

# NUCLEAR MONITOR

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## THORP: SENDING WASTE TO CUSTOMERS AFTER VIRTUAL REPROCESSING

In April 2005 a INES-level 3 spillage accident led to the shut down of the Thermal Oxide reprocessing plant at Sellafield. Now, two years later, the operator is preparing Thorp for restart, but experiencing problems. The two-year outage of the Thorp facility in Sellafield, has led to a backlog of work, which the owners now hopes to relieve somewhat by proposing to send nuclear waste in advance and which would ease customers' tension over unfulfilled recycling contracts.

**(657.5806) WISE-Amsterdam** - Existing reprocessing contracts stipulate that the uranium, plutonium and wastes contained in overseas customers spent nuclear fuel when it is delivered to Sellafield, is returned to those customers once the fuel has been reprocessed at THORP. The NDA is now seeking to make the returns to overseas customers *before their spent fuel is reprocessed* - drawing materials from stocks already held at Sellafield.

The completely unheralded announcement by the NDA of the need to switch to what it has called 'Advance Allocation' of materials - known to most as 'virtual reprocessing' (where no reprocessing actually takes place), is a clear indication of the mounting pressures from THORP's extended closure following an accident in April 2005. With the plant now closed for over two years and with the likelihood that it will not re-open until Autumn this year at the earliest, overseas customers (principally from German and Swiss utilities) will be increasingly concerned about further delays in getting their material returned. They have already voiced their frustration at BNG's inability to operate THORP safely and to schedule.

Approval for virtual reprocessing is being sought by the NDA from the

Government's Department of Trade & Industry (DTI) which has already launched a six-week public consultation, advising that it is 'presently minded to endorse the NDA proposal'. The consultation document cites a worst-case scenario of THORP being unable to re-start until around 2010/11. It adds that if THORP did not re-open at all, the Government would consider keeping all un-reprocessed overseas fuel in the UK, or sending the spent fuel to another reprocessor in Europe.

With around 800 tonnes of overseas spent fuel still waiting to be reprocessed at THORP if or when it re-starts, some observers are questioning why - if virtual reprocessing is approved, the plant needs to be re-opened at all. With sufficient plutonium and other materials for customers' needs already stockpiled at Sellafield - none of the outstanding spent fuel would have to be reprocessed.

DTI approval is necessary because the government's 2002 white paper, Managing the Nuclear Legacy, requires approval from the secretary of state for any changes to existing contracts at Thorp. The NDA said: "The proposal would guarantee the availability of nuclear materials to overseas customers on a timescale that meets their needs and which best facilitates the timely

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return of waste, plutonium and uranium." The DTI consultation on the proposal runs until 26 July

In 2005 it was discovered that a small pipe had fractured within THORP in a highly radioactive cell, leaking 83,000 liters dissolved reactor fuel undetected. Because it would have been very difficult to repair the pipe, engineers

devised a new operating process which was subsequently approved by regulators the Nuclear Installations Inspectorate in January this year. According to World Nuclear News THORP operator British Nuclear Group Sellafield is preparing THORP for restart, but experiencing some problems concerning evaporators unrelated to the pipe break.

**Source:** CORE Briefing, 18 June 2007; World Nuclear News, 15 June 2007; Nuclear Monitor, 653, 19 March 2007  
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# INCREASED PROTEST AGAINST U-MINING IN INDIA

**Students organisations joined with the environmental movement in their protest against the public hearing (June 12) of the Domisiat Uranium Mining project. The opposition groups were determined to even stop the hearing by saying that "allowing or attending the hearing will tantamount to accepting the mining".**

**(657.5807) WISE Amsterdam** - The struggle against the mine has a 15-year old history. The Khasi people of Meghalaya have been fighting against the proposed Domisiat Uranium Mining (now re-named Kylleng-Pyndengsohiong Uranium Ore Mining and Processing Project) by the Uranium Corporation of India Ltd (UCIL) since the beginning of the 1990's

The proposed mine is situated in Meghalaya, in the North East of India. Citizens from all over India have started to again support the struggle recently by sending in petitions to the central and local authorities stating that "the people have rightfully pointed out the hazards of uranium mining and the uprooting of tribals and their habitats by such large projects. The recent announcement of a Public Hearing by the government of India (through the Meghalaya Pollution Control Board) is not only insensitive to the long-standing struggle of the Khasi people but also conveys the Indian government's manipulative and rather deceptive procedural process and severe lack of concern for the health of local communities and for this ecologically fragile region".

The hearings are now increasingly seen as a backdoor method to legitimise the project rather than giving democratic voice to the deep concerns and fears of the affected people and those concerned about the short and long-term impacts of radioactivity and of the nuclear option itself.

The petition also stated "we fully support the community members and civil society groups in Meghalaya that

the Public Hearing must not be held as it will just be a ploy to go ahead with the project in contravention to the legitimate concerns of a majority of people of the area. We also support the local groups because we feel that going ahead in the current climate represents a violation of the democratic rights of tribal and indigenous peoples and a serious breach of faith in the democratic process".

On June 10 the Supreme Court gave notice to the State Pollution Control Board (SPCB, the organiser of the hearing), that it failed to fulfil the legal requirement of informing the public about the actual impact of mining uranium ore under the Environment Impact Assessment (EIA) notification 2006. Supreme Court lawyer Rahul Choudhary stated "Without the public being informed about the contents of the EIA report of the project, the public hearing will be illegal." Choudhary further argued that to seek the views, comments and objections without disclosing the actual impact of the project itself would render the idea of public hearing meaningless.

On June 11, the Khasi Students Union (KSU) called for a 36-hours general strike and organised road blocks in the Meghalaya capital. Despite all the protests the hearing took place. Besides representatives of environmental and student-groups hundreds of citizens attended. According to the authorities more than 700 people attended the three-hour-long public hearing. "A majority of the people from the area opposed the proposed uranium mining on the

ground of health hazard while those who supported the project constitute only 25 percent," said a local district officer.

According to the Australian High Commissioner to India, Mr. McCarthy, Australia is said to be keen to invest in the Meghalaya project and "willing to share the technologies for safe mining".

**Sources:** The Shillong Times, 11 June 2007; The Telegraph, 8 June 2007; Zee News Limited, 21 May 2007; Email 10 (June) from South Asians Against Nukes (SAAN)

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# CANADA: TRITIUM LEVELS CANDU'S DANGEROUS

**All nuclear reactors emit tritium, a radioactive form of hydrogen that is created in nuclear reactors. Like all radioactive substances, tritium causes cancer and birth defects. Ontario's Candu nuclear reactors emit much higher levels of tritium into the air and water than other reactor types. Greenpeace Canada released a report on the hazards of tritium releases, and recommends that pregnant women and children under the age of four should not live within 10 kilometers of a Candu reactor.**

**(657.5808) WISE Amsterdam -**

Radioactive tritium is being released into the environment at the highest rates in the world by Canada's nuclear reactors - at rates 10 times higher than those allowed in the United States and 100 times higher than the level allowed in Europe. A report released by Greenpeace Canada ("*Tritium Hazard Report: Pollution and Radiation Risk from Canadian Nuclear Facilities*") recommends that pregnant women and children under the age of four should not live within 10 kilometers of a Candu nuclear reactor in light of the latest scientific concerns about this particular nuclear waste.

Greenpeace believes that the risk posed by tritium has been underestimated by the Canadian government, and are calling for a review of the latest scientific evidence on the harmful effects of tritium: "We are not alone in asking questions about tritium. In 2006 the City of Toronto Medical Officer of Health called on the Ontario government to review the health implications of allowing such high levels of tritium in drinking water. And back in 1994, Ontario's Advisory Committee on Environmental Standards (ACES) recommended that allowable tritium levels be drastically reduced. The government rejected this request and sided with Ontario Hydro, which claimed it would cost Can\$1 billion (US\$735 million or 549 million Euro) to reduce tritium by the amount requested.

The Canadian government currently allows radiation levels of up to 7000 Becquerels, or Bq per liters of water (a measure of radiation). The 1994 ACES report recommended that allowable levels be reduced immediately to 100Bq per liters and down to 20Bq/l by the end of the nineties. With the province of Ontario set to build and refurbish Can\$46 billion worth of nuclear reactors over the next few years, it is essential that the government set safety levels for nuclear

waste that are truly safe.

"By European protection standards, tritium emissions from Ontario's nuclear reactors would be considered hazardous and unacceptable" said Dr. Fairlie, an independent consultant on radiation who authored the report. "Recent scientific evidence shows tritium to be more hazardous than previously thought. Ontario should adopt a precautionary approach and act to reduce public exposures to tritium." Dr. Fairlie has degrees in chemistry and radiation biology and completed his doctoral studies at the Imperial College in London, England. He has worked with the World Health Organization, the European Parliament, and acted as advisor to several United Kingdom regulatory agencies and committees.

The June 2007 Greenpeace Canada report concludes that official attitudes on tritium are unscientific and incorrect, that tritium's hazardous nature should be fully acknowledged by radiation protection agencies in Canada, and that tritium's dose coefficient should be increased substantially.

This report on tritium releases in Canada is in two parts. Part 1 discusses tritium discharges from nuclear facilities in Canada and compares them with those from reactors in other countries. It examines the resulting tritium concentrations in drinking water, air and in food near Canadian nuclear stations. Although tritium releases from Candu facilities are very large, radiation protection regulators continue to maintain that these releases are of little concern because tritium's radiation doses and its resulting hazards are small. Part 2 examines these contentions in considerable detail. It shows that tritium's radiation "doses" are, questionably, estimated to be several hundreds of times lower than most other radioactive elements. Radiation and radioactivity (including risks, doses,

biology and epidemiology) are complex matters which are often difficult to grasp.

Therefore Part 2 is designed to be read primarily by health physicists and radiation protection scientists. However, efforts have been made to make this report more accessible to the wider public. In particular, technical terms have been explained and scientific jargon has been avoided. The report concludes that official attitudes on tritium are unscientific and incorrect, that tritium's hazardous nature should be fully acknowledged by radiation protection agencies in Canada, and that tritium's dose coefficient should be increased substantially

**Source:** the report: *Tritium Hazard Report: Pollution and Radiation Risk from Canadian Nuclear Facilities*, released by Greenpeace Canada on 12 June 2007 can be found at: <http://www.greenpeace.org/canada/en/documents-and-links/publications/tritium-hazard-report-pollu>

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Reactor type	UNSCEAR 1993 (for year 1985)	UNSCEAR 2000 (for year 1997)
HWR (Bruce 1-4, Canada)	600	660
PWR (Diablo Canyon 2, U.S.)	17	55
AGR (Hinkley Point B, U.K.)	12	18.7
BWR (Wuergassen, Germany)	2	1.6

# EMERGING NUCLEAR STATES?

As we mentioned very briefly in the last issue, Myanmar signed a contract with Russia for a nuclear research centre. Regional rival Thailand immediately responded and meanwhile if we have to believe the media-reports, it looks as if the two countries are on the brink of constructing their first nuclear power plant. According to Thailand 's Minister of Energy Amaranand the 4000MW nuclear power plant will be finished in 2020 but unclear until now is if there is a contract signed. The nuclear power plant is expected to cost 4.5 billion Euro.

(657.5809) Laka Foundation - Thailand is only one of many countries announcing to go 'the nuclear path'. It almost seems that every self-respected government announces such plans, even unlikely candidates as Nigeria or Morocco or Myanmar (see related article in this issue). It's very unlikely that even a majority of those plans will materialise for many reasons. Not the least important reason is that it is obviously harder to build a country's first as the second or third nuclear power plant. And that shows: it's been a while since a country built its first nuclear power plant, despite all those countries at one time saying they were planning to do so.

According to a June 2007 World Nuclear News factsheet ("Emerging nuclear countries") nearly twenty countries are at the moment actively considering embarking upon nuclear power programs. Italy, Portugal, Norway, Poland, Belarus, Ireland, Turkey, Iran, Gulf states, Israel, Syria, Jordan, Egypt, Tunisia, Libya, Algeria, Morocco, Nigeria, Ghana, Namibia, Azerbaijan, Georgia, Kazakhstan, Chile, Venezuela, Bangladesh, Indonesia, Vietnam, Thailand, Malaysia, Australia, New Zealand are all countries where the nuclear power option is under serious consideration (although not necessarily at government level).

According to the IAEA governments need to create the environment for investment in nuclear power, including professional regulatory regime, policies on nuclear waste management and decommissioning, and involvement with international non-proliferation and insurance arrangements. Although nuclear technology can be imported, beginning a nuclear power program requires a country to have a certain high level of native skills, robust administrative structures and a regulatory body independent of government.

## First power from first nuclear power plant

Currently there are 437 nuclear power

plants in operation in 31 (including Taiwan) countries (two countries abandoned nuclear energy and closed their reactors -Kazakhstan and Italy). Most of those countries constructed (or at least started construction of) their first nuclear power plant in the sixties or seventies of the last century.

### Date of first power:

In the 1960's (11 countries): USA ('60); UK ('62) France, Italy ('63); Russian Federation ('64); Japan ('65); Germany ('66); Canada ('67); Netherlands, Spain ('68); Switzerland ('69)  
In the 1970's (13 countries): Pakistan, Sweden ('71); India, Slovak Republic ('72); Kazakhstan ('73); Argentina, Belgium, Bulgaria ('74); Armenia ('76); Finland, Rep. Of Korea, Taiwan, Ukraine ('77)

This following table shows which countries produced nuclear energy for the first time after the 1970's. Only 9 countries did so, and if we look at countries who started construction of their first nuclear power station, we find that only China and Romania did so after the 1970's (so after the accident at Three Miles Island in March 1979)

(See table)

Except from China, all those countries have not been the growthmarket the

industry once hoped for. Far from it! Although some have a lot of ambitions - like South Africa for instance - it does not seem likely that the number of reactors in these countries will grow rapidly.

## Reactors under construction

Important question of course on this subject is to look where reactors are currently under (active) construction. According to the IAEA PRIS database 30 reactors are being built in 13 countries. There is only one country which is building its first reactor: Iran. And we all know the story of Iran. Construction of Buser started in 1975 (!) way back under the Shah when especially the US tried to sell nuclear technology (including a reprocessing facility) to its close ally in the Middle East. According to PRIS the reactor will be finished November this year, but everybody knows that is very doubtful, to say the least (see box).

**Sources:** Telegraaf (NL), 12 June 2007 / IAEA PRIS Database / World Nuclear Industry Handbook / <http://www.world-nuclear.org/info/inf102.html>

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Country	start of construction of first n-power plant	first power of first n-reactor	nr of reactors (as of June 2007)
Slovenia	3-1975	10-1981	1
Brazil	5-1971	4-1982	2
Hungary	8-1974	12-1982	4
Lithuania	5-1977	12-1983	1
South Africa	7-1976	4-1984	2
Czech Republic	1-1979	2-1985	6
Mexico	10-1976	4-1989	2
China	3-1985	12-1991	11
Romania	7-1982	7-1996	1

### Has Russian nuclear fuel arrived at Bushehr?

There is a detailed account on the internet about Russia releasing the long-withheld nuclear fuel for Iran's nuclear reactor in Bushehr: 24 hours before Israel launched its new military imaging satellite Ofeq-7, in the week before the G8 summit in Heiligendamm, Germany, According to the report (on <http://www.debka.com/article.php?aid=1281>) special nuclear containers were loaded on a train at JSC Novosibirsk Chemical Concentrates Plant on June 2-3. The train then headed to Astrakhan on the Caspian Sea, 2,000 km away where the containers were loaded aboard a Russian ship destined for Bandar Anzili, the Iranian military port on the

Caspian shore. Then, still according to the Debka website, Iranian trucks transported the nuclear fuel to Bushehr, a distance of 850km, arriving June 10 or 11. However, no other sources are confirming the shipment, and one would expect some media attention for it. To the contrary: on June 19, a press report from Malaysia (Putin pays the country a visit) is citing a Russian source close to Atomstroieksport, saying: '(Construction of the plant) is held up only by financing, and that's a political question' The source added that delivery of nuclear fuel to the plant - an event that had been slated to take place in March - was no longer being discussed. So, what's the story???

Debka-Net-Weekly, 12 June 2007 / M&C, 19 June 2007

## US: CONSENSUS REPORT DOES NOT LEAD TO CONSENSUS

**A new report *Nuclear Power Joint Fact Finding Dialogue* (published 14 June 2007) underestimates the cost of expanding nuclear capacity, overstates power plant safety and security, correctly concludes that reprocessing poses serious proliferation and terrorism risks.**

**(657.5810) WISE Amsterdam** - The report was meant to be a consensus report, sponsored by the Keystone Center and written by nuclear industry representatives, environmental and consumer advocates, academics and state officials. The "joint fact-finding" process began in March 2006 and examined a number of key issues, including waste disposal, safety and security, proliferation risks, and cost. The report received immediately mixed reviews from, amongst others, the Union of Concerned Scientists (UCS). "Before we consider expanding the capacity of nuclear power, the industry has to adequately address safety, security, waste and proliferation issues," said UCS. "There are faster, safer and significantly cheaper ways to meet our energy needs, including renewable energy sources and cogeneration technologies that produce both heat and power. Nuclear power is not a current solution for global warming."

### Underestimating costs

The Keystone participants did not agree on whether nuclear expansion is likely or not. But the panellists did reach a consensus on several points that illustrate the significant obstacles to expansion. For example, they concluded that providing a "wedge" of carbon emission reductions (a widely used measure of a meaningful contribution, equal to billion tons of carbon dioxide per year by 2050, developed by Princeton's Pacala and Socolow) would require, over the next 50 years, building about 21 new 1,000 megawatt (MW) reactors worldwide each year, plus adding as many as 22 new enrichment plants to the 17 now in existence, 18 new fuel fabrication plants to the 24 currently operating, and

10 nuclear waste repositories the size of the proposed facility at Yucca Mountain in Nevada. The United States would have to build about five of the new 21 reactors every year.

To build enough nuclear capacity to achieve the carbon reductions of a Pacala/Socolow wedge would require the industry "to return immediately to the most rapid period of growth experienced in the past (1981-90) and sustain this rate of growth for 50 years. This projection is more optimistic than indicated by the current announcements of proposed plant construction reported by the World Nuclear Association, is higher than the average historical growth rate during the industry's first 40 years". UCS experts find this scenario unlikely.

The Keystone panellists projected that the cost of nuclear power would be from 8 to 11 cents per kilowatt hour (kWh) (in 2007 dollars). By comparison, UCS experts pointed out that the average U.S. price of wind energy was 4.9 cents per kWh in 2006 (after tax credits worth about 2 cents per kWh) and is projected to cost as much as 6.3 cents per kWh in the near term due to an increase in construction costs affecting all technologies. Energy efficiency improvements, meanwhile, cost less than 4 cents per kWh.

### Overstating plant safety & security

The Keystone report's executive summary states that "commercial nuclear power plants in the [United States] are safer today than they were before the 1979 accident at Three Mile Island." "Nuclear plants are arguably safer today than they were a quarter century ago, but it remains unclear that that means

they are safe enough," said Dave Lochbaum, director of UCS's Nuclear Safety Project. A 2006 UCS report documented 47 incidences in which U.S. reactors had to be shut down for at least a year for safety reasons over the last three decades.

### UCS endorses conclusion on waste and reprocessing

UCS experts commended the Keystone panellists for endorsing direct disposal of spent fuel in "a deep underground geologic repository" and strongly agree with their finding that spent nuclear fuel reprocessing plants and other "bulk-handling facilities," as well as the large and growing civilian stockpiles of separated plutonium, pose serious risks of nuclear proliferation and nuclear terrorism.

Finally, UCS agrees with the Keystone panellists' conclusion that the Bush administration's Global Nuclear Energy Partnership (GNEP) - which would involve reprocessing spent fuel to extract weapon-usable plutonium for use in new reactor fuel - is "not a credible strategy for resolving either the radioactive waste or proliferation problem." In fact, the Keystone report states that GNEP could actually worsen the proliferation problem by encouraging research and development activities in non-nuclear weapon states that would "pose a grave proliferation risk."

**Sources:** Keystone June 2007 report: Nuclear Power Joint Fact Finding Dialogue, at [www.keystone.org](http://www.keystone.org); Press release Keystone Center, June 14, 2007; Press release Union of Concerned Scientists, June 14, 2007

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# MYANMAR: A NEW IRAN IN THE MAKING?

**Myanmar's military leaders have never made a secret of their interest in developing a domestic nuclear-energy industry. Plans to buy a nuclear reactor from Russia have been in the pipeline for years, and in May in Moscow the two sides formally resurrected those controversial plans. Is it just for 'peaceful purposes' or is the junta looking for something else? Recent contacts with N-Korea and Pakistan are not reassuring.**

**(657.5811) WISE Amsterdam -**

Washington in recent years has referred to Myanmar as an "outpost of tyranny" and maintains trade and investment sanctions against the military regime. Some political analysts are already speculating whether Myanmar might try to use the threat of re-gearing its nuclear test reactor to reproduce weapons as a way to counteract US-led pressure for political change.

Under the new agreement, Russia's atomic energy agency Rosatom will build a nuclear-research center, including a 10-megawatt light-water nuclear reactor with low-enriched uranium consisting of less than 20% uranium-235, an activation analysis laboratory, a medical isotope production laboratory, a silicon doping system, and nuclear-waste treatment and burial facilities, according to a statement released by Rosatom. The project is initially slated to focus on medical and agricultural research in support of Myanmar's languishing and highly underdeveloped economy, a Western diplomat acquainted with the nuclear plans told Asia Times Online on condition of anonymity. As part of the agreement, Russian universities would also be tasked with training an additional 350 Myanmar-national specialists to work at the planned nuclear center. Over the past six years, more than 1,000 Myanmar scientists, technicians and military personnel have received nuclear training in Russia, according to Myanmar government officials. Under a 2002 agreement, Russia was set to build a nuclear reactor in Myanmar but later scrapped the plan over the junta's lack of funds.

According to Russian officials, the construction and supervision of the planned research center will come under the control of the IAEA. Myanmar is currently a member of the IAEA and already reportedly has a so-called "safeguards agreement" in place. Under the nuclear Non- Proliferation Treaty (NPT), states in compliance with their safeguards' obligations and other

provisions are allowed to pursue nuclear energy or technology solely for peaceful purposes.

In recent years, Myanmar has sent emissaries abroad to explore different options for developing a nuclear reactor and avenues for acquiring nuclear technology, according to Western diplomats tracking the junta's nuclear plans. They contend that this year Deputy Foreign Minister Kyaw Too made a low-profile visit to Iran in the regime's search for nuclear technology and materials.

Myanmar's close contacts with Pakistan have also recently come under diplomatic scrutiny. Western diplomats based in Islamabad say they are convinced that the junta's desire to acquire nuclear know-how has been a central focus of the budding bilateral relationship. Pakistani officials have fervently denied that they are in any way abetting Myanmar's nuclear ambitions. But widespread rumors that two Pakistani nuclear scientists accused of nuclear proliferation were given sanctuary in Myanmar in 2003 still linger.

More ominous have been the growing contacts between Myanmar and North Korea - in April month the countries formally re-established diplomatic relations. According to a US State Department official involved in monitoring nuclear-proliferation issues, several suspicious shipments have arrived from North Korea over the past six months.

Sources say that at the same time the junta presses ahead with its plans for a nuclear reactor, the government has stepped up its exploration for uranium in the country. Surveys and test mining are taking place at four sites, including in the ethnic Kachin and Shan states, a government official told Asia Times Online on condition of anonymity. In 2002, at the time the original plans for a nuclear reactor were mooted, the government had reportedly discovered uranium deposits in five areas in central and northern Myanmar.

Dissidents and exile groups have said in the past that Yangon might embark on a weapons programme, but analysts say there is no evidence yet to back that up. "Few objective observers question the ruthlessness of the military government in Rangoon or its determination to cling to power," an Australian analyst, Selth, writes, but adding that a weapon aim at this moment is very unlikely. Even if the generals had the political will to pursue a weapons programme, the technical and resource hurdles "would constitute formidable obstacles", Selth said. In fact, some analysts believe the generals' desire for their own reactor is more about status and prestige.

Neighbor and historical foe Thailand was not worried about a reactor in Myanmar "as long as it is under the close supervision of the IAEA", Foreign Ministry spokesman Piriya Khempon said. "Other countries in the region, namely Indonesia, Vietnam and Thailand, have research units and they are all under the supervision of the IAEA," he said. But Thailand immediately responded: according to Minister of Energy Amaranand a 4000MW nuclear power plant will be constructed and is planned to go online in 2020 but unclear until now is if there is a contract signed. The nuclear power plant is expected to cost 4.5 billion Euro (US\$6 billion).

**Sources:** Asia Times, 24 May, / Dawn (internet) edition, 17 May 2007

# COMBATING NUCLEAR POWER DEVELOPMENT IN BELARUS

## Anti-nuclear activists meet during the Belarussian Social Forum

**In Belarus, nuclear energy is a very sensitive issue. The Chernobyl disaster in 1986 had grave consequences for the Belarussian population, which are felt up till now. There are no nuclear power plants in Belarus. However, the authoritarian regime of president Lukashenko has announced plans to build one. At the same time, its cutting on the support for victims Chernobyl. Anti-nuclear activists are starting a campaign to fight against this.**

**(657.5812) EYFA** - As announced in the Nuclear Monitor 654 (20 April 2007) from May 15-20 the Belarussian Social Forum (BSF) took place outside Minsk, Belarus. About 150 Belarussian and international activists met to exchange knowledge and strategies. The repressive regime is very intolerant of any political dissent. Political meetings of any kind that include foreigners are illegal. Therefore such meetings rarely take place, and are a political action in itself. The BSF provided a unique venue to discuss political alternatives and activist initiatives within Belarus. A diverse range of topics was discussed, like alternative media, ecology, globalisation and anarchism. Anti-nuclear activists attended the BSF to give a workshop and discuss the development of their anti-nuclear campaign. This article is based on interviews with them.

### **A power plant in Belarus?**

There are no nuclear power plants in Belarus. Since 1996 a national moratorium prevented the building of nuclear power stations, but with an expiry date after 10 years. Now that this building-ban has expired, President Lukashenko announced in December 2006 his plans to build a nuclear power plant. The plan includes grand promises of job stimulation, economic growth and energy security.

The process is in its very early stages. Currently the government is trying to find a company to build a nuclear plant. The exact location is still to be determined. The new plant will cost between 3-5 million USD. Belarus is financially unable to carry out such a project. Moreover, there is no educated sector in Belarus trained to build and operate a nuclear power plant independently. Therefore, the government is looking for a company

who can lend money, invest in the project and also provide technologies and equipment to build the plant. So far the leading competitors for building are France and Russia.

Activists are also quick to criticize the claims of government that nuclear power in Belarus will bring energy independence to the country, especially the suggestion it will let Belarus be more independent from Russia. Belarus has no uranium, so it would have to be imported, possibly from Russia. Moreover, Russia might be chosen as the investor in the nuclear project, again reinforcing the energy dependency on Russia

### **Annual Chernobyl march**

Most Belarussians remember the Chernobyl disaster, and many of them are still affected by it. This influences their opinion greatly. Since the 1990s there is an annual march in memory of Chernobyl, organized by the national-liberal political opposition. It takes place on the anniversary of Chernobyl, April 26, and aims to remind the public of the consequences of nuclear energy. In the 2007 march several thousand people attended. Since 1996 anarchists groups have also been participating in the demonstration. This past April they specifically protests against the cancellation of benefits and allowances to the people who have suffered from the effects of the Chernobyl disaster. The march in general also addressed problems of centralization and privatisation of energy sectors, the link to militarism and the ecological dangers of nuclear power.

### **Building an anti-nuclear campaign**

In recent years, the annual Chernobyl march was the one constant action happening against nuclear power in Belarus. However, activists are planning

to have more actions and awareness campaigns in the coming months. Reacting to the governments plan to bring nuclear energy to Belarus, they aim to increase public interest and inspire the public to intervene in government decisions in the matter. This is difficult, because a Soviet Union mentality is still present in public consciousness. Most of the population feels dis-empowered and unwilling to show disagreement with state plans because they feel their opinions will make no difference. People still do not act or involve themselves because they think the government will decide everything anyway.

The social movement against nuclear power is now trying to focus its efforts on making the nuclear issue a matter of public interest and concern, urging people to decide for themselves whether they want nuclear power. The goal of anti-nuclear groups is to not let the government decide about nuclear energy until the public opinion has been heard.

The strategy used for this is to educate and communicate in different communities in Belarus about the dangers of nuclear energy; to build local social networks on this issue, as part of a growing anti-nuclear movement; to reach out for international support and exposure to help strengthening the message.

**Source:** Natalie Caine, Project Co-ordinator, European Youth For Action (EYFA)

**Contact:** To make a link with the anarchist anti-nuclear movement in Belarus or anti-nuclear campaigners in general, contact European Youth For Action (EYFA) by email: [eyfa@eyfa.org](mailto:eyfa@eyfa.org)

# INTERNATIONAL DAY OF ACTION AGAINST BNP PARIBAS INVOLVEMENT IN BELENE

**In May, BNP Paribas was reported to have won the tender for a 250 million Euro loan to the Bulgarian electricity company NEK, to finance the first stage of planning and construction of the notorious Belene nuclear power plant. The Belene Nuclear Power Plant is situated in northern Bulgaria, close to the Romanian border in an area at high risk of earthquakes. During the last large earthquake in 1977, 120 people died just 14 km from the project site.**

**(657.5813) Urgewald** - The Belene nuclear project was abandoned in the 1990s following a scientific assessment that warned that the area was not suitable for a nuclear reactor. The Bulgarian Cabinet deemed Belene to be "technically unsafe and economically not viable". However, the Bulgarian government reversed this decision, announcing in 2003 that they would restart the project. The specific reactors planned are of a Russian design, which has not been through full safety testing and has never before been built in Europe.

The willingness to finance this project led last year to massive protests against Deutsche Bank, Unicredit and HypoVereinsbank. The banks consequently dropped their financing plans. Eight other international banks that were reported to be interested, declined their interest when informed about the problems of Belene. The insecurity in the financing so far led to a postponement of signing the contract with the Russian-French-German consortium that has been chosen to build the nuclear power plant.

## **BNP's readiness to go for Belene...**

However, BNP Paribas seems to be less scrupulous than other banks and has been notorious in the past not to react to NGO reports and letters on environmental topics. The announcement of BNP Paribas financing therefore led to a strong national and international reaction: a Cyberaction set up by Les Amis de la Terre, Greenpeace France and Réseau Sortir du Nucléaire prompted several thousand E-Mails to the management of BNP Paribas. BNP Paribas reacted rather quickly this time by saying that the loan was a corporate loan to NEK, the Bulgarian energy supplier, not necessarily for the building of Belene and that the decision to build Belene had not been taken yet, if ever their money would be used for safety and environmental studies. This line strongly contradicted what NEK had put to the Bulgarian press, saying very clearly that

the loan from BNP Paribas was a starting financing for Belene.

## **... prompts an international action day**

A planned action day on June 5, the World Environment Day, therefore took place as planned: organisations and activists from all over Europe protested in over 20 cities against the bank. Actions took place in ten French towns, organised by Les Amis de la Terre, Réseau Sortir du Nucléaire and Greenpeace France. In Munich, Cologne and Frankfurt urgewald, Projekt 21 and anti-nukes activists visited BNP Paribas branches. In Amsterdam some twenty five activists from Banktrack, ASEED Europe, Friends of the Earth International, Both Ends, WISE and XminY hold a long banner "Nuclear power - no thank you" in front of the BNP Paribas office. In Brussels activists from Friends of the Earth Europe, Friends of the Earth Flanders and Brussels, Netwerk Vlaanderen and Réseau financement alternatif had banners, radioactive waste barrels and protective suits, they handed out flyers to bypassers and to different staff in the office building where BNP is located, in Bulgaria, actions in Sofia and Varna by the BeleNE! (No to Belene) Coalition met broad media interest. In Bucharest activists had a banner calling BNP Paribas the "radioactive bank" and the Italian affiliate of BNP Paribas, BNL, was visited by activists from Campagna per la Riforma della Banca Mondiale and Greenpeace Italy. More actions and handing over of protest letters took place in Vienna, Luxembourg, Belgrade, Lisbon, Budapest and even in South Africa activists protested against BNP Paribas' willingness to finance Belene.

## **Meeting BNP Paribas CEO**

The cyberaction and the action day prompted reaction from the bank: they had denied earlier attempts of Les Amis de la Terre to have a meeting with bank management on Belene. In the wake of the action day they changed their mind and offered a meeting with

the CEO. This meeting took place on June 13 with representatives of the BeleNE coalition, Les Amis de la Terre, Greenpeace and urgewald. In the meeting the CEO of BNP Paribas, Baudouin Prot, dismissed responsibility of his bank related to the 250 Million Euro loan for Belene. His argumentation is that the loan is a "general corporate loan", strictly for Bulgaria's utility, NEK, meaning that it is totally up to them how they use the money, leaving no responsibility to the banks. Actually, NEK states in the tendering documents on its website, quite clearly that the loan will be used as "bridging finance to begin project works" on Belene. And the BNP Paribas representative in Bulgaria also made press statements, saying that the loan will be used to finance the first phase of construction.

However, at the moment, BNP Paribas response to the NGO campaign is two-fold: On the NGO-success side, they announced at the meeting, that they will not participate in future bids to finance the project. At the same time, they insist on proceeding with the current loan and adamantly stick to their very unconvincing statement, that the loan is completely unrelated to project construction. BNP Paribas is syndicating the loan, i.e. peddling it to further banks. They look for 15 more banks. With a total of 16 participating banks, this means that each bank's individual share is between 10 and 20 million Euro. Monsieur Prot would not release the names of the other banks but wants to keep them secret until the signing of the contract. As BNP Paribas has misrepresented the loan in its communications with NGOs by claiming, it will "only finance environmental and other studies", NGOs suspect that they may also be misrepresenting it to other banks.

## **Warning words to other banks**

In an open letter the Bulgarian coalition BeleNE!, Friends of the Earth, Greenpeace and the watchdog organisations Banktrack and urgewald therefore warn international banks from



participating in the loan. They want to convey the message to all potential participants in this loan, that they will in fact be endangering their reputation for the paltry sum of 10-20 million Euro, if they sign off on the deal. That this message has a chance to be heard shows the past experience: earlier attempts to secure financing for the Belene NPP were not successful. Eleven banks declined or did not respond to invitations to take on a portion of the project's financing.

Albena Simeonova, a Goldman Environmental Award winning organic farmer from the Belene region and active opponent of the Belene nuclear power project since the late 1980s insists: "The by BNP Paribas brokered loan will give the impression that this is a healthy project. The reality is that Belene is an environmental, safety and financial risk and was thus cancelled by the former Government in the 1990s." Simeonova, who faced death threats over her opposition to the Belene

project in 2005, adds: "Nuclear safety standards in Bulgaria are notoriously low and Belene is a high-risk project in an earthquake zone. It will endanger not only Bulgarians but the population in neighbouring countries as well."

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## SWEDEN'S NUCLEAR REGULATORY AGENCIES TO FUSE

**The Swedish Government has proposed the fusion of the Swedish Radiation Protection Institute (SSI, founded 1965) and the Reactor Safety Inspectorate (SKI, 1974) into a single agency. Although still only a proposal, it appears to be a foregone conclusion that the fusion will take place. In April 2008, according to plan.**

**(657.5814) WISE Sweden** - The Government terms the move to fuse the two a step toward more effective cooperation between two organizations, many of whose duties overlap. Nuclear safety tops the agenda of both, but whereas SKI is more strictly focused on the engineering aspects of nuclear technology, SSI's responsibilities include public health and environmental protection implications, as well.

Fusion of the two authorities has been on the table many times before, most recently in 2003. Then, the investigator saw a certain value in keeping two organizations. Among other things, it reduced the risk that issues could get "suppressed," as she put it, or missed out.

The environmental movement worries that environmental protection may lose its prominence on the new authority's agenda. Interestingly, it is a worry shared by the municipality of Östhammar (Forsmark), site of three reactors and one of two candidates for the Swedish repository for high-level waste. Östhammar's politicians advise against the fusion.

A second strong argument against the fusion is bad timing. Within the next two years, several aging Swedish reactors are to be refurbished. Among other things, their thermal effect will increase. Secondly, plans for several key aspects of Sweden's high-level waste storage will be up for approval in the next couple of years. The politicians in Östhammar and the environmental movement argue that SSI and SKI should be allowed to devote their full attention to these momentous issues, and not be distracted by a major reorganization next year.

A third worry concerns the ongoing dispute over whether or not Sweden's Environmental Code applies to nuclear installations (see Nuclear Monitor 652, 8 February 2007). SKI has been unwilling to accept the legitimacy of the Code in nuclear matters. By contrast, SSI officers argue that nuclear, as any other inherently hazardous industry, is unquestionably subject to the Code. A weakening of SSI's current position as a result of the fusion would mean a setback for Swedish environmentalists: the Code requires that NGOs be allowed to participate in the

environmental impact assessment of nuclear installations; there is no such provision in the Law on Nuclear Technology (Kärntekniklagen, 1984).

Some commentators interpret the fusion as a response to a series of embarrassments that SKI suffered this past year. The 'culture of safety' at Sweden's Forsmark plant was found to be incredibly lax after an incident in July 2006 that might well have resulted in a meltdown (Nuclear Monitor 649, 6 September 2006). Only months later, repeated failures to report the contents of a storage facility for low and medium-level waste at Forsmark provoked SSI to impose a moratorium on further deposits (see box). Forsmark's blatant failure to comply with basic regulatory procedures means the failure of SKI's industry-friendly approach to regulation. Fusing the two institutions is seen as a way to bring SKI under a tighter rein. While unconfirmed, the speculations would at least explain the timing of the move.

**Source and contact:** Charly Hultén, Swedish Anti-Nuclear Movement/WISE-Sweden

### Sweden: Halt ordered at waste store

The Swedish Radiation Protection Authority (SSI) has ordered to halt operations at SFR, the final repository for low- and medium level radioactive waste, located near the Forsmark nuclear power plants. SFR is located 50 meters below the bottom of the Baltic Sea and has capacity to store all Swedish low- and medium-level

waste and is in operation since 1988. The reason is that the authority finds that the operator Swedish Nuclear Fuel and Waste Management Co (SKB) does not fulfill the radiation protection demands that SSI is asking for. Despite repeated remarks SKB delayed reports or gave insufficient investigation material, which has made the monitoring more difficult.

The SKB reports has shown deficiencies in the radiation protection. Apart from other things the company exceeded the applicable radiation protection limits and its methods for determining the mix of radioisotopes in certain wastes were insufficient. Operations are set to stop from 21 June. The Inspectorate points out that there is no immediate risk (*see next page*)

for the environment. SSI it has very firm demands regarding the final storage, says SSI spokesperson Anders Wiebert. It must take place in a way secure for man and environment now and thousands of

years ahead. It is not the first report about mishaps in the SFR. Two years ago (1 July 2005) there was an increase in drainage water activity levels at SFR with values approximately ten times higher than

normal. But at that time SSI did not interfere.  
**WISE Sweden, email 18 June 2007 / WNN, 30 May 2007**

## IN BRIEF

**Australia: N-waste on aboriginal land?** Aboriginal elders in a remote Northern Territory community have accepted A\$12 million (US\$9.3 or Euro 6.9 million) for allowing Australia's first national nuclear waste dump to be built on their land, for the coming 200 years. But the secretly negotiated deal has bitterly divided traditional owners of the 2241-square-kilometer Muckaty Station, where the Federal Government may build a dump storing 5000 cubic meters of nuclear waste. The Federal Government had previously announced that the dump would be built on one of three Defense-owned sites in the Territory after the South Australian Government scuttled plans to build it at Woomera.

Bindi Jakamarra Martin, a Warlmanpa man from the Ngapa clan, said building the dump on a 1.5-square-kilometre site 120 kilometers north of Tennant Creek would "poison our beautiful land" and "change our dreamings". "Our dreamings cross right into that land where they want to put that dump," he said.

Dave Sweeney of the Australian Conservation Foundation said: "The Muckaty site was not selected on a scientific basis. The Government failed to convince Territorians that they should host a nuclear waste dump, so it introduced a law to coerce them. Now the Government is offering cash incentives with a A\$12 million compensation package to Traditional Owners. Some of the most disadvantaged people in the country are being offered a pittance to host some of the most dangerous toxic waste our nation produces." Aboriginal members from across the NT are travelling to Adelaide, Melbourne, Canberra and Sydney to express opposition to being targeted for the Federal radioactive waste dump.

Experts will now study the sparsely vegetated site to see if it is scientifically suitable to store nuclear waste. The Muckaty deal has angered the Northern Territory Government, whose legislation against developing a dump in the territory can be overridden by Canberra.

William Jakamarra Graham, a traditional owner, said: "We don't care about the money - A\$12 million is nothing to us. But we care about our land and what will happen to the children of the future. We don't want to leave them a nuclear dump."

**The Age (Aus), 31 May & 1 June 2007 / ACF, 25 May 2007**

**Browns Ferry Problems after 22 year outage.** The recently restarted Browns Ferry 1 reactor has not have a good first few weeks. After a five-year US\$1.8 billion (Euro 1.3 billion) overhaul, federal regulators gave operator Tennessee Valley Authority (TVA) clearance to connect Unit 1 to the electrical grid for the first time in 22 years on May 22 (see Inbriefs, NM 656). Two days later, the reactor was shut down after a leak of 600 gallons (?600 x 3.785???liters) of non-radioactive hydraulic fluid. On June 9, at close to 80 percent power, a high water level in a "moisture separator drain tank" tripped a turbine and lead to an automatic reactor shut down, a TVA spokesman said. Two days later the start-up process started.

According to David Lochbaum, once a Browns Ferry engineer, now director of nuclear safety for the Union of Concerned Scientists: "What Browns Ferry Unit 1 has experienced during this restart is not uncommon for a reactor to encounter when restarting from an outage."

During the shutdown, four of the five probes that test the nuclear core retracted back into their shielded positions, but a fifth did not. Once workers noticed this failure, they manually retracted the probe, Lochbaum said. "The malfunction came from an open wire in the 'logic circuitry.' That was unrelated to the shutdown; it was something that didn't perform as it's designed", the TVA spokesman said.

**Times Daily, 12 June 2007 / Nuclear Monitor 656, 18 May 2007**

**Taiwan shuts nuclear dump on tropical island.** By 2016 Taiwan will shut a nuclear waste dump on Orchid Island, a 45 km<sup>2</sup> volcanic island 65 miles (105 km) east of Taiwan. The decision should end a complex, 25-year battle between the site's operator, Taiwan Power Co., and Orchid Island natives who believe they have been poisoned. Taiwan, Japan and South Korea have located nuclear dumps in far-off islands and isolated communities, "in places where the local governments can be bought off," said Athena Ronquillo-Ballesteros, an energy campaigner with Greenpeace International in Asia. The storage site contains semi-solid nuclear waste in a poorly marked former millet-growing area along the rocky coastline. That waste will move to one of three sites on Taiwan's main island. Many of the island's 3,100 aboriginal Tao people welcome the departure plan, because they suspect nuclear waste has caused an increase in stomach cancer, mutated fish caught in the Pacific Ocean and contaminated soil where they grow taro and yams. "People's lives are shorter now. Before you could be in your 90s and still working," said activist Shya Pak Kotan, 82. Protesters say they thwarted plans to expand the dump and ultimately got Taipower to agree to the relocation.

**Reuters, 30 May 2007**

### Never-used nuclear power plant is paid for after 32 years.

The Philippine government has finally paid off the Bataan nuclear power plant almost 32 years after work began on what became the country's biggest white elephant that never produced a single watt of electricity. One of the pet projects of late dictator Ferdinand Marcos in reaction to the 1970s energy crisis, the controversial power plant cost the Filipino taxpayer a total of P21.2 billion (\$460 million or Euro 343 million at today's exchange rate) interest on a (foreign) debt of \$1.06 billion (Euro 789million). In 1988 for instance the Philippines paid 350.000 (1988-) US\$ a day only for interest on foreign loans for the plant. A Marcos crony, Herminio Disini, is claimed to have earned \$18mn (Euro13 million) for brokering the deal that awarded the contract to build the plant to Westinghouse, and Marcos himself is said to have received tens of millions of dollars; up to \$80 million paid by Westinghouse as 'commission'.

Construction began in 1976 and was completed in 1984 at a total cost of \$2.3bn (Euro 1.7bn). The plant is basically still intact, and has been up for sale for decades. Energy Secretary Raphael Lotilla said given the strict requirements of the International Atomic Energy Agency, it would be far more expensive to rehabilitate the plant than to build a new one. "Since we can't make use of it as a power plant, it might attract tourists who want to see what a nuclear power plant looks like."

The power station, 97 kilometer north of capital Manila, has been the center of controversy from the day construction began.

When Marcos was overthrown in early 1986, a team of international inspectors visited the site and declared it unsafe and inoperable as it was built near major earthquake fault lines and close to the then dormant Pinatubo volcano.

Debt repayment on the plant became the country's biggest single obligation.

AFP, Manila Standard Today, 14 June 2007 / Der Spiegel (Ger), 4 January 1988 / Int. Herald Tribune, 8 March 1986

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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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