

# NUCLEAR MONITOR

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## THE PERILS OF NON-PROLIFERATION AMNESIA

**Much has been said about the '123 Agreement'; the nuclear deal between U.S. and India. Although the agreement is signed on August 3 the race is not run yet.. In India the most significant and best-informed opposition to the "123 agreement" comes from the Left, comprised primarily of the Communist parties, whose support to the United Progressive Alliance (UPA) government led by Singh is crucial to its survival. Internationally, the opposition is growing and public opinion is more and more focusing on the issue.**

**(659.5820) Laka Foundation** - Peace- and antinuclear groups in several countries already urged their government (if one of the 45 countries which are part of the Nuclear Suppliers Group) to vote against the deal; NSG permission is necessary. We strongly advise to put (more) pressure on your government to oppose the deal. It looks like there is time left, according to the Dutch representative of the Ministry of Economic Affairs it is not likely a decision in the NSG will be made before the next NSG general meeting, which will take place spring 2008 in Germany.

Below is an article from the opinion page of the September 1 issue of India's national newspaper *The Hindu*, written by William C. Potter and Jayantha Dhanapala

The India-U.S. civilian nuclear deal, if endorsed by the NSG and the U.S. Congress, will virtually ensure the demise of global nuclear export restraints. Indo-U.S. nuclear cooperation means different things to different people - a reversal of decades of U.S. non-proliferation policy, a promising new market for U.S. nuclear commerce, violation of the fundamental principles of the Nuclear Non-Proliferation Treaty (NPT), and the prospect of a strategic partnership among vibrant democracies.

One thing it definitely does not mean is

strengthened export controls. Despite efforts by the White House to portray the deal as a plus for combating the spread of nuclear weapons, the terms of the latest round of U.S.-Indian nuclear negotiations confirm the opposite conclusion. Repeatedly outfoxed by their Indian counterparts and hindered by the political unwillingness of a lame-duck administration to walk away from the negotiations, U.S. diplomats have achieved an embarrassing accord. If endorsed by the Nuclear Suppliers Group (NSG) and the U.S. Congress, it will virtually ensure the demise of global nuclear export restraints.

The next key round of deliberations on the deal is apt to take place this fall among the 45-member NSG - a body that only three years ago was urged by President Bush to tighten export controls, especially in the sensitive fuel cycle area. Today, however, Washington has a different agenda that closely resembles the one Russia had long sought (and the U.S. had opposed) - to create an exception for India to standard export guidelines that preclude the supply of nuclear material and technology to states lacking safeguards on all of their nuclear facilities. As a result of this shift in U.S. policy, Russia already has rushed to sign new nuclear trade agreements with India without waiting for the NSG to modify its guidelines by consensus as is required.

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China also has indicated its intent to apply a similar exception to Pakistan, and one can soon imagine Australia, Belarus, France, South Africa, and other states citing the NSG precedent for India as the basis for exporting nuclear commodities to anyone whenever it is commercially or politically expedient.

What is perhaps most unusual and ominous about the current debate over India within the NSG is the extent to which economic considerations appear to override those involving proliferation even among states that are typically regarded as the leaders of the international non-proliferation community. Apparently, gone are the days when Australia, Canada, New Zealand, South Africa, Sweden, and members of the European Union could be counted on to lead the charge in support of strict adherence to non-proliferation treaties.

At the historic 1995 NPT Review and Extension Conference, which extended the Treaty indefinitely, NPT parties - including all members of the NSG - made a political commitment to refrain from nuclear cooperation with states lacking "full scope" safeguards. And yet, most of these states either are unaware of these obligations or have chosen to ignore them.

### Striking dissonance

The dissonance is most striking with respect to Australia and South Africa - two countries that pride themselves on model non-proliferation behavior - reflected in part by their ratification of nuclear-weapon-free zones in their respective regions, the Treaty of Raratonga in the South Pacific and the Pelindaba Treaty in Africa. Both treaties have explicit language prohibiting members from engaging in nuclear commerce with states lacking comprehensive safeguards, as is the case in India. And yet Australia and South Africa have each endorsed nuclear trade with India and are supportive of the U.S. initiative to weaken the NSG guidelines to allow such commerce. It is as if they believe they can selectively disavow inconvenient legally-binding obligations - a particularly difficult maneuver for Australian Foreign Minister Alexander Downer, who is on record as having acknowledged the restrictive nature of the Raratonga Treaty.

It remains to be seen if the current subordination of non-proliferation objectives to economic and other considerations will be a fleeting phenomenon or a more enduring fact of international politics. However, it is disconcerting that the decision about nuclear trade with India in some capitals has been made by officials who do not have expertise in or

responsibility for non-proliferation matters and who have little regard for its proliferation implications. This is the case in Canada and the U.S., and appears to resemble the process by which decisions were reached in many EU countries, as well as other members of the NSG.

Export controls remain an imperfect but useful tool to curb the spread of nuclear weapons. In this regard, the NSG would be well advised to follow Florence Nightingale's guiding principle that "whatever else hospitals do they should not spread disease." Otherwise, at a time of mounting proliferation challenges, this body is apt to adopt a policy that intentionally or inadvertently erodes the effectiveness of one of the most important multilateral non-proliferation instruments.

*(William Potter is Director of the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies. Jayantha Dhanapala is a former U.N. Under-Secretary General for Disarmament Affairs and Ambassador of Sri Lanka to the United States, who served as president of the 1995 NPT Review and Extension Conference.)*

The text of the 123 Agreement can be found at:  
<http://www.state.gov/documents/organization/90157.pdf>

## Israel next?

Israeli officials in August said they will be looking to a US vendor to supply the reactor they plan to build in the southern Negev desert. Current US and international restrictions bar such a sale, but the Israeli officials say a pending US-India deal sets a precedent for departing from those rules. Israel is not a party to the Nuclear Nonproliferation Treaty, or NPT. Power reactor vendor states in the NPT -- including the US -- cannot export nuclear power generation equipment to Israel. US and European officials said recently that Israel's renewed interest in nuclear power generation has been therefore timed with efforts by the US to obtain an exemption to nuclear trade sanctions against India. Following conclusion of a bilateral nuclear cooperation agreement with India last month, the US aims to obtain that exemption before the end of this year.

Since 2005, Israel has pressed the US to request a trade sanctions exemption for Israel in tandem with the exemption for India. US officials told Platts last year that the US government declined. US and European officials said recently that they expect that Israel will continue to raise its request for a trade exemption with the US in 2008 assuming that the 45-nation Nuclear Suppliers Group, NSG, lifts sanctions on India, and that the US-India nuclear cooperation agreement enters into force. During bilateral diplomacy this year, European officials said, IAEA Director General Mohamed ElBaradei has urged key NSG states to open the route for giving NSG trade exemptions for both Israel and Pakistan as well as for India.

**Platts, 17 August 2007**

# TURKEY'S ENVIRONMENTALISTS: TOUGH CHALLENGE AHEAD

**In August 2000, Turkish activists had departed from each other and from the fear of implementation of nuclear projects after the final and decisive rally in Mersin's Akkuyu, south on the shores of the Mediterranean. Turkey had first announced plans to build a reactor at Akkuyu in 1996, but the project has repeatedly been put on hold due to financial problems.**

**(659.5821) Sinop bizim** - The festive August 2000 meeting in Akkuyu was the last one of a series of annual gatherings both against nuclear power and in commemoration of the devastation of the atomic bomb. The activists had celebrated victory as the left and right wing coalition government headed by P.M. Ecevit, had abandoned plans to build its first nuclear power station in Akkuyu due to economic reasons. As leader of the left wing, Ecevit had emphasized that Turkey would instead seek to reduce energy waste, and invest in natural gas and hydroelectricity plants as well as solar and wind generation.

Hardly a decade passed and the strong antinuclear opposition in Turkey had to flex its muscles once again. Veteran campaigners termed it as "the second phase" when they gathered after six years on April 29 2006, at the northern tip of Turkey by the Black Sea. Worried again they were, among the thousands of protestors who rallied against the so called "nuclear island" looming on the horizon of the small port town of Sinop. Even though it was a day of pride for the nation's environmentalist movement, this peaceful democratic protest did not find any due recognition in the governmental ranks.

The Islamist-leading party, which for the first time in Turkish political history won the majority of seats in the parliament at the 2002 general elections, had declared nuclear energy an obligation. Prime Minister Erdogan - without any prior public debate of the issue- announced on April 9 2006, the government's decision to build Turkey's first nuclear power plant in secluded Sinop. In his announcement speech he promised the audience of townsmen to make Sinop "a trademark" declaring the town lucky as it met several criteria on climate, safety, transportation, etc. This declaration disregarded the fact that the site yet lacked the necessary licensing by IAEA. This deficit would surely be transcended in a few months time by governmental decree. Akkuyu was the runner up even though its site licensing

procedures were completed way back in 1976. Authorities claim if it were today, the Akkuyu project would not obtain a license because the methodology of the original seismological research is outdated, and the project disregards the presence of a prominent fault line close by)

Citizens eventually learned about some of the basic details of the coming 'nuclear breakthrough' announced April 2006: Turkey's first three to five nuclear power plants with a total capacity of 5,000 MW and estimated to cost 1200-1800 \$/kwh, were planned to be operational by 2012. Financially an ambiguous formula of public-private partnership was envisaged for construction and operation, there would be no treasury guarantees and the choice of technology was a well kept secret.

Hastily the ministry set out to establish the legal infrastructure of nuclear power production and sent a draft nuclear project bill to the Parliament in summer 2007, almost days before closing of sessions due to start of the early general elections.

The bill which turned out to be surprisingly concise guaranteed power purchases from the nuclear reactor for a continuous 15 years by requiring distributing companies -which are yet to be privatized- to have nuclear electricity as part of their supply mix. The firm to undertake the investment for the nuclear power plant would be chosen through competitive bidding, from among the bidders which have fulfilled the criteria of the Turkish Atomic Energy Institution (TAEK). The bill mentioned the need that the TAEK, which at present reports directly to the Prime Minister, be re-structured along two separate lines, one for licensing of nuclear power plants and the other for regulation. Before any steps were taken to resolve the conflict posed by the multifaceted TAEK, the cabinet decided to allocate the Institution a huge US\$ 2.3 billion budget which roughly corresponds to triple the annual budget

of the Environment Ministry of Turkey.

Soon it became obvious through an article published in February 7, 2007 issue of *Nucleonics Week* that *".. the legislation was drafted in part based on the recommendations of foreign vendors. AECL 'explained to Turkey what has to be in place' for AECL to do business there, one Canadian official said,.."*; *"and what's in that legislation draft is to some extent a reflection of this. (As)... vendors anticipate business from less risky markets than Turkey, it will be up to Turkey to show a firm financial commitment, sources said. 'Turkey is probably going to have to put money on the table' before AECL will agree to negotiate terms for a reactor sale, another Canadian executive said."*

This scenario was not an unexpected one for those keeping the Energy Minister under close scrutiny, as he had silently been paving way for the "nuclear option". In February 2006, he had met U.S. Energy Secretary, mutual wishes were expressed for seeing Turkey in future taking part in the 'Global Nuclear Energy Partnership'. Turkey and the United States had claimed success in restoring military relations which have been strained when the government in Ankara had stumbled upon U.S. efforts to use Turkish bases to mount its offensive on Saddam Hussein's Iraq. The Bush administration with regained assurance to use Turkey as a base for reconnaissance operations whenever needed, offered to help Ankara implement its nuclear projects. Turkish and U.S. officials had discussed behind closed doors Ankara's plans to build nuclear reactors for energy production. Similar ties seems to have been established with the Canadian and Turkish officials during 2006.

Just the day after the nuclear legislation passed through the Turkish parliament, (although it was a process of six months, and everybody was focusing on the coming presidential elections) on May 10, 2007 a panel was held in Istanbul at the Turkish and Canadian

Business Councils' Joint Annual Conference. It brought together the heavyweights of Turkey's business community such as the head of the leading Turkish conglomerate Sabanci's Energy Department and representatives of The Organization of CANDU Industries/AECL. The topic of discussion was "Opportunities in a Dynamic Emerging Economy and Increasing Chances of Cooperation Between Canadian and Turkish Energy Firms".

However, *Law No. 5654 Related to the Installation and Operation of Nuclear Power Plants: Nuclear Energy Law* was vetoed by President Sezer on May 24, on the ground that some of the articles were contradicting and against the Constitution (see In Brief NM 658). Although this was seen by some as a victory at the time, due to the results of the elections we cannot claim anymore this to be a victory. If the (center -left opposition) Republican Peoples Party (CHP) had won the majority in the elections we could hope for better times, maybe it could have been celebrated as a victory then..

We hoped the newly elect parliament would pose a better platform for opposition. In May it was hard to envision both the ruling party's election victory and also Gul's advance into Presidency. But now the ruling party has enough strength to change the constitution and they are actually working on that or to re-write the law it with exact same content and pass it from the parliament without any debate (now CHP is weak) and get the approval of the new President in a short time.

Anti nuclear activists describe the whole process as an undemocratic imposition, opposing the discourse and haste of the pro-nuclear government bodies, some say "Nuclear power is not a 'must' for Turkey, it is a political preference. We do not want Sinop to become a 'trademark' name, the only one we can think of in the realm of nuclear industry is Chernobyl!" In fact the town could be a trademark if infrastructure for tourism investments were provided by the state. The chosen site of the reactor is a candidate for a national wildlife park, very much untouched, sheltering wild bird and animal populations, its flora sustaining several endemic species. Adding to it all, the geography of the region is characterized with predominant northerly winds which makes the province very suitable for wind energy

turbines to be installed; if and when the government does not only pay lip service but show sincere support to the alternative energies in the form of realistic pricing and purchase incentives. (Total technical capacity estimates of the wind source being 83000 MW, Turkey had a mere 50 MW of installed wind capacity at the end of 2006)

The government estimates the energy demand in the country to rise around 2.5 folds by the year 2020, the new Turkish reactors could provide about a tenth of the 54,000 megawatts the country expects to need over the next two decades. However, independent analysts find the governments projections overly exaggerated, they claim if the issues of energy efficiency and effective utilization of resources are addressed properly, the country might as well experience a surplus of energy supply.

It must be noted that in 2006, the nation's total electricity production was 175.667 GWH while consumption was 132.000 GWH; this proves the incredible loss and leakage from the grid to be 25% as a well settled annual average. Oil and natural gas imports, along with coal and hydroelectric power account for most of Turkey's current energy needs. Posing both a strategic and economic nightmare, 44% of the country's total electricity production depends on costly natural gas mainly imported from Russia and Iran.

With all these facts in mind, one cannot readily be convinced that the official reflex for dealing with Turkey's energy needs and imbalances, is the implementation of nuclear power. However, both the mainstream media and the political arena isn't very much preoccupied with topics to inform the general public about the true nature of the government's risky and expensive choice. Politically antinuclear movement was not represented in the parliament and seemingly will not be for another parliamentary term.

After five years in office, the ruling Islamist party increased its votes and, much to the surprise of the major opposition, won the recent elections by taking 47% of the votes. The political campaigns on both sides centered mostly on resolving ideological conflicts, such as secularism versus moderate Islam. Vital issues such as Turkey's energy projections in the wake of global climate crisis was left

unaddressed; not giving much hope for a drastic change of policy to alter the present composition in energy production in the next term.

Late August, the new cabinet was formed. Energy Minister Güler, who holds position, has promised his ministry will make a "storm-like" start to the new period. "We will implement the laws that were signed in the last period, and unfinished projects will be completed as soon as possible," the Anatolia news agency quoted the minister as saying. "We will make investment conditions [in the energy sector] attractive for private investors," he added. Güler said the privatization of electricity generation and distribution will definitely be made in this period, possibly simultaneously. Turkey will also begin work on nuclear energy in the new period, he added. Coming months a tough challenge is awaiting the environmentalists in Turkey. They seem to be pretty much caught off guard having to deal simultaneously with many harmful side effects of unparalleled neo-liberal policies implemented through willpower of a single party able to hold majority in the parliament for two terms. The democratic rights of citizens to express their opinions openly may be sacrificed to the high priorities of the security of the state as it is getting more and more harder to organize events and activities with antinuclear messages in Sinop. The governor of Sinop is tightening security measures: he did not give permission for a concert that was organized (to be on Sept. 12 2007), by an antinuclear society active in Sinop.

Oya Koca  
Sept.4,2007  
campaign executive for www.sinopbizim.org  
mail:sinopbizim@gmail.com  
member of antinuclear platform of Turkey  
e-mail: oya.koca@ontrol.com.tr

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**Editorial team:** Dirk Bannink and Peer de Rijk.

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# CONSTELLATION SUBMITS PARTIAL APPLICATION FOR NEW REACTOR AT CALVERT CLIFFS

**Constellation Energy is the first U.S. utility in more than 30 years to submit an application to build a new reactor. But the application was only partial and public hearings remain months away while the potential for actual construction is even more distant. The U.S. Nuclear Regulatory Commission has been predicting confidently for several months that applications for as many as 12 new atomic reactors would be submitted by the end of this year.**

**(659.5822) NIRS** - Taking the NRC by surprise was Constellation Energy, which was not projected to submit an application until 2008 but went ahead and put in partial papers in July, leapfrogging-well, in baby steps anyway-the rest of the nuclear industry and putting itself at the front of the pack of utilities angling for potentially billions of dollars in taxpayer subsidies for new reactor construction.

Constellation submitted its "partial" license application to the NRC on July 13 (although it wasn't revealed to the public until July 25) for a third unit at its Calvert Cliffs site on the Chesapeake Bay in Maryland. The application is for an Areva EPR reactor, presumably a 1600 MW twin of that now under construction in Finland. Although since only an Environmental Report was included in the partial application, no details of the reactor itself were included, and since the EPR has not yet obtained design certification from the NRC, Constellation remains a long ways off from actually building a reactor.

On August 23, the NRC sent Constellation a letter pointing out deficiencies in even the limited documentation the utility had submitted. Perhaps most serious were the lack of acceptable materials on the required potential environmental

impacts of "postulated accidents involving radioactive materials." The NRC noted that instead of supplying information based on the EPR design Constellation actually wants to build, the application instead "provides information unrelated to the reactor design being contemplated for Calvert Cliffs..."

And in a warning sign to the State of Maryland-and area residents--it appears Constellation will attempt to downplay any possible accident consequences. According to the NRC letter, the utility "does provide a brief discussion asserting that the risk from its bounding analysis is so low that there would be no cost-effective severe accident mitigation design alternatives..." In other words, the utility does not want to address potential accident issues, and certainly is unwilling to spend any money to address them. Hopefully, the NRC-and the State of Maryland-will recognize that there is no such thing as a "perfect" nuclear reactor. The NRC also found fault with other parts of the partial application, including incomplete discussion on basic issues such as flooding protection, ground motion and stability of subsurface materials and foundations.

While the idea of a new reactor is popular among politicians in Calvert

County, Maryland, where the existing reactors represent the single largest contributor to the tax base, a small but growing coalition of groups is forming to oppose the proposal. Since the site is less than 50 miles from the White House in Washington, national groups like NIRS, Public Citizen and Clean Water Action also are gearing up for direct involvement against the reactor. And unlike when the first reactors at Calvert Cliffs were built in the 1970s, security and terrorism and the proximity of the site to the nation's capitol are bound to be major issues this time around. The concept of creating yet another contributor to the growing inventory of high-level radioactive waste on the shores of the Chesapeake Bay-the lifeblood of the mid-Atlantic ecosystem-is also sure to arouse opposition.

While Constellation is clearly not even close to being ready to build a new reactor at Calvert Cliffs-and the sheer fact of a partial application and huge gaps in documentation is itself evidence of that-the utility's early submittal isn't about its readiness to build, but rather about its intent to leap to the head of the line, hat in hand, for taxpayer dollars.

The 2005 Energy Policy Act authorized some US\$13 billion (Euro 9.5 billion) in taxpayer support for the first six new

## **House-Senate Conference Committee Will Decide on US\$50 Billion for New U.S. Reactors.**

As Senate Energy Committee Chairman from 2001 until 2006, Sen. Pete Domenici (R-NM) was the nuclear industry's most powerful and ardent supporter on Capitol Hill. Following the 2006 elections, many Republicans supposedly lost much of their power to the new Democratic majority. Sen. Domenici seems unfazed by the fact that he is no longer chairman of the committee. The energy bill passed by the Senate in July includes a provision, authored by Domenici and unnoticed or misunderstood by just about everyone else that would allow the Department of Energy to give some \$50 billion (Euro 36.7 billion) in loan guarantees for new reactor construction.

Domenici's language is subtle: on its face, it allows the

DOE to provide an essentially unlimited amount of loan guarantees for new "clean" energy technologies. Under the terms of the bill, new atomic reactors would be considered "clean." Domenici's intent is clear, and both his office and the nuclear industry agree that, if passed, his language would allow tens of billions of dollars for new reactors. The amount of potential liability is so large that even President Bush reportedly opposes the provision.

The House-passed energy bill contains a different provision, and some House leaders say they will oppose the Domenici version, setting up a potential fight in conference committee. Members of the conference committee have not yet been chosen, but are expected to be shortly after Congress returns after Labor Day. NIRS will keep people informed about this issue, and the actions you can take to help remove the Domenici provision.

reactors, in the form of funds for the licensing process, loan guarantees for construction, and tax credits for electricity production. Constellation has no intent of building a reactor without that taxpayer support. Michael J. Wallace, executive vice-president of Constellation, told the New York Times in July, "Without loan guarantees we will not build nuclear power plants."

Constellation's move set off similar moves by other utilities. While none has yet submitted formal paperwork, the NRC already is setting up public meetings at several potential sites to explain its licensing process—a task (and expense) it wouldn't undertake unless it was expecting actual applications in the near future. Two meetings were held in South Carolina in August, for two different reactor sites (Summer and Lee), while hearings are scheduled in September for North Carolina (Shearon Harris) and Alabama

(Bellefonte). Meanwhile, the Tennessee Valley Authority announced that it plans to complete its long-mothballed Watts Bar-2 unit in Tennessee and hopes to have it operational in 2012 at a cost of about US\$2.5 Billion (yet another indication that new reactors are unlikely to cost below US\$4 Billion).

And so begins the nuclear industry's long-threatened resurgence in the U.S.—not in response to actual need for electricity, or at least a need that couldn't be met with other technologies; nor any real desire among utilities to build or operate new reactors—but as a means of grabbing money from taxpayers so thoughtfully provided by the Bush Administration and its congressional supporters.

Should the taxpayer support remain where it is—for the first six reactors—it is clear that there will be no more than six new reactors, and indeed, since none

of the authorized money has yet been actually appropriated by Congress, even those first six are not at this point guaranteed. New budget fights can easily be anticipated. But the nuclear industry and its backers think ahead, and already Sen. Pete Domenici has slipped a provision into the Senate-passed energy bill that could authorize an additional US\$50 billion in new subsidies to wealthy nuclear utilities (see sidebar). If approved and appropriated by a future Congress, that level of federal funding could certainly pay for a dozen new reactors, and make a nuclear resurgence more than just an industry dream.

For the NRC's list of potential new reactors, go to:  
<http://www.nirs.org/nukerelapse/industry/expnewrxappl.pdf>

**Source and contact:** Michael Mariotte at NIRS

## IT IS TIME FOR SWITZERLAND TO MAKE THE RIGHT DECISIONS

**Forty per cent of Swiss electricity is produced with nuclear energy. The other 60% are due to hydropower. An evanescent little part is out of new renewable energy like photovoltaic, wind and biomass.**

### **(659.5823) Stopp Atom Allianz -**

Because of the alpine topography, the electricity has become a big business for the Swiss electricity economy. Cheap power from French nuclear and German coal power plant is bought at night to pump up water in the alpine sea reservoirs. When Europe needs power and the prices accordingly rise, the lakes are emptied and the power is sold to our neighbours for a lordly price.

This nuclear-pseudo-hydropower-business has its origine in the Swiss nuclear economy. Immediately after Hiroshima, the dream of an own nuclear bomb obsessed Switzerland. At the same time the aim was to built a Swiss reactor for electricity production. Finally 5 reactors were built between 1969 and 1984, but non of them is of Swiss technology.

The resistance from the population grew as soon as people realised the danger of the nuclear technology. Big demonstrations have averted another 2 reactors and the discussion calmed down since the population had to accept the already constructed reactors. And for several years nobody

spoke about a new one.

In a few years the current reactors have to stopp their production due to their old age. The pressure from the Swiss nuclear industry for a new nuclear power plant is huge. They don't want to loose their business -low cost nuclear power and high price for hydropower with pumping. The idea is to build an EPR as they do in Finland. They just have one slight problem: for the first time in Switzerland, the Swiss population will be able to vote about a new nuclear power plant and could say NO to it.

A lot of members of parliament have connections to the electricity producers. This is why the Swiss government is in favour of a new nuclear power plant, which makes it easier for the power industry to follow their own interest.

There is not yet a real project. Firstly, it is difficult to find an investor. Secondly the builders want to have more time for public relations, adds for nuclear power to convince everybody that there is no other solution than building a new

nuclear power plant. All one can read in the newspaper is that without a new nuclear power plant Switzerland will be dark.

The resistance is of course not sleeping. We use the time to gain on weight, use synergies and communicate as often as we can the problems related to nuclear power. Late August, 20 different organisations founded an alliance named "stopp atom". This is the start of a tight collaboration between the main players. There are different activities going on or planned within (or partly within) the alliance.

There is no excuse to build a new nuclear power plant and we have a lot of other ways to produce enough electricity in Switzerland. We just have to make the right decisions.

Source and contact: Sabine von Stockar, Stopp-Atom-Allianz, Heinrichstrasse 147, Postfach CH-8031 Zürich, Switzerland.  
E-mail: [mail@stoppatom.ch](mailto:mail@stoppatom.ch)  
Web: [www.greenpeace.ch/stoppatom](http://www.greenpeace.ch/stoppatom)

# URANIUM GOLDRUSH: BRAZIL WANTS MORE NUCLEAR POWER AND MORE URANIUM MINES

**Brazil is going to exploit more uranium mines. Currently Brazil produces yellow cake in its mines in Bahia (Lagoa Real/Caetité). But now it is looking for investors to invest in a new mine in the Northeast State of Ceará (Santa Quitéria). Newspapers say, that these companies want to open up this uranium mine: Vale do Rio Doce, MMX Mineração, Bunge and Galvani Mineração. But not only the Brazilian Northeast is in danger! The Amazon rainforest and its rivers are also in danger. Because there are further plans to exploit uranium in the state of Para (Rio Cristalino, EX-Fazenda of VW do Brasil) and in the state of Amazonas (Pitinga).**

(659.5824) Norbert Suchanek - "Brazil has one of the highest uranium reserves in the world which supplies of the domestic needs in the long run and the exceeding one is available to the foreign market", says the state owned nuclear energy company INB (Indústrias Nucleares do Brasileiras). In fact, in 2001 the country registered the sixth largest uranium geological reserve in the world with circa 309.000t of U3O8 in the States of Bahia, Ceará, Paraná, Minas Gerais, Pará, Amazonas and others - but till today prospecting studies and geological researches were carried out in only one third of the national territory.

In the next three years Brazil could export yellow cake, believes Samuel Fayad Filho, one of the directors of INB. Because the price of uranium is growing rapidly - during the last two years by 430 %, INB wants to invest about Euro 160 million (US\$ 218 million) to double the yellow cake production from its mine in Bahia in the next two years to 800 tons a year. And from 2012 on, said Samuel Fayad Filho, Brazil could even export 800 tons annually. To succeed in that the Brazilian government wants to exploit the

uranium deposit in Ceará, Santa Quitéria (Itataia), with a capacity of 1600 tons a year, according to INB-President Alfredo Tranjan Filho.

Brazilian newspapers say that INB is looking for private partners to exploit the uranium deposits like in Ceará. As the Brazilian paper *Folha do São Paulo* writes, the corporations Bunge, Companhia Vale do Rio Doce (CVRD), MMX Mineração and Galvani Mineração are very interested. Especially CVRD-President, Roger Agnelli, wants to exploit Santa Quitéria - because its uranium is connected with rich phosphate deposits. And phosphate, CVRD says, is now more important because of the biofuel-hype. Industrial plantations for the production of ethanol or biodiesel do need this mineral as fertilizer.

INB writes: "The Itataia deposit is located in the central part of the State of Ceará, at around 45 km southeast of the city of Santa Quitéria. The Itataia mine has geological reserves of 142,5 thousand tons of uranium associated with phosphate. The exploitable mine has 79,5 million tons of ore with levels of 11% of P2O5 and 998 ppm of U3O8 ,

and such ore has 8,9 million tons of P2O5 and 79,3 million tons of U3O8. In this mine we can also explore circa 300 million m³ of marble, totally uranium free. Located at 212 km from Fortaleza, the region main economic activities are agriculture and cattle raising. Although it is the largest uranium reserve of our country, its economic viability depends on the exploration of the associated phosphate. This means that the extraction of uranium is conditioned to the production of phosphoric acid - an input used in fertilizer production."

It is said that corporations from the USA and Canada are also interested in uranium mining in Brazil. Big deposits are also in the Amazon, like the uranium deposit Pitinga in the Amazonas state and the deposit Rio Cristalino, on the huge ancient Cattle-Ranch of VW do Brasil in the Pará state.

However, in Brazil, as in most cases elsewhere, one must be careful to make a distinction between government propaganda and facts. The Brazilian authorities keep touting announcements about planned uranium production increases. However, a simple fact is that production was just 190 t U in

**Uranium Reserves in Brazil in U<sub>3</sub>O<sub>8</sub> tons.**

Occurrence Deposit/Mine	Measured and Indicated			Inferred < 80US\$/kg U	TOTAL
	< 40US\$/kg U	< 80US\$/kg U	Sub-Total		
Caldas (MG)		500t	500t	4.000t	4.500t
Lagoa Real/Caetité (BA)	24.200t	69.800t	94.000t	6.770t	100.770t
Itataia (CE)	42.000t	41.000t	83.000t	59.500t	142.500t
Others				61.600t	61.600t
TOTAL	66.200t	66.200t	177.500t	131.870t	309.370t

2006 and they still can't supply their own uranium demand, although a 400t U/a uranium mill was taken into operation in Lagoa Real / Caetité in 2000

already. And they are talking about exports! In 2000, they expected a production increase to 700-800 tU3O8 (594-678 tU) per year by 2004...

In the opinion of the Government, the exploitation of Santa Quitéria (Itataia) also is important, because of the Brazilians new third nuclear power plant Angra 3. Angra 1 and 2 are in operation since 1982 and 2000. Construction of Angra-3 was decided early this year and the government plans to start it's construction this October. The nuclear energy lobby of

president Lula da Silva wants to build up to 8 new nuclear power plants in total, two of them at the Rio Sao Francisco. In August 2007 the Japanese corporation Toshiba, since 2006 owner of Westinghouse, says it would like to invest or to build Brazilians nuclear power plant number 4.

**Sources:** INB, Eletronuclear, Government releases: *Folha de São Paulo*, 29 June 2007; *Jornal do Comércio*, 18 July 2007; *RJ Agência Brasil*, 9 July 2007; *Reuters*, 17 July 2007 / Peter Diehl at [www.wise-uranium.org/upsam.html#BR](http://www.wise-uranium.org/upsam.html#BR)

**Contact:** Norbert Suchanek, Rio de Janeiro  
Email: [n.suchanek@online.de](mailto:n.suchanek@online.de)

## Angola and Mozambique are going to exploit uranium

Not only Brazil. The ancient Portuguese colonies in Africa, Angola and Mozambique, also want to open up new uranium mines. The Government of Angola is going to make deals with China to exploit its rich uranium deposits. And Mozambique already gave licenses to the company 'Kenmare Resources' from Dublin, Ireland. At the moment it is exploring uranium in the northern provinces Tete and Niassa.

# DON'T NUKE THE CLIMATE

**We're getting a little tired hearing nuclear industry lobbyists and pro-nuclear politicians claim that environmentalists are now supporting nuclear power as a means of addressing the climate crisis. We know that's not true. In fact, using nuclear power would be counterproductive at reducing carbon emissions. The latest attempt to let us believe that nukes are acceptable is the largely mis-reported and mis-interpreted 'news' that the UN is calling for the massive new-build of nuclear power stations to fight climate change.**

**(659.5825) WISE Amsterdam** - The fourth session of the *Ad Hoc* Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol to the United Nations Framework Convention on Climate Change (AWG 4) and the fourth workshop under the "Dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention" (still there?) took place, from 27-31 August 2007 in Vienna, Austria.

The fourth session of the AWG focused on the analysis of mitigation potentials and the identification of possible ranges of emission reductions for Annex I parties. The Vienna meeting was generally seen as a successful step towards constructive negotiations on the post-2012 framework

There were no decisions taken. A technical working group of the UN prepared data for the negotiators - an overview of investment and financial flows needed for mitigation. The investment and financial flows for mitigation have been estimated for several scenario's. Under the reference scenario, investment in power supply is projected to be US\$ 439 billion (Euro 323 billion) in 2030, of which 53 per cent is transmission and distribution (T&D) 17 per cent is for coal-fired

generation, 9 per cent is for renewables, 9 per cent is for gas-fired generation, 8 per cent is for hydropower and 3 per cent is for nuclear energy.

Under the so-called mitigation scenario, the total investment in 2030 would be about the same as in the reference scenario (US\$ 432 billion), but the investment mix would be significantly different. Less investment will be needed for T&D (US\$ 101 billion) and fossil-fired generation (US\$ 55 billion, mainly coal). Additional investment will be needed for CCS in power plants (US\$ 63 billion), renewables (excluding hydropower) (US\$ 38 billion), nuclear energy (US\$ 25 billion) and hydropower (US\$ 22 billion).

This exercise lead to big headlines in several newspapers; "UN calls for more nukes". Again, this was not at all decided and is not the official position of the UN.

Nevertheless it is clear that the nuclear lobby is also doing a good job at the UN climate negotiations as well. At the Conference of the Parties (COP13, December 3-13, Bali, Indonesia) we will see dozens of representatives of the nuclear industry and umbrella groups trying to get what they want most now; a rubberstamp saying nuclear is part of

the solution and therefore needs financial support under new mechanisms of the post-Kyoto arrangements

Luckily the environmental movement has so far been very clear and decisive; we don't accept nuclear as part of the solution. Not only will we be in Bali to make sure our voices are heard, we also ask you to sign the following statement which is simple and straightforward. We'll send it to the media and politicians when they misstate the facts, and you can use it to do the same in your regions as well.

*"We do not support construction of new nuclear reactors as a means of addressing the climate crisis. Available renewable energy and energy efficiency technologies are faster, cheaper, safer and cleaner strategies for reducing greenhouse emissions than nuclear power."*

Please go to [www.nirs.org](http://www.nirs.org) to sign this statement.

**Sources:** Website <<http://unfccc.int>> / Earth Negotiations Bulletin, 3 September 2007

**Contact:** WISE Amsterdam



# RADIATING FUTURE POSTPONED IN FINLAND

The Olkiluoto 3 EPR project (OL3) in Finland has once again failed to keep to the estimated timetable, this time due to problems in civil engineering. The latest announcement of a delay by the nuclear supplier Areva was widely taken as meaning that the project is 24 months behind schedule, putting start of commercial operation at mid-2011. The Finnish investor TVO warned, however, that they cannot provide a new timetable before civil construction work is completed.

**(659.5826) Greenpeace Nordic** - The explanation Areva offered for the new delay is problems in meeting the safety requirements of the reactor containment building - the component that is supposed to protect the reactor from external threats and contain radioactive substances in the case of an accident. This explanation is infuriating as the Finnish public was assured already in 2005 that such issues, including the ability of the reactor to withstand an airplane crash, were resolved, when the prototype reactor was granted a construction license in a world record time.

The reactor containment building is probably the most demanding concreting work of the whole project. The risk of further safety violations is imminent as pressure mounts on Areva because of the huge embarrassment and financial losses as well as given the continuous quality problems of concrete in the project.

## Financial losses

The delay means further financial losses to all parties involved. The economical damage to Areva stands at about EUR 1,500 million (US\$ 2045 million) - half the contract price. The market value of lost electricity production is EUR 500

million (US\$ 682 million) for a two year delay.

## Failed promises on climate protection

The delay also means that the claimed benefits of the reactor in meeting Finland's Kyoto protocol emission targets will be reduced close to zero.

Meanwhile, the harmful impact of OL3 on sustainable energy options is becoming more apparent. Finland has traditionally been a forerunner in the use of combined heat and power (CHP). At the time of the decision on OL3, the steady growth of CHP capacity stagnated and in 2006, the capacity has declined. Many of the public energy companies operating CHP plants are co-investors in OL3. Development of wind power is also falling further and further below projections made just before the decision on OL3. The government has not fulfilled its commitments to support sustainable energy options as OL3 was believed to deliver the most of the emission reductions necessary to meet Finland's Kyoto target.

## Lessons from Olkiluoto

The nuclear industry will try to wave away the safety problems and

economic failures of OL3 as mere growing pains. The underlying factors that have led to the problems will, however, most likely be present in any potential future nuclear projects. Budgets and timetables have to be tight for the projects to be economically viable. There are more reactor designs than projects so any reactor built in the near future will be either first of a kind or among very few of a kind. Project structures are set to be very complicated with hundreds of subcontractors and subcontractors' subcontractors. New reactor designs are inherently more dangerous because of higher power output and fuel irradiation and hence it is more challenging to match even present day safety standards. All in all, failures in Olkiluoto are not solitary but rather symptomatic of risks and problems characteristic of nuclear power.

**Source and Contact:** Lauri Myllyvirta, Energy Campaigner, Greenpeace Nordic.

Tel: +358 50 3625 981

Email:

lauri.myllyvirta@nordic.greenpeace.org

Web: www.greenpeace.fi

## IN BRIEF

**Japan: Reactors to receive fewer inspections.** Japan's nuclear watchdog the Nuclear and Industrial Safety Agency will extend the interval between nuclear power plant checkups to 24 months instead of 13, according to Kyodo News. The change, however, isn't likely to go into effect for another 10 years, except for new nuclear facilities. The NISA decision apparently reflects pressure from the power industry to let nuclear plants run longer without closing for inspections to increase "efficiency." Under the new regulation to be introduced in fiscal 2008, utilities managing nuclear plants will be required to submit data showing that less frequent industry inspections will not compromise equipment.

The move comes amid growing public distrust of nuclear power plant management, especially since the powerful earthquake in Niigata Prefecture in July shut down Tokyo Electric Power Co.'s Kashiwazaki-Kariwa nuclear plant, the world's largest by output, and a defect coverup involving reactor turbines that shut down all 17 Tepco reactors for the entire summer of 2003. Public distrust was further eroded by the 2004 fatal scalding of four workers at Kansai Electric Power Co.'s Mihama nuclear plant in Fukui Prefecture, after a corroded pipe that had never been inspected since the plant started up in the 1970s burst.

**Kyodo News, 24 August 2007**

**Monju restart postponed to late-2008.** The Japan Atomic Energy Agency plans to restart the troubled Monju prototype fast-breeder reactor (280MW) in Tsuruga, in October 2008 at the earliest. The reactor has been shut down since a 1995 sodium leak-triggered fire and subsequent coverup attempt.

The state-run research agency initially planned to restart Monju next May, but checks of modified reactor equipment have taken longer than expected, the sources said.

As of 2004, 1.7 trillion yen had been spent on the development of FBR cycle technology in Japan. Of this, 810 billion yen (Euro 5.12 billion or US\$ 6.9 billion) was direct investment in Monju. Even while it was inoperable due to the accident, about 10 billion yen (Euro 63 million or US\$ 86 million) was squandered every year on maintenance and management. 18 billion yen is to be spent on the modifications, and 15 billion yen will be spent each year to maintain operation.

**Kyodo, 24 August 2007 / Nuke Info Tokyo, 110, Jan/Febr 2006**

**U.S.: Iran's cooperation with IAEA 'suspect'.** The latest IAEA-report on Iran (INFCIRC 711), praised Iran for taking "a significant step forward" by agreeing to a new work plan and timelines for resolving numerous questions about the history of its nuclear program. The IAEA report which covers developments in the agency's dealings with Iran since May, will be discussed at a meeting of the agency's 35-member board on Sept. 10 in Vienna. The report cites several contentious issues that have been resolved recently through a renewed dialogue with Iran and the work program that Iranian and U.N. officials agreed to in a series of meetings in July and August. The report suggests that if Iran adheres to the program and timelines, the agency could resolve its remaining questions about the nature of the country's nuclear program by the end of the year and close the file.

One of the conclusions "The Agency has been able to verify the non-diversion of the declared nuclear materials at the enrichment facilities in Iran and has therefore concluded that it remains in peaceful use."

The U.S. has a different view and is saying that Iran is playing at cooperating with the IAEA in order to avoid further UN sanctions (so, from now on, cooperating with the IAEA is suspect?), and that it is still defying the UN demand to stop making enriched uranium. Iran says it has a right to enrichment as a member of the nuclear Non-Proliferation Treaty and insists its nuclear program is for civilian ends.

**Washington Post, 31 August 2007 / IAEA INFCIRC 711, 27 August 2007 / AFP, 30 August 2007**

**Chernobyl: Contractor for New Safe Confinement.** Ukrainian authorities have agreed with the European Bank for Reconstruction and Development (EBRD) to enter into contracts for the construction of the Chernobyl New Safe Confinement. The bank has authorized spending around 70% of the project's cost. Some Eur330 million (\$451 million) was authorized as an initial allocation, as compared to the overall project cost of Eur470 million (\$642 million). The money will be spent with the French-led Novarka consortium, which includes Bouygues and Vinci as well as German and Ukrainian firms. Contracts are expected to be signed within weeks and Novarka would then manage the construction of a gigantic arch to be placed over the broken remains of Chernobyl 4.

The structure, known as the New Safe Confinement (NSC), is meant to isolate radioactive debris in the building from the environment for the next 100 years. It will contain equipment and facilities to dismantle the existing 'sarcophagus' that was hastily built to cover the plant remains but that has badly deteriorated over the 21 years since the accident. Engineers had become concerned that the sarcophagus could fail and cause another release of radioactive debris, but it has now been stabilized, mainly by the addition of a load-bearing scaffold alongside. Nevertheless, rain and snow are still currently able to enter the leaky shelter. The NSC will be built in sections founded on teflon-coated rails and slid into place, to be tightly sealed around the plant building and sarcophagus.

Novarka reportedly submitted the lowest bid of two for the project, which was put to tender by the EBRD in 2004. Novarka were initially selected, but this choice was declared invalid by Chernobyl managers. The selection and discussion process was re-started, but reached the same conclusion.

**World Nuclear News, 9 August 2007**

**Germany: truckloads of seismic data relevant to nuclear waste dumping destroyed.** Anti-nuclear activists fighting waste dumping in north Germany claim to have information from inside the industry that "truckloads" of safety-relevant information have been destroyed. The group opposes the 'interim' storage of highly radioactive waste in a light-construction hall and the later 'final' storage in a specially dug salt mine next door at the village of Gorleben.

The media spokesman of the Bürgerinitiative Umweltschutz Lüchow Dannenberg (BI), Francis Althoff writes in a release that they've had information leaked to them "that safety-relevant measurement data on the expansion of the nuclear waste repository planned in Gorleben was taken away by the truckload and destroyed". Some of it hadn't even been processed, he writes. "According to the source in the atomic industry, many original measurement data and documents on the Gorleben underground were destroyed, all that appears to be left are unprovable final reports," Althoff writes.

For many years the formerly federal government owned Hanover based firm Prakla-Seismos was responsible for seismological measurements of the Gorleben salt dome. For years Prakla-Seismos carried out high-frequency electromagnetic measurements of drilling holes for the forerunner of the present Federal Agency for Radiation Protection (BfS) and continued doing this when the

BfS was formed. After Prakla-Seismos was sold and disbanded, the sources said 'truckloads full' of the measurement data were taken away and destroyed. Although it was asked, the BfS, which had ordered it, apparently didn't want to keep the important material. "For a licence procedure for Gorleben these seismic data are extremely relevant to any safety certification," writes Althoff. "The summaries that are all that's left now are unusable because they're no longer verifiable.

There's apparently no end to the sloppiness in the nuclear field, not even in an authority whose name says it's supposed to protect us from radiation." In a letter to the agency and the federal environment ministry the Gorleben opponents have demanded access to the documentation that remains. "For decades geologists have warned against operating Gorleben as a

final repository. In this connection we're asking ourselves why masses of data were destroyed. Gorleben has to be given up immediately and no more money must be invested in this chaos."

**E-mail Diet Simon , 22 July 2007.**

**Vermont Yankee cooling tower collapse.** A portion of a cooling tower at the Vermont Yankee reactor collapsed August 21. A broken 52" pipe was photographed spewing water into the ground, in the latest embarrassment for Yankee owner Entergy Corporation, the nation's second-largest nuclear utility. The collapse occurred while Entergy was in negotiations with the union at the site, which was threatening a strike. A union official said in a press release August 23, "This nuclear industry relies heavily on having each plant do the right thing and not cut corners. There are serious issues of public safety surrounding the Vermont Yankee dispute. We cannot allow one bad corporate apple and corporate greed to create a global risk." Entergy quickly settled with the union but the New England Coalition on Nuclear Pollution (NECNP) quickly submitted a petition to the NRC noting that the combination of the cooling tower collapse and the union's safety concerns "call into question the competence and efficacy" of Entergy's safety programs at the reactor, while the union's failure to report the safety conditions until involved in a salary dispute is "plainly evidence of a degraded safety culture..."

To see photos of the cooling tower collapse and read NECNP's petition, visit NIRS website at [www.nirs.org](http://www.nirs.org)

**NIRS, 1 September 2007**

## WISE/NIRS offices and relays

### WISE Amsterdam

P.O. Box 59636  
1040 LC Amsterdam  
The Netherlands  
Tel: +31 20 612 6368  
Fax: +31 20 689 2179  
Email: [wiseamster@antenna.nl](mailto:wiseamster@antenna.nl)  
Web: [www.antenna.nl/wise](http://www.antenna.nl/wise)

### NIRS

6930 Carroll Avenue, Suite 340  
Takoma Park, MD 20912  
Tel: +1 301-270-NIRS  
(+1 301-270-6477)  
Fax: +1 301-270-4291  
Email: [nirsnet@nirs.org](mailto:nirsnet@nirs.org)  
Web: [www.nirs.org](http://www.nirs.org)

### NIRS Southeast

P.O. Box 7586  
Asheville, NC 28802  
USA  
Tel: +1 828 675 1792  
Email: [nirs@main.nc.us](mailto:nirs@main.nc.us)

### WISE Argentina

c/o Taller Ecologista  
CC 441  
2000 Rosario  
Argentina  
Email: [wiseros@ciudad.com.ar](mailto:wiseros@ciudad.com.ar)  
Web: [www.taller.org.ar](http://www.taller.org.ar)

### WISE Austria

c/o Plattform gegen Atomgefahr  
Roland Egger  
Landstrasse 31  
4020 Linz  
Austria  
Tel: +43 732 774275; +43 664 2416806  
Fax: +43 732 785602  
Email: [post@atomstopp.at](mailto:post@atomstopp.at)  
Web: [www.atomstopp.com](http://www.atomstopp.com)

### WISE Czech Republic

c/o Jan Beranek  
Chytalky 24  
594 55 Dolni Loucky  
Czech Republic  
Tel: +420 604 207305  
Email: [wisebrno@ecn.cz](mailto:wisebrno@ecn.cz)  
Web: [www.wisebrno.cz](http://www.wisebrno.cz)

### WISE India

42/27 Esankai Mani Veethy  
Prakkai Road Jn.  
Nagercoil 629 002, Tamil Nadu  
India  
Email: [drspudayakumar@yahoo.com](mailto:drspudayakumar@yahoo.com);

### WISE Japan

P.O. Box 1, Konan Post Office  
Hiroshima City 739-1491  
Japan

### WISE Russia

P.O. Box 1477  
236000 Kaliningrad  
Russia  
Tel/fax: +7 95 2784642  
Email: [ecodefense@online.ru](mailto:ecodefense@online.ru)  
Web: [www.antiatom.ru](http://www.antiatom.ru)

### WISE Slovakia

c/o SZOPK Sirius  
Katarina Bartovicova  
Godrova 3/b  
811 06 Bratislava  
Slovak Republic  
Tel: +421 905 935353  
Email: [wise@wise.sk](mailto:wise@wise.sk)  
Web: [www.wise.sk](http://www.wise.sk)

### WISE South Africa

c/o Earthlife Africa Cape Town  
Maya Aberman  
po Box 176  
Observatory 7935  
Cape Town  
South Africa  
Tel: + 27 21 447 4912  
Fax: + 27 21 447 4912  
Email: [coordinator@earthlife-ct.org.za](mailto:coordinator@earthlife-ct.org.za)  
Web: [www.earthlife-ct.org.za](http://www.earthlife-ct.org.za)

### WISE Sweden

c/o FMKK  
Barnängsgatan 23  
116 41 Stockholm  
Sweden  
Tel: +46 8 84 1490  
Fax: +46 8 84 5181  
Email: [info@folkkampanjen.se](mailto:info@folkkampanjen.se)  
Web: [www.folkkampanjen.se](http://www.folkkampanjen.se)  
c/o FMKK

### WISE Ukraine

P.O. Box 73  
Rivne-33023  
Ukraine  
Tel/fax: +380 362 237024  
Email: [ecoclub@ukrwest.net](mailto:ecoclub@ukrwest.net)  
Web: [www.atominfo.org.ua](http://www.atominfo.org.ua)

### WISE Uranium

Peter Diehl  
Am Schwedenteich 4  
01477 Arnsdorf  
Germany  
Tel: +49 35200 20737  
Email: [uranium@t-online.de](mailto:uranium@t-online.de)  
Web: [www.wise-uranium.org](http://www.wise-uranium.org)

## 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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**WISE/NIRS NUCLEAR MONITOR**

c/o WISE Amsterdam  
PO Box 59636  
1040 LC Amsterdam  
Netherlands

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