent to educate schools, government officials, women’s organizations and the general public on the alleged benefits.

Seminars, photo exhibitions, newsletters, films and festivals were targeted. Promotional materials featuring images of happy children playing around a nuclear power station were displayed and the teams were instructed not to allow groups rejecting nuclear power to provoke a negative reaction.

The first-ever questionnaire sponsored by WAHLI (Friends of the Earth Indonesia and umbrella organization for local environmental groups) showed that 77.5% of the population of Central Java rejected the idea for an Indonesian nuclear power station.

At the end of 1990 the government issued an open tender inviting interested parties to bid for the feasibility study. Four international consortia offered their services, all the usual suspects; Bechtel (USA), Canatome (Canada), NewJec (a subsidiary of Mitsubitshi Heavy Industries, Japan) and Sofratome (France).

With support from the Japanese credit agencies, NewJec won the bidding process and by the end of 1993 submitted its study proposing two locations in the Muria Peninsula region (Central Java) as sites for the power plants. BATAN claimed that the stations would be financed with foreign loans, without offering any specific details.

Thus far, Australia, Japan and the IAEA have come out as the main supporters of Indonesian government efforts. This support includes aid in the fields of human resource development (training), uranium exploration, rad-waste management and sponsoring regional bodies involved in pro-nuclear propaganda – e.g. the International Conference on Nuclear Cooperation in Asia and the Conference on Nuclear Safety in Asia.

The anti-nuclear struggle in Indonesia is inherently connected with the democracy movement. Indonesia has

long suffered under dictatorships and even now democracy is not quite what it is supposed to be. When the government in 1997 again shelved the plans for nuclear power stations most groups in the environmental movement switched their focus to other issues. But, with the recent developments many (former) activists are slowly realizing that BATAN appears to be making fresh attempts to secure a nuclear power plant for Indonesia.

WISE, together with Asian allies, is in the process of organizing international solidarity for our friends Indonesia. Please contact us if you wish to be involved.

**Sources:** *The Nuclear Fix, A guide to nuclear activities in the Third World*, WISE, 1982; No Nukes Asia Forum country report, 1998; *The Jakarta Post*, 10 February, 2004; *Kompas Daily*, 10 February, 2004

**Contact:** WISE Amsterdam

## **NEW CANCER CLUSTER DISCOVERED NEAR SELLAFIELD**

**In 1983, Yorkshire Television revealed the existence of the now notorious cluster of childhood leukemia at Seascale near Sellafield, the British nuclear reprocessing plant, in the program “Windscale, the Nuclear Laundry”. The ensuing political storm resulted in the Black Committee, whose report recommended a new committee - COMARE (Committee on Medical Aspects of Radiation in the Environment). Now a researcher from the independent Welsh television station HTV has found another cluster around the radioactively contaminated Menai Strait that lies between the island of Anglesey and north Wales.**

**(604.5580) Low Level Radiation Campaign** - The new cluster is thought to be more severe than Seascale and with far greater statistical strength. Like Yorkshire Television, HTV identified the children involved and interviewed them and their parents for a documentary broadcast on the Welsh language channel S4C on 10 February. The investigation resulted in the identification of 43 children, all from the area surrounding the Menai Straits, suffering from cancer. It is assumed however that these cases do not represent the entire number of children suffering.

HTV researchers independently gathered information on the relevant

cases from interviews and snowball sampling.

In the seaside town of Caernarfon, leukemia in the 0 – 14-year old age group is 28 times the UK’s national average (compared with Seascale’s 12-fold excess). The excessive risk is not confined to the town of Caernarfon. In the 34 local administrative areas surrounding the Menai Strait there were 6 cases of leukemia in the 0-4 age group between 2000-2003, a Relative Risk (RR) of 7.8. Between 1996 and 2003 there were 9 cases of brain and spinal cancer (RR = 5.4). The cancers include 3 cases (all teenagers) of the rare eye cancer retinoblastoma on Anglesey. In another seaside town, Conwy, there

are two further cases, both children under ten years old. Caernarfon has a further case, a child born in 1999 and diagnosed at age 3. Retinoblastoma has been associated with radioactivity since a 20-fold excess of retinoblastoma in children of Sellafield workers accompanied the Seascale cluster of leukemia.

The relative risks of retinoblastoma according to the HTV research are uncertain because so far only of the diagnosis date for one case is available, but a conservative calculation shows that excess risks for the area, compared with average rates, is between 5 and 15-times (this covers separate calculations for Anglesey and

the entire county of Gwynedd). The statistical significance of all the results is high, so this is not a chance occurrence.

The results confirm the existence of an effect identified in 2000 by Green Audit in a three-year study on cancer in Wales. The study, which used data from the Wales Cancer Registry data from 1974-89, was supported by the Ireland and found excessive rates of cancer in adults and children living within one kilometer of the coast of north Wales.

The report particularly identified the coastal towns of Caernarfon and Bangor as having high levels of childhood cancer (up to 11-fold increase). One possible explanation for the increase in cancers along the coast was the sea to land transfers of radioactive particles inhaled by inhabitants.

In political and legal terms the discovery of the Menai Strait findings last month are highly significant. COMARE has investigated the Seascale cluster and has repeatedly advised that on "current knowledge" of the relationship between radiation and leukemia, the dosage levels local people were exposed to should not have caused so many cases.

However, the "current knowledge" which COMARE cited is the models used by the International Commission

on Radiological Protection (ICRP), and these have been widely criticized for being too reliant on studies of the effects of acute high dose external radiation.

In January 2002, the European Committee on Radiation Risk ([www.euradcom.org](http://www.euradcom.org)) published advice that modifies the ICRP model to correct shortcomings in respect of low dose exposure. The ECRR has addressed a number of types of exposure where the main hazard is internal radiation from inhaled or ingested particles. New weighting factors address specific hazards from isotopes with sequential decay pathways, hot and warm particles isotopes which bind to DNA, and isotopes that change their chemical nature upon radioactive decay. Such exposures are radically different from acute high dose external radiation. (See also *WISE/NIRS Nuclear Monitor* 583.5494: "ECRR report challenges entrenched radiation assumptions")

The final report of a new UK Government committee, the Committee Examining Radiation Risk from Internal Emitters (CERRIE), is expected this year. CERRIE was set up in 2001 in an attempt to resolve the outstanding scientific disagreements in this area, including newly described effects such as genomic instability (or at least to explain the disagreements in language that policy makers can understand).

The discovery of the new cancer cluster in Wales only serves to increase the uncertainty about the degree of health hazard from radioactivity in the environment. It also adds to the wide range of observable effects that ICRP cannot account for; other examples are the increase in childhood leukemia at the time of above-ground weapons testing in the 1950s and '60s; the sharp peak in infant leukemia after Chernobyl; many localized clusters including Seascale itself, the other reprocessing plants and nuclear power stations; and a wide range of diseases following the exposure of soldiers and civilians to depleted uranium dust.

The basic message is that the Menai cluster is an extremely significant piece of evidence suggesting that it was unwise for COMARE to rely on ICRP's advice to deny a causal link between radioactivity and the Seascale cluster.

[A more detailed report with a statistical analysis, made by PhD. Chris Busby for HTV, can be found at [www.llrc.org/health/subtopic/menai.pdf](http://www.llrc.org/health/subtopic/menai.pdf)]

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## BUSH WAR ON PROLIFERATION

**In what was regarded by some as a significant move, and by others as an election ploy, President Bush on 11 February laid out proposals ranging from changes to the Non-Proliferation Treaty (NPT), coordinated international action to curb nuclear proliferation and internationalization of fuel cycle commerce during a speech at the National Defense University in Washington.**

**(604.5581) WISE Amsterdam** – In light of the continued discoveries in the area of proliferation, enrichment technology and boosted by recent 'victories' with Libya and Iran, the Bush administration has for the past months been pushing its proposals for halting enrichment and reprocessing around the world. *Around* being the operative word because, of course, the proposals made will refer to every country **but** the U.S. – and maybe

some of its closest allies, if they behave.

Bush urged that the Nuclear Suppliers Group (NSG) refrain from supplying "sensitive technologies" to "any state that does not already possess full-scale, functioning enrichment and reprocessing plants" because "enrichment and reprocessing are not necessary for nations seeking to harness nuclear energy for peaceful purposes".

Furthermore, only states that have signed on to the IAEA's Additional Protocol, a legal document that grants the IAEA expanded rights of access to sites and information, should be eligible for nuclear exports.

It is unclear how this will affect the status of Japan, which continues with the construction of a reprocessing plant that will produce plutonium for use as nuclear fuel despite the fact that

it has a long-standing and guaranteed supply of nuclear fuel from the U.S. Given that Japan is a sworn non-nuclear weapons state, it will be interesting to see how its weapons potential can be reconciled with these proposals.

Along with demands for stronger international treaties and calls for the IAEA to limit the number of countries allowed to produce nuclear fuel, Bush bemoaned the nuclear watchdog's operational procedures stating that countries (like Iran, for example) suspected of breaking the rules should not be allowed to sit on the committees (or the IAEA Board) enforcing said rules. Bush did however concede that those in need of fuel for civilian reactors should be ensured reliable access to fuel at a reasonable price – as long as they renounce enrichment and reprocessing.

According to these proposals the Proliferation Security Initiative (PSI) formed by Bush in May 2003 to track, stop and search suspect shipments, should be further expanded and have its powers broadened. It further suggests more cooperation between military and intelligence agencies as well as a role for Interpol. An expansion of the program currently operating in former Soviet states whereby scientists (from countries like Libya) are given other work or financial incentives to dissuade them from selling their services to the highest bidder is also included in the proposals.

In an opinion piece for the *New York Times* on 12 February, IAEA chief Mohamed ElBaradei agreed that new measures are required to strengthen the NPT, which he said “must be tailored to fit 21st century realities”, and also advocated linking supply to the adoption of the Additional Protocol. Despite this, neither ElBaradei nor Bush has called for the amendment of the NPT, a process viewed as overly complicated. One major issue with the treaty is the loophole that enables states to legally accumulate enriched uranium and reprocessed plutonium for supposedly

“peaceful” use and then withdraw from the treaty (giving three months notice) with the ability to produce weapons at short notice. An across-the-board ban on the production of both could help plug this loophole.

ElBaradei did speak to the treaty's withdrawal clause, which he says should be altered to ensure that no country could withdraw without prompting an automatic review by the U.N. Security Council. In the U.S. plans, countries withdrawing from the NPT or refusing to sign the Additional Protocol could have their weapons programs dismantled – Pakistan, India, Israel and North Korea would fall under this category.

**The “National Security Exclusion” clause would prohibit IAEA inspection of all U.S. nuclear weapons activities and inspections of civil nuclear sites.**

Six-party talks are currently under way in Beijing in an attempt to resolve the nuclear stand off between the U.S. and North Korea – if all goes well beyond expectations, North Korea could be persuaded to return to the fold. Israel has, of course, never acknowledged its nuclear programs but there is overwhelming anecdotal evidence that it does possess them – will the U.S. insert a special clause to protect Israel from the prying eyes of the IAEA?

What of Pakistan, a country whose leading scientist (but not government or military) has been found guilty of (and pardoned for) selling nuclear technology? Nowhere in his speech did Bush suggest action against Pakistan nor did he call for international inspections of its nuclear facilities or an independent inquiry into the activities of Dr. Khan. (See also *WISE/NIRS Nuclear Monitor* 602.5573 “Proliferation: focus on enrichment issues” and 603.5575 “Khan: the Dutch Connection”) Pakistan's support of the “War on Terror” appears to have bought it special consideration and a get-out-of-jail-free card but there is no

doubt that others could not expect similar treatment.

Further, ElBaradei wants the IAEA to be allowed to inspect nuclear facilities in all countries, even those on the U.N. Security Council recognized as nuclear weapons states. This point is of particular interest given that despite asking Senate to ratify the Additional Protocol, the Bush administration has inserted a clause into its proposals that would make ratification seemingly pointless. The Protocol is essentially a monitoring agreement designed to prevent nuclear weapons proliferation and demands that signatories make available (to IAEA) documents and materials pertaining to its nuclear capabilities as well as allowing short-notice inspections of nuclear facilities.

The clause in the U.S. proposals, the “National Security Exclusion” would prohibit IAEA inspection of all U.S. nuclear weapons activities and inspections of civil nuclear sites. In addition to this, there is also a “Managed Access” clause that stipulates that the U.S. could “without explanation” reserve the right to make “full and repeated use” of the National Security Exclusion to bar IAEA access to any site and the IAEA would have “no right to challenge or question” such action.

Furthermore, private American companies could object to inspections unless subject to administrative search warrants “consistent with the Fourth Amendment”. The Fourth Amendment refers to search and seizure and the right of people to protect themselves, their property and possessions against unreasonable searches and seizure. How the Bush administration plans to reconcile these clauses with their own calls for change is beyond understanding.

Both Bush and ElBaradei have made some valid points – in fact they would now appear to be echoing calls made over the years by much of the anti-nuclear community. The IAEA chief in addition to agreeing with much of the U.S. proposals urged that the world begin looking at the root cause,

insecurity. He went on to make the point that the dangerous perception that the nuclear option is morally reprehensible for some countries to explore while being morally acceptable for others to rely upon for security was outdated and in need of review. ElBaradei went on to call for the establishment of a "road map" for disarmament starting with a major reduction of the 30,000 warheads already in existence.

Another sticking point not addressed by President Bush in his speech is how to deal with the issue of Article IV of the NPT. Article IV requires that signatories (to the NPT) work towards complete nuclear disarmament and yet the U.S. continues to make plans for a new generation of nuclear weapons. Again, it would appear that Bush

government policy is calling for (and at times insisting on) sacrifices from other countries that it is not willing to make itself.

Paul Leventhal, founding president of the Nuclear Control Institute (NCI), responded to U.S. proposals commending the administration on its sentiments but criticizing the plans as too limited and discriminatory. He makes the 'radical' suggestion that such rules should apply across the board to halt all production and use of weapons-grade nuclear fuels in all civilian programs instead of ignoring the continued abuses of advanced weapons states. Since neither bomb-grade uranium nor separated plutonium is essential for civilian nuclear fuel, they should be prohibited under the existing terms of the NPT.

Leventhal also calls for U.S. abandonment of plans to introduce plutonium (from warheads as per the mutual agreement with Russia on the disposition of weapons excess for use in MOX) as fuel in nuclear power plants. The U.S. should also accelerate the process of blending down excess high-enriched uranium into low-enriched uranium for use as reactor fuel in order to set a positive example to the rest of the world.

**Sources:** Statement of Paul Leventhal, 12 February 2004; BBC News, 12 February 2004; *NuclearFuel*, 16 February 2004; *USAToday*, 18 February 2004; *Baltimore Sun*, 18 February 2004; *The Straits Times*, 25 February 2004

**Contact:** WISE Amsterdam

## LENINGRAD NPP FLOUTS SAFETY AND LEGAL RULES

**The Environmental Rights Center, Bellona, in January released a scathing report on the state of the Leningrad Nuclear Power Plant (LNPP) by 27-year veteran plant worker-turned whistleblower, sacked in 2000 for his tireless efforts to expose the crumbling state of the plant, which runs four fatally flawed Chernobyl-style RBMK-1000 reactors.**

**(604.5582) Bellona Foundation** - The LNPP located a mere 70 kilometers west of St Petersburg's five million citizens in the town of Sosnovy Bor, remains an information black hole for those seeking information about its activities, the state of its reactors (some of which have long surpassed their engineering life span), the waste that it routinely pours into the Gulf of Finland, and other radioactive industries that run on its territory.

With the publication of this report, entitled "The Leningrad Nuclear Power Plant as a Mirror of Atomic Energy in Russia," by Sergei Kharitonov, many questions are answered, and yet more raised.

### **30 years of engineered life span**

Last December, the LNPP celebrated its 30th year of service with much pomp and circumstance and enumerated its accomplishments. Its operators reveled in memories of the furious pace at which the plant's first

reactor was built, "on the spongy, swampy shores of the Gulf of Finland" in time for 1973's Energy Day holiday.

They trumpeted their own horns about how the LNPP is the primary source of electricity Russia's north western region, supplying some 50% of St Petersburg and the Leningrad region's energy. Kharitonov's report is a response to those victorious revelries.

The 30th anniversary also marked the engineered life span of the plant's first reactor, which in the opinions of its development engineers and builders should signal its closure and removal from the grid.

The Ministry of Atomic Energy (Minatom) however plans to extend the LNPP's decaying reactors' service periods by another five to 15 years causing alarm amongst the environmentally-minded public and raising a host of disturbing questions as to how and why this decision was made - does

Minatom lack funds for decommissioning?

The LNPP's No. 1 power bloc operates a first generation RBMK-1000 reactor, the same type of fatally flawed reactor that exploded at Chernobyl in 1986. In fact, the LNPP's No 1 reactor is even older than the one that caused humanity's worst nuclear accident to date. It was precisely the RBMK-1000 reactor that Igor Kurchatov, the father of Russian nuclear science, was referring to when he said "we say 'atomic energy,' but imply atomic bomb, we say 'peaceful atomic energy' and imply nuclear submarines."

Currently, the LNPP's No. 1 bloc is undergoing modernization and repairs that are expected to finish this summer. Its operators will then apply to Gosatomnadzor (GAN), Russia's nuclear regulatory agency, for a license to extend the reactor's life span. Conjecture would indicate that, as a result of recent management reshuffles

at GAN that have put former Minatom brass in charge, obtaining the license will not be difficult.

Late last year, the government retired GAN's former chief, Yury Vishnevsky although he was to serve another five years at the agency's helm. Vishnevsky had guided GAN through the democratic reforms of the early 1990s, and for a decade had resisted, mostly unsuccessfully, Minatom's efforts to sideline GAN. Andrei Malyshev, appointed straight from the ranks of first deputy minister of Minatom, is his replacement.

Then two weeks ago, Malyshev retired Alexander Dmitriyev, one of the world's foremost authorities on plutonium disposition, just weeks

before he was due to leave his post this March. In Dmitriyev's place, Malyshev appointed Valery Bezzubtsev, formerly a department head at Minatom. Other reshuffles in GAN's offices throughout Russia are taking place.

The legal criteria that guides GAN as it considers granting extension licenses, the Russian law "On the Use of Atomic Energy", does not contain any language on the engineering life-spans of NPPs. According to the law, it is not important how long a NPP works for as long as it works safely and without safety violations.

"According to the information on hand, including that collected by Kharitonov, violations at LNPP are the usual practice," said former GAN

inspector and respected Russian environmentalist, Vladimir Kuznetsov in an interview with Bellona Web.

In May 2000, reactor No.1 was shut down because a piece of rubber had been left in the passageway through which nuclear fuel is put into the reactor. The replacement of radiation detectors on reactor bloc No.3 led to its shut down because the replacements used were old rather than new.

In late 2003, so-called servo motor units purchased through a middleman at prices inflated to five times the market value were later stolen from the plant. Each one of these violations and incidents could lead to unimaginable consequences for the 63,000 residents of Sosnovy Bor, the five million in St Petersburg and for Northwest Russia in general. Data on these violations and incidents at the LNPP are documented in Kharitonov's newly released report.

#### **Sergei Kharitonov**

The report's author worked at LNPP from 1973 until 2000 as an operator of the spent nuclear fuel storage unit. He was also a liquidator at Chernobyl and was honored for his work at both facilities. He is also an environmental activist, who was harassed at the plant, resulting in his eventual firing for his outspoken critiques of the plant's violations and oversights and his commitment to working according to the book.

Please note that this article has been edited but can be found in full at [www.bellona.org](http://www.bellona.org). The report, in Russian, is also on the website (English translation available soon).

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### **ANTI-NUCLEAR TOUR DE FRANCE 24 APRIL – 23 MAY 2004**

This spring, people from several European countries will travel in convoy through France in efforts to provide information on nuclear energy, its dangers and of the possibilities and advantages of renewable energy. The launch of the tour is scheduled for the weekend before Chernobyl day (26 April) when a colorful demonstration will hit the streets of Brussels.

The tour de France is organized by the French network, Sortir du Nucleaire and is endorsed by international networks like as Greenpeace, WISE/NIRS and Friends of the Earth. The planned route will pass through Alsace, Lorraine, Bourgogne, Rhône valley, Bretagne and Normandie.

#### **Plan de tour**

\* People from various European countries will follow the route with an itinerary illustrating the nuclear power chain (research, enrichment, nuclear power stations, reprocessing, transportation, radioactive waste storage etc) and will have the opportunity to visit and learn about sustainable development projects and alternatives.

\* Short theatrical and/or musical spectacles will be performed close to the site of the day (nuclear or renewable) and welcoming groups (local and regional) will provide information on their campaign-work and give an overview of their situation.

\* Participants march the last 2-3 kilometers to the nearest city where there will be a more extensive program of events including exhibitions, film, theater spectacles and music, in order to inform the citizens.

\* During the whole tour, the group will prepare banners, posters, music performances to be used at the last day of the tour when a large demonstration will be held at a yet to be determined location.

Given the technical limitations, it is no longer possible to join the entire tour but there are many ways of getting involved.

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# IN BRIEF

**Taiwan: Buan residents vote against waste plans.** On 14 February, the citizens of Buan County voted in a referendum on the plans for a nuclear waste site on Wido Islet. 91.83% were opposed to the plans and just 5.71% voted in favor (turnout of 72.04%). Voting on Wido Islet District itself was impossible because opponents of the referendum seized the voting station.  
**The Chosun Ilbo, 15 February 2004**

**New credits for K2R4?** The Ukraine government says it has reached an agreement with the European Bank for Reconstruction & Development (EBRD) on a Euro 160 million (US\$ 205 million) credit for the completion of the Khmelnytsky-2 and Rivno-4 (K2R4) reactors. The money will be spent on modernization of safety systems in the reactors that should open in August and October 2004. The EBRD board of directors will decide on the credit in May. Three months ago, the EBRD called for expressions of interest to undertake new EIAs for completion (see WISE/NIRS Nuclear Monitor 601.5565: "Ukrainian nuclear gravy train set to continue"). In 2001, Ukraine withdraw a proposal worth Euro 250 million (US\$315 million) to the EBRD stating that the bank's conditions were too stringent. The Ukraine recently had talks with JP Morgan investment bank to discuss other funding from international capital markets. Ukraine also expects a US\$ 44 million credit from the Russian government.  
**Nucleonics Week, 26 February 2004**

**Plutonium work at Hanford completed.** The completion of the project brings to a close 55 years of history at the heavily guarded Plutonium Finishing Plant (PFP) in central Hanford. Since 1949, the PFP plant turned plutonium produced in nuclear reactors into metal buttons the size of hockey pucks for shipment to the nation's weapons production facilities and produced more plutonium buttons for use in nuclear weapons than any other plant in the United States. Work abruptly stopped

at the plant at the end of the Cold War in 1989. Around 19.8 tons of material containing plutonium was left in various forms and stages of production. A chemical separation process was used to turn the liquid plutonium into oxide solids. In 2003, workers finished the second part of the project packing residues into shielded drums. Some of the drums were transported to New Mexico for permanent storage. Plutonium remaining was packed into three-layered stainless steel containers and been welded shut. With plutonium stabilization finished, Hanford must still eliminate two other urgent risks. Hanford workers must convert highly radioactive waste stored in underground tanks into safer forms and clean up and remove spent nuclear fuel from Hanford's production years.  
**Try-City Herald, Washington, 18 February 2004**

**UK DTI incompetent and irresponsible.** The U.K. government's auditing watchdog, the National Audit Office, has called the Department of Trade and Industry (DTI) incompetent and irresponsible in its handling of British Energy (BE) following its privatization eight years ago. While DTI identified the risks of leaving BE with major liabilities for reprocessing spent fuel, it then changed the electricity market without evaluating the impact of that on BE or monitoring the effects. The auditor pointed out that BE's nuclear stations make an important contribution to security of supply and DTI was in a position to relieve the fixed cost burden to enable them to compete.  
**WNA News Briefing 18-24 February 2004**

**Tepco seeks OK to store nuke waste at Mutsu.** On 18 February, the president of Tokyo Electric Power Co. sought permission from Aomori Prefecture to set up the nation's first interim storage facility for spent fuel in the city of Mutsu by 2010. Aomori Governor said the prefecture would first examine safety at the reprocessing plant now under construction in Rokkasho before

giving the go-ahead. Interim storage facilities are planned to store spent nuclear fuel until it is reprocessed. Mutsu mayor Masashi Sugiyama announced plans in June to allow the project. According to Tepco, the facility will store about 5,000 tons of spent nuclear fuel for 50 years.  
**The Japan Times, 19 February 2004**

**Besse shutdown costs millions.** U.S. utility FirstEnergy Corp. earned about US\$130 million less in 2003 than 2002, largely due to the continuing costs of the shutdown at the Davis-Besse NPP. The company released its earnings on 19 February and called for the Nuclear Regulatory Commission to approve its request to restart within one or two weeks. Between 16 February 2002, when the plant was shut down, and the end of 2003, the company spent about US\$607 million repairing Davis-Besse and buying replacement power. Repair costs came to US\$291 million. Power purchases totaled US\$316 million.  
**The Plain Dealer, 20 February 2004**

**Yucca Mountain design flawed, expert says.** The U.S. nuclear waste dump proposed for Nevada is poorly designed and could leak highly radioactive waste, according to a scientist who recently resigned from the Nuclear Waste Technical Review Board, a federal panel of experts on Yucca Mountain. Paul Craig, a physicist and engineering professor at the University of California-Davis, said he quit the panel in January so he could speak more freely about the waste dump's dangers. The waste storage canisters are made with a metal called Alloy-22, an upscale version of stainless steel and corrode if used for high temperature liquids, resulting in leakage of nuclear waste. Details can be found in the board's November 2003 report. The DOE is preparing a formal response.  
**The Associated Press, 20 February 2004**

**Fire at Hamaoka plant in Japan.** A facility at the Hamaoka NPP in central Japan's Shizuoka Prefecture, about 100

miles southwest of Tokyo, caught fire on 21 February. According to Kyodo News, the fire occurred on the roof of a turbine building at the number 2 reactor and was completely extinguished about 50 minutes later. The fire burned part of a rubber waterproofing wall in the turbine building and reportedly broke out when an inspector tried to remove hydrogen gas from the turbine building in order to prepare the reactor for shut down prior to inspections. According to the prefectural government of Shizuoka, the reactor had already been shut down when the fire broke out.  
**Guardian Unlimited & People's Daily, 21 February 2004**

**Australian States in the dark over nuclear-dump fee.** State governments have not been told they will be charged a fee to dispose of radioactive waste at a proposed national dump that Science Minister Peter McGauran wants open before the end of 2004. According to McGauran, the commonwealth will charge AU\$ 1000 (US\$ 770) per cubic meter of packaged low-level radioactive waste for underground storage at a site east of Woomera, about 500km north of Adelaide but the states were unaware of this. The Science Minister said each state would pay for the packaging and storage of its own waste. The Queensland government wants an explanation from the commonwealth over the AU\$ 45,000 (US\$ 34,000) fee it will be billed for its share. The South Australian government, which has attempted to stall the dump with political and legal obstacles, says it had not been told what the waste packaging and acceptance criteria were and would not meet Mr. McGauran's deadline. Victoria and Tasmania are considering using the dump but remain unsure how they will budget for the costs of packaging, transporting and storing the waste.  
**The Australian, 21 February 2004**

**Protesters voice opposition to Australian waste dump.** In Adelaide, a two-day public forum chaired by

Australian Radiation Protection and Nuclear Safety Agency (APRANSA) head John Loy drew a crowd of protesters opposed to the Federal Government's proposed radioactive waste dump. The future of the dump near Woomera in South Australia was debated while outside aboriginal protesters made their presence known, waving placards and delivering emotional speeches. South Australian Environment Minister John Hill spoke against the project and said the will of the people and the decisions of Parliament are being crushed with callous disregard by the Prime Minister and his Cabinet. John Loy must decide whether to grant the project a license. The Australian Democrats told the forum that the planned dump would be near the same fault line that rocked Adelaide with a major earthquake in 1954.  
**Australian Broadcasting Corporation, 25 February 2004; The Age, 26 February 2004**

**U.S. plutonium plant will be completed on time.** U.S. Energy Secretary Spencer Abraham says a 10-month delay in construction has not changed the schedule for a new MOX fuel plant at the Savannah River Site (SRS). Abraham had written the House Armed Services Committee, saying the plant will be completed in 2009. Abraham's letter was required under a bill that states the federal government must remove plutonium from the SRS if the MOX plant is not built. The law includes fines of up to US\$100 million a year if the plutonium is not removed. The DOE said in February that the MOX plant would be delayed because of a liability dispute involving American contractors working on a similar plant in Russia.  
**The Associated Press, 24 February 2004**

**UK to give Russia loan to save nuclear subs.** The British government granted Russia a US\$21.5 million loan to scrap two nuclear submarines. Minister for Trade & Industry, Nigel Griffiths supervising the project said the subs with tonnage of 12,000 were already being scrapped and is to be completed

by autumn. According to Griffiths, the UK and its G-8 partners are cooperating to get rid of the Cold War threats.  
**Pravda, 24 February 2004**

**Ukrainian border guards stop uranium smuggler.** Ukrainian border guards stopped a man trying to take uranium into Hungary on 24 February. The guards arrested the driver of a passenger vehicle at the Tisa checkpoint after finding a container containing some 400 grams of uranium. It is unclear whether the uranium was in natural form or had been enriched for potential use in reactors or weapons. The material was sent to Kiev for analysis. The arrested man told officials he was paid a sum of money by men near the border to take the material to Hungary for use at a dentist's office. Interior Minister Mykhailo Manin said on 25 February that the smuggler was a former Soviet intelligence agent.  
**The Moscow Times, 25 February 2004; Interfax, 26 February 2004**

**Exelon questioned on decommissioning funds.** A government report questions whether Exelon Corp. is setting aside enough money to clean up its Illinois nuclear plants when they shut down. The General Accounting Office (GAO), an investigative agency of Congress, suggests the utility may be using overly optimistic economic forecasts in projecting how much money it will have to do such work. Exelon had about US\$2.5 billion in escrow funds earmarked for decommissioning its six Illinois nuclear plants. There are 13 nuclear reactors to be dismantled. Estimates in 2002 place the total cost of such cleanups at about US\$5 billion, although those costs are expected to rise since most sites won't be decommissioned for decades. The Nuclear Regulatory Commission said it doesn't agree with the GAO analysis. To meet GAO standards, a nuclear plant halfway through its 40-year operating license should have set aside half the estimated money needed to decommission the plant. According to Exelon spokesman Craig Nesbit every site Exelon operates is adequately

funded. Activists groups however say that the GAO is raising a valid concern that operators like Exelon may not have funds available to do the future decommissioning work.

**Chicago Sun-Times, 25 February 2004**

**Energy Department U.S. wants to withhold funds barring classification.**

The Department of Energy (DOE) wants to withhold millions of dollars earmarked for cleaning up radioactive sites until it gets the power to classify nuclear waste for storage. The department lost a bid to get Congress to change the law in 2003, and is trying to overturn a July 2003 federal court ruling that said it cannot classify radioactive waste as high- and low-level. In the budget it submitted for fiscal 2005, the DOE proposes withholding almost US\$350 million of the US\$5.9 billion it seeks for its Defense Site Acceleration Cleanup program

unless the law changes in its favor. If Congress gives the agency classification power, the agency would free US\$249 million for general operations and maintenance, US\$75 million to waste processing and other facilities at Savannah River, South Carolina, and US\$24 million to the Idaho National Engineering and Environmental Laboratory in Idaho Falls.

**Reno Gazette-Journal (The Associated Press), 25 February 2004**

**OECD Nuclear liability conventions increase compensation ceilings.** The 1960 Paris Convention and the supplementary 1963 Brussels Convention, covering liability issues for damage after nuclear accidents, was amended on 12 February. The revised Conventions will allow for an increase in the amount of compensation available to victims and extend the scope of both conventions. The

liability of a nuclear facility operator is increased to a minimum of Euro 700 million (US\$ 900 million) and must be provided by the operators' financial security, but if it fails to do so it must be provided by the installation's State from public funds. State liability is increased to Euro 500 million (US\$ 640 million) and provided from public funds. The international liability, provided by all member states, goes up to Euro 300 million (US\$ 385 million). The current total is only Euro 350 million. Under the previous scope of the conventions, only personal injury and damage to property was covered. The revision now includes economic losses, environmental clean-up, loss of income and the costs of preventive measures. The conventions have 15 contracting states, all OECD member states with nuclear facilities. **OECD/NEA press release, 10 February 2004; Nucleonics Week, 19 February 2004**

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## 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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