# NUCLEAR MONITOR







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# CANADA: BAN ON URANIUM MINING IN BRITISH COLUMBIA

Canadian province British Columbia has slapped an official moratorium on uranium exploration and development in the province, reinforcing a long-standing informal ban on the nuclear fuel and dashing the hopes of companies that hoped to take advantage of soaring prices for the commodity.

(672.5867) WISE Amsterdam - British Columbia will not support the exploration and development of uranium in British Columbia and is establishing a "no registration reserve" under the Mineral Tenure Act for uranium and thorium, Minister of State for Mining Kevin Krueger announced on April 24. The "no registration reserve" will ensure any future claims do not include the rights to uranium. Government will also ensure that all uranium deposits will remain undeveloped. These changes support the BC Energy Plan commitment of no nuclear power.

Uranium is present in many areas of the province and can be encountered while exploring for other mineral resources. Therefore, the Province will also amend the Health, Safety and Reclamation Code concerning exploration for minerals where uranium or thorium are incidentally encountered. The amendments are designed to enhance the protection of workers and the public during exploration-related activities. The amendments also ensure that B.C.'s standards for exploration are consistent with national standards and guidelines.

The ban makes B.C. a no-go zone for uranium and confirms a moratorium put in place in 1980 by a previous government responding to anti-nuclear sentiment in the province. That moratorium lapsed in 1987 but subsequent governments did not move to update it, as companies focused their

exploration campaigns on other metals and because there was a widespread view that uranium production would be unpopular in the province.

That changed in recent years, as uranium prices more than doubled and climate change concerns put nuclear power plants in the spotlight. Several companies, including Vancouver-based Boss Power Inc., dusted off uranium projects that had been explored decades ago with an eye to bringing them into production. The government's decision comes as a surprise and contradicts assurances Boss had received that it would be able to take its project to public hearings, Boss spokesman Rupert Allan said "We did not know this was coming," Mr. Allan said, saying the decision makes the company's Blizzard deposit worthless. The company had described it as containing up to \$1billion worth of uranium.

Today, there is no uranium mining in the province. Development and mining of uranium in Canada is regulated by the federal government through the Canadian Nuclear Safety Commission. Uranium exploration is under way in other provinces, but the only producing mines in Canada are in Saskatchewan

**Sources:** News release Ministry of Energy, Mines and Petroleum Resources British Columbia, 24 April 2008 / The Globe and Mail, 25 April 2008 **Contact:** MiningWatch Canada, Jamie

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Tel: +1-613-569 3439 Mail: jamie@miningwatch.ca

# DEALING IN DEATHLY TECHNOLOGY - WHERE DO THINGS STAND NOW?

Much has been said about the '123 Agreement', the nuclear deal between the United States and India. The deal offers the U.S. lucrative nuclear commerce and huge military contracts worth of thousands of billions of dollars. The U.S. wants India to approve the deal as soon as possible so that their lawmakers would have enough time to take it up before they go on a break in August 2008. With the presidential elections scheduled for November 2008, there is a great uncertainty about the fate of the deal if it is not passed soon.

(672.5868) WISE India - A few years ago, two Goldman Sachs economists, Dominic Wilson and Roopa Purushothaman, posited that Brazil, Russia, India and China (together called the BRICs economies) could become a much larger force in the world economy over the next 50 years. Mapping out the GDP growth, per capita income and currency movements in the BRICs economies until 2050, Wislon and Purushothaman predicted that these economies could account for over half the size of the G6 (US, Japan, Germany, France, Italy, UK) by 2025 and could be larger than the G6 (in US dollar terms) in less than 40 years. Although per capita income in the United States and China could be \$80,000 and \$30,000 respectively by 2050, the Chinese economy could overtake the US economy by 2039.

# The Geopolitical Background of the Deal

The United States has already begun to feel uncomfortable with the growing strength of Russia, India and China (RIC). While the US-China relations have always been rather ambiguous, there have been talks of renewed cold war between the United States and Russia. The slow and steady Eastward expansion of the European Union and the US-led NATO has rung alarm bells in Moscow. Given the changing geopolitical alignments of the major powers, a possible alliance of the three adjacent neighbors, Russia, China and India, would be the last thing the United States and the other Northern countries would want.

So it is very important, even crucial, for the United States to rope in the least threatening and the most favorable country as an ally into the 21st century power equation. If that association comes with profiteering opportunities, military gains, political mileage and other significant benefits, it becomes, in fact, irresistible. Consequently, Uncle Sam suddenly finds democracy in India, makes a startling discovery that the United States and India are "natural allies" and starts serenading New Delhi for a new "strategic partnership."

When the Indian leaders and elites have misgivings about China thanks to the 1962 war, the Chinese involvement in the Kashmir conflict, and longstanding border disputes in the Northeast region, Uncle Sam finds it too important to ignore. Similarly, the lull in the Delhi-Moscow relations after the once strong and comradely solidarity between the Soviet Union and the Socialist India also gives a welcome opening for the superpower to manipulate.

The nuclear issue catches Uncle Sam's attention. While India is losing out to China in nuclear capabilities, Russia is about to reap high profits from setting up nuclear power projects in India. So Washington comes up with the infamous nuclear deal that offers India nuclear technology, fuel, NSG (Nuclear Suppliers Groups) support and an assortment of other such goodies.

What was started by the Clinton presidency and the Vajpayee government in Delhi was continued by the George Bush administration also. As a result of the continued dialogue between Jaswant Singh and Strobe Talbot, the next stage in the "Strategic Partnership" was reached. Prime

Minister Manmohan Singh of the Congress Party assumed power in Delhi and he signed the joint statement with President Bush in Washington DC on July 18, 2005.

The 123 Agreement (named so as per article 123 of the US Atomic Energy Act) was discussed in the US House of Representatives in July 2006. Following the visit of Nicholas Burns to India in December 2006, the United States passed the Hyde Act to go around the Presler Amendment that bans nuclear technology to any country that produces nuclear weapons. Accordingly, technical cooperation would be banned only if India made new efforts to produce weapons.

The Indian Department of Atomic Energy (DAE) opposed the deal first because of four important considerations: viz., the right to produce weapons with the US-supplied fuel; uninterrupted supply of fuel; not submitting to additional US safeguards besides the IAEA safeguards; the US not taking back technology, equipment and fuel following Indian tests. After six months of talks, a new draft was prepared on July 8, 2007. India's National Security adviser M.K. Narayanan, the DAE chief Anil Kakodkar, and the Indian foreign secretary Shivsankar Menon team added Articles 14, 148, 56 to the Agreement. These articles answered the above-mentioned concerns of the DAE. So the 123 Agreement was announced in July 2007 and the sketchy details were released to the public on August 1, 2007.

The deal offers the United States

lucrative nuclear commerce and huge military contracts worth of thousands of billions of dollars. The deal also enables Uncle Sam to poke his nose into India's foreign and domestic policies. For instance, the \$7.2 billion Iran-Pakistan-India gas pipeline project was stalled by the US government immediately after the joint statement in July 2005.

Most importantly, the deal would also help the superpower to befriend India and isolate it from Beijing and Moscow. According to the Indo-US Joint Statement, President Bush said, "as a responsible state with advanced nuclear technology, India should acquire the same benefits and advantages as other such states." Keeping Indians dependent was crucial and the above "benefits and advantages" would do just that. Just as the British colonial government broke down the indigenous textile technology in India before rendering the Indians vulnerable to colonial exploitation, Americans thought of thwarting Indians from attaining any self-sufficiency or achieving any major breakthroughs in nuclear technology. For instance, developing thorium-based nuclear power generation would put Indians at a greater advantage as thorium is abundantly available in India.

The nuclear deal would prop Delhi up to the level of Beijing's economic and military might. It would help neutralize the growing Red Dragon's strength in Asia without Uncle Sam getting his hands dirty. The tested Cold War strategy of fighting proxy wars could be twisted to deal with the potential enemy locally by a mercenary force that has had a past with the enemy. Furthermore, the nuclear deal would nullify the big role that the Russians were about to play in India by setting up several nuclear power plants. After all, the Clinton administration had tried in vain to stall the Koodankulam nuclear power project. Hitting all the above three mangoes with one stone is not a bad idea at all.

# The Indian Dealers

If we locate all the different Indian nuclear 'dealers' on a continuum, we would find the Bharatiya Janata Party, the Hindu nationalist party, at the far-

right. They were the ones who embarked on nuclear adventurism exactly 10 years ago in May 1998, initiated the nuclear dialogue with the Americans and set the "strategic partnership" process in motion. Ironically, they oppose the deal now mainly because they do not want to look like the Left. They have no objection to the 123 agreement provided the fuel supplies continued even if India tested again. Their hollow postures have no ideological clarity whatsoever.

The positions of the Congress Party, the UPA (United Progressive Alliance) government and the Indian nukedom could also be right of center on the continuum. Colonized as they are, they all tend to think that the United States is better than Russia and China. For the UPA Government, India's achieving energy independence and security and becoming an economic power like Japan or Germany looks appealing. Prime Minister Manmohan Singh would like to use the nuclear deal to prop up his failing government that has not managed to contain growing inflation, price rise and deteriorating food security. Singh, who is often credited with the switch to neoliberal economic restructuring as the erstwhile finance minister, would also like to set India off on a hard science and high-tech 'brave new world' flight.

The Indian Nukedom, which has had a very lackadaisical performance so far, is enthusiastic about the American deal. Fourteen of the 22 existing reactors will be safeguarded and the rest will be off limits for international inspection. As noted earlier, they have expressed their interests clearly and would like to go their slow way in their own sloppy style if the deal failed to fruition.

Almost all the Indian political parties tend to see the nuclear deal as an essential component of the country's development and rarely ask any questions about its politics, economics, science, or the strategic considerations. If the 'right of center' parties suffer from colonial hangovers and modern 'development' mindset, the 'left of center' parties are quite hypocritical. For these anti-bomb but

pro-power enthusiasts, it is the US involvement that prompts their fears and reservations about the high costs, the weapons connection, the militarist dimensions, and other dangers associated with nuclear power. While they oppose the US-India nuclear deal tooth and nail, they hardly raise a finger against India's nuclear deals with Russia and France.

They rightly point out that the deal should be seen in concurrence with the various defense deals and agreements with the United States, and that the deal would entangle India in the US war machinery. They are quite right in claiming that India's principled stand on non-proliferation stands compromised, that the deal has strong political, economic and military ramifications in which India's sovereignty and autonomy could be hurt, and that the Non-aligned foreign policy of India would come to an end.

The UPA government that is sustained by the outside support of the Left parties has constituted an informal UPA-Left Committee to sort out the nuclear deal differences. The Committee met on October 5, 2007 and discussed the Left's note on the controversial Hyde Act, UPA's response to the note and their rebuttal. The Hyde Act grants much power to the United States to proceed against India in case of the latter's violation of the Act or any of its provisions. After all, it is not just the 123 Agreement that reigns supreme in the whole deal but there is the overriding Hyde Act also. There is hardly any clarity among the deal makers both in India and the United States about the anchoring of the 123 Agreement in the Hyde Act. They all have their own interpretations and explanations about the complementary or contradictory aspects of these two instruments.

The UPA-Left Committee met again on October 11 and 14. It has recently met for the eighth time on May 6, 2008 and is scheduled to meet again on May 28 to consider allowing the government to conclude and sign an India-specific safeguards agreement with the IAEA. The government has already held informal consultations with IAEA on safeguards agreement. While New Delhi wants to clinch the safeguards agreement with the IAEA by June 2008, the Left parties keep reiterating their opposition to the deal that would have serious implications for the country's strategic interests, security, sovereignty, and independent foreign policy.

# Where Do Things Stand Now?

If the Manmohan Singh government thrusts the deal down the throats of the Indian nation following the possible safeguard agreement with the IAEA, the Left may pull out of the alliance and force the country to face general elections with the nuclear deal as a major poll issue. In case the Congress party gained absolute majority, they would dump the Left and sign the deal. If they did not obtain majority in the new Parliament, the Congress might dump the deal and take the Left parties to form a non-BJP government.

Just as there is a hectic internal political process here in India, the US has its own political process going also. On October 4, 2007, a small group of senior US lawmakers introduced a non-binding resolution in the US House of Representatives and sought tough restraints on nuclear trade with India. The United States wants India to approve the deal as soon as possible so that their lawmakers would have enough time to

take it up before they go on a break in August 2008. With the presidential elections scheduled for November 2008, there is a great uncertainty about the fate of the deal if it is not passed here and now.

It is strange that both democracies, the United States and India, chose not to take their respective citizenry into confidence before the deal was designed and its provisions decided. The cunning 'top down' process became a bit democratic only after sustained efforts of some sections of the civil and political societies both in India and the United States. Even today both American and Indian citizens are hardly informed, or educated, or empowered about the intricacies of nuclear power and weapons issues, the socioeconomic-political ramifications of the deal, geopolitical fall out at the international level and so forth. It is indeed sad that the "common woman" in the longest and the largest democracies have to rely on external actors and factors to safeguard her interests.

If India wins Western patronage through the nuclear route, next in line may be Japan, Brazil, South Africa, Turkey, South Korea, Taiwan, all of whom are capable of producing nuclear weapons. In fact, China is already willing to sell more nuclear reactors to Pakistan. According to the Christian Science Monitor of April 27, 2005, the Chinese premier talked about enhancing bilateral nuclear cooperation by selling them two more reactors. China has also signed a deal to build a nuclear power plant in Egypt. One MW power generation produces ½ kg plutonium. India that can produce 5-10 bombs now would produce 25-40 bombs with the help of the nuclear deal. The non-proliferation efforts of the humanity could fail miserably and proliferation threat becomes real and immense.

The nuclear expenditure as well as military budgets of countries will increase exponentially giving rise to arms race across the world. Such a development will deprive the citizens of the basics of life and push them all deeper into poverty and misery. There will ensue underdevelopment, insecurity, intolerance and terrorism.

It is high time anti-nuclear activists, Green political workers, "ordinary citizens" and others commit themselves to a democratic struggle against nuclearism, proliferation of WMD, and the over all deterioration of human values and interests in the corporatized and monetized global society.

Source and contact: S. P. Udayakumar,

# **USA: OPPOSITION GROWS AGAINST ITALIAN WASTE IMPORT**

In order to justify more nuclear power in the world, the nuclear industry is desperately trying to give the illusion that the waste problem is solved. It clearly is not. Opposition is growing to EnergySolutions' applications to the US NRC to import massive amounts of nuclear power waste from Italy to burn, melt, transport and dump in Tennessee and Utah.

(672.5869) NIRS - EnergySolutions, a quickly expanding international nuclear power and waste corporation with a large waste division in US and UK locations, runs two commercial nuclear waste burial grounds in the US (Barnwell, South Carolina and Clive, Utah), two radioactive incinerators, a metal melter and other "processing" facilities in Oak Ridge, Kingston and Memphis, Tennessee. It is one of several nuclear waste "processing" companies in Tennessee.

EnergySolutions applied to the US Nuclear Regulatory Commission (NRC) for import/export licenses to bring 20,000 tons, one million cubic feet and over 620 trillion becquerels (radioactive emissions per second) of radioactive waste from Italy's nuclear power and related industries, to the US for processing including radioactive incineration, metal melting, transport and disposal.

According to the European Nuclear Energy Agency January 2006 report on Italy's waste inventory, this is a huge portion of the so-called "low" and intermediate level nuclear waste in the country.

In the US, "low-level" nuclear waste includes both of Europe's "low" and "intermediate" categories. Every

radionuclide that is present in high level radioactive waste and irradiated (spent) nuclear fuel can be in the "low-level" waste, just in different concentrations and proportions. So plutonium, strontium, cesium, radioiodine and hundreds of other radioactive elements could be shipped around the globe. Some so-called "low-level" radioactive waste can deliver a lethal dose in just 20 minutes unshielded. Unbelievably, this kind of waste is being thermally processed at at least one Tennessee location.

The so-called "low" and intermediate level radioactive waste from Italy would

enter the US via Ports of Charleston, South Carolina and New Orleans. Louisiana. It would travel to and throughout Tennessee to Memphis, Oak Ridge and Kingston where Tennessee Department of Environment and Conservation (TDEC)-licensed radioactive waste processing facilities would burn, smelt/metal melt, chop, sort, scrape, deregulate and otherwise "process" the radioactive waste giving off routine radioactive emissions and creating more waste. Under the licenses, some of that nuclear waste could be "cleared" and dumped in solid waste dumps in Tennessee. Regular solid waste landfills in West. Middle and East Tennessee have been secretly permitted by the same state agency (TDEC) to take some radioactive waste from the radioactive waste processors, including EnergySolutions, which are located throughout the state.

Tennessee has four or more commercial nuclear waste incinerators and "thermal processors" operating and bringing nuclear power and weapons waste into the state to burn or "heat treat." It has the only US Department of Energy nuclear incinerator in the country. Radioactive and mixed waste from the US nuclear weapons complex is brought there to burn. This incineration/thermal processing is not happening in any other states. This has been developing under the radar and the Italy import application is shining a light on it. Residents of the state are just learning these highly questionable nuclear waste practices are taking place for profit in their midst.

Although EnergySolutions has not fully characterized the Italian waste, it estimates that a third of it is radioactive metal that would be melted down for reuse. Radioactive metal melting activities are licensed in Tennessee but have been fought by the environmental community and the metal industries for years. Promises are being made that the contaminated metal is for "restricted" use only, but regulations guaranteeing this are not clearly in place. EnergySolutions says it will send the "recycled" radioactive metal to Japan for shield blocks and possibly keep some here in the US. Previous studies in the US have indicated that

there is not a big demand for contaminated shielding. More detail is being sought on the Japan connection, particularly where and how the shielding would be used.

Some of the waste resulting from processing in Tennessee would be transported to Utah to be buried at the EnergySolutions radioactive burial ground in Clive. A technical report by the Institute for Energy and Environmental Research (IEER) expressed concern that the waste from Italy exceeds the allowable criteria to dump at the EnergySolutions disposal site. Utahans are opposing it. Utah Governor Huntsman has said "no," and the interstate nuclear waste compact, to which Utah belongs, voted unanimously to reject the waste coming into the region. EnergySolutions is challenging the rejection. (The Northwest Radioactive Waste Compact is a Congressionally approved group of states whose governor-appointed representatives have authority over the import and export of waste into that group of states).

This means that waste that comes to Tennessee to be smashed, burned and repackaged might not have a licensed disposal site. After July 1, 2008, nuclear waste from Tennessee will not have access to the Barnwell nuclear dump (since that Compact is refusing to accept waste from outside its member states CT, NJ and SC). Some could be deregulated and sent to solid waste landfills in Tennessee, but not all of it. The "processed" waste could be transported all the way back to Italy.

Some argue US disposal space should be reserved for the 104 US reactors operating and their fuel-chain facilities rather than open up this space to other nations' waste. The limited disposal capacity in the US would be filled up faster making it even more difficult to manage the massive amounts of US nuclear power and weapons waste.

This large import/export proposal sets a precedent for increasing amounts of unnecessary radioactive waste transport around the world. It reinforces the processing industries which routinely release long-lasting radioactivity to the environment.

Tennesseans worry about the regular releases of radioactivity into their air, water and landfills. Residents around the country have concerns about the nuclear transportation.

It is clear that EnergySolutions' goal is make a profit on the world's nuclear waste without regard for public exposures from processing and transporting this dangerous material back and forth around the world.

A resolution against the import of Italy's waste to the US has been introduced in both the South Carolina and Tennessee state legislatures.

Hundreds of comments have already gone in to the US Nuclear Regulatory expressing opposition.

US Representatives Bart Gordon from Tennessee, Jim Matheson from Utah and Ed Whitfield from Kentucky have introduced a bill in Congress to prevent the US from importing foreign "lowlevel" radioactive waste. A hearing is scheduled for May 20, 2008. Utah local, state and regional compact opposition has been clear.

Action Needed: Comment by June 10, 2008 to the US Nuclear Regulatory Commission at secy@nrc.gov to say NO to License Applications Nos. IW023 and XW013 (Federal Register Volume 73, Number 28, 2/11/08) Refer to the Application numbers. In the US, send copies of your comments to your Governor, Congressmembers and Senators and to your State legislators; Contact Nuclear Information and Resource Service NIRS to join requests for hearing(s) and to intervene. The federal NRC docket can be viewed on the NRC website www.nrc.gov and searching in the electronic library ADAMS under the docket # 11005711 or EnergySolutions Italy. More information at www.nirs.org/radwaste/outofcontrol/out ofcontrol.htm and www.nirs.org/radwaste/llw/llwhome.htm

Source and contact: Diane D'Arrigo at **NIRS** 

Email: dianed@nirs.org

# NUCLEAR RENAISSANCE IN CENTRAL EUROPE STALLING ON THE GROUND

Over the last years, plans for new nuclear power in Europe were most abundant in Central Europe - the new member states of the European Union. Over the last decade, new built projects from before the 1989 revolution were restarted in Romania, Bulgaria and Slovakia. Plans were developed for completely new reactors in Lithuania and Slovenia. And discussion started about new nuclear stations in the Czech Republic, Hungary, Poland, Estonia and even Albania and Serbia. The nuclear lobby started to point to the region as the basis for a nuclear renaissance in Europe. But reality proves harder. At present only the Cernavoda 2 reactor was brought on-line. All other projects face tough hurdles and are strongly delayed. An overview.

(672.5870) Greenpeace/WISE Czech Republic - Furthest developed are plans for the Slovak reactors Mochovce 3 and 4. After privatisation of state utility Slovenské Elektrárne (SE) to the Italian energy giant ENEL, the latter saw itself more or less forced to finish the construction of two VVER 440/213 reactors. Designed in the 1970s and having received their building permit in 1986, the reactors lack crucial safety features like a secondary containment that is not only meant to keep radioactivity inside the reactor in case

of technical or human failure, but also to protect against impacts from outside like a terrorist hijacked aircraft. The Slovak state tried to make the deal to build this outdated power station as sweet as possible. It skipped the normally compulsory Environmental Impact Assessment (EIA) procedure with the argument that the 1986 building permit was still valid. It schemed financial advantages for ENEL in the form of a dividend holiday and an

ingenious scheme with the compulsory payments for the decommissioning and waste fund. But the project is hitting problems.

In January, the European Commission asked Slovakia for an explanation for the fact that there is no EIA. The Commission stated that "according to the opinion of its services it is highly probable that in respect to the current phase of construction of the nuclear power plant Mochovce and the characteristics of the projects it should be considered as a new project, that should undergo a complete EIA [...]". A coalition of tens of Slovak and foreign organisations and individuals is

preparing a court complaint to demand such an EIA. An EIA would most probably demand the operator SE to strongly adapt the project in order to meet modern safety and environmental demands.

The project is still waiting for an opinion from the European Commission under Euratom art. 41 to 44, in which the Commission looks at general safety issues, financial feasibility, decommissioning fund and waste arrangements. Though normally such an opinion is due within two or six

Another 4.3 Richter-scale tremor shakes Bulgaria. An earth tremor measuring 4.3 on the Richter scale shook northern Bulgaria soon after 1pm on May 12 2008. The epicenter was some 270km to the northeast of the capital of Sofia, near the town of Strazhitsa. The town has a sad fame because of the 1977 earthquake in 1977, which measured 7.2 on the Richter scale and killed more than 120 people. The tremor was felt in the town of Belene, where Bulgarian authorities plan to build the second nuclear power plant in the country. It is the third tremor measuring more than four magnitudes on the Richter scale in the country since mid-April. Sofia Echo, 12 May 2008

months, the in summer 2007 submitted proposal is now generally expected to receive an answer only end of May. According to Slovak TV Markiza in a report late April, the Commission has questions about the lacking secondary containment and safety against possible terrorist attack.

Greenpeace filed a complaint to the European Commission on illegal state aid for the project in the form of special arrangements for the decommissioning fund. If accepted by the Commission, new arrangements would increase Mochovce's electricity cost price to a more market conforming level.

In a separate development, protests by many environmental NGOs in the Netherlands, Austria, Italy and Hungary brought a bank consortium including ING, ERSTE, KBC, Intesa Sanpaolo, Societé Generale, Calyon, Dexia and Mizuho to reinvestigate an 800 Million euro loan to SE, which was for 85% to be used for the Mochovce project. A gentlemen's agreement between the bank and SE diverted all these funds now to non-nuclear investments, leaving ENEL and SE to pick up the bill for Mochovce and setting a clear sign

from the financial world concerning the high risk of the project.

The Bulgarian Belene project in the mean time is already more than two years behind schedule, mainly due to the choice of an untested new Russian reactor type and financial problems. Since nuclear projects have according to EU regulations to be completely market financed, the Bulgarian state owned utility NEK has problems to find

financiers to bring together the around 7 billion Euro needed. It is counting on a 49% financial input from a soon to be chosen strategic investor, and has recently chosen French bank BNP Paribas to lead attempts to cover its own 51%. BNP Paribas is facing a difficult task however, as NEK and especially the Belene project is not deemed sufficiently credit worthy by the financial world. On top of that, the risk of financing a nuclear project situated in a seismic active area seems to frighten banks. Over the last years 12 banks already withdrew original interest in the project.

In another attempt to improve

the financial situation, the Bulgarian government decided to re-organise NEK in order to increase its credit-worthiness. A new holding comprising NEK, the Maritsa East 2 coal power station, the Kozlody nuclear power plant and gas company Bulgargaz is supposed to woo investors.

Nevertheless, consultancy Deloitte and Touche, responsible for working out the idea, warned that lumping together of the earmarked companies will not automatically result in a higher credit rating for the umbrella structure. Also, the resulting combined 4 billion Euro of collateral might not be enough for getting 3,5 billion Euro in loans. Whatever the result, the reorganisation is likely to add to the delays the project is already facing. In the coming months, NEK is to chose its 49% strategic investor. In media publications, German utility RWE was mentioned as the favourite until it came under heavy attack on its foreign nuclear policy during its shareholders meeting in Essen late April. This increases the chance that the second short-listed candidate Suez / Electrabel will be chosen for Belene. During further negotiations three issues are likely to remain contentious: the willingness to invest in a nuclear project in a seismic active area, the willingness of the strategic investor to come up with a large upfront sum (RWE was rumoured to have offered 400 million

Euro), and the amount of control the strategic investor will get over the project.

In the meantime, local mayors around Belene, including from bordering Romania, have started to organise to point to European authorities the seriousness of especially the seismic risk of the project. This might become important in the upcoming due diligence for a possible Euratom and EIB loan.

Also developments around new blocks in Ignalina in Lithuania have slowed down. Although politicians in Lithuania itself still mention 2015 as the date of going online, media in the Baltic States and politicians and utility people in Latvia and Estonia mention 2020 as earliest possible date and started preparing new generation projects to fill the gap. Apart from problems with Poland as possible participant in the project, it becomes increasingly clear that costs could become inhibitive. Lithuania is currently preparing a consortium to carry its part in the project. The EIA for Ignalina 3 and 4 in the meantime continues. NGOs from Estonia and Latvia already protested the fact that their input had not been considered during the first scoping phase of the process.

In Romania, the preparations for finishing the Cernavoda 3 and 4

CANDU 6 blocks are continuing. Seeing the problems of fully market financing, Romania chose the "Finish" model of getting together a consortium that is to guarantee with long term contracts the sale of electricity from the power station. This consortium, consisting of Nuclearelectrica (20%), Enel (15%), Suez / Electrabel (15%), RWE (15%), CEZ (15%), Iberdrola (10%) and steelmaker Arcelor- Mittal (10%), currently faces unclarity because of political wishes in Romania to have the state (read: state utility Electronuclear) maintain a majority share in the project.

Little aware of all these complicating factors, Slovenian authorities prepare for the launch of a new reactor project at the Krsko location. It is expected that an EIA procedure might start this year still, though it is unclear whether Slovenia indeed wants to build a minimum of 1000 MW, the standard of today's nuclear power stations.

**Source:** Jan Haverkamp, Geenpeace EU Unit

Email:

jan.haverkamp@diala.greenpeace.org Contacts for more information:

on Mochovce: Greenpeace Slovakia, Karel Polanecky:

karel.polanecky@greenpeace.sk on Belene: Green Policy Institute, Petko Kovachev: petkok@bankwatch.org

# **EPZ APPLIED FOR LICENSE TO USE MOX-FUEL IN BORSSELE**

Dutch utility EPZ has applied for a license to use mixed-oxide fuel in Borssele, notably to "decrease its dependence on the volatile natural uranium market," the company said May 7. EPZ said it was submitting a Project Initiative Document to the environment ministry, VROM, to start the licensing process by writing an environmental impact statement on the use of MOX fuel in the PWR. The EIS will demonstrate the feasibility of using MOX in Borssele, examine alternative options and select the best available option, EPZ said. It said it expects to submit the EIS by first-half 2009.

(672.5871) Laka Foundation - EPZ said that in addition to recycling plutonium and depleted uranium as MOX, it wants to "improve its use of recycled uranium," which it has been loading in Borssele for the past few years. Previously, EPZ had said it had no intention to use MOX fuel. But the main argument, according to EPZ-spokesperson Wieman, is economical: since fresh uranium is about 6 to 7 times as expensive as a few years back

(and is expected to become more expensive), EPZ claims it is cheaper to use plutonium and depleted uranium. This should be definitely the end of the myth that fuel-costs of a nuclear reactor are 'negligible'.

In June 2006, the Dutch government concluded a contract with the Borssele operators and shareholders. The reactor would be allowed to operate until 2034 on certain conditions, including that it

would be maintained to the highest safety standards. Following the extension of its operating life to 2033, a turbine upgrade boosted its capacity from 452 to 485 MWe.

Reactions in The Netherlands on the EPZ-intention differ and are at the same time predictable: rightwing parties see no problems; leftwing parties (including two of the three coalition partners) and (what's left of) the anti-nuclear

movement are opposing the MOX-use in the 35-year old reactor. But if the utility would get a license, then what to do with the spent MOX-fuel? Used nuclear fuel from Borssele has been reprocessed at France's La Hague by Areva NC for some time, and a contract exists to continue this until 2015.

But reprocessing MOX-fuel is somewhat different. It has been demonstrated at La Hague with small quantities, but there is currently no industrial strategy to reprocess MOX. But in the Netherlands there is no facility for direct storage of used fuel, only for reprocessed waste. There has to be made a decision anyhow on whether to continue reprocessing after 2015 and since the parliament has to approve such a contract, it will be an important issue.

There is no storage facility for plutonium in The Netherlands, nor will there be any, the Government stressed on many occasions. EPZ claims they sold all reprocessed plutonium to EDF.. Bruno Lescoeur, Senior Executive Vice President, International Industrial and Public Affairs of EDF for the first time confirmed publicly in Paris on 6 May 2008 that EDF gets paid by EPZ, to take title of the plutonium from the reprocessing of Dutch spent fuel. This was known for a long time but nobody ever wanted to confirm it.

This is a particularly striking fact since Areva continues to state that '1 gram of plutonium is equivalent to 1 ton of oil'. However, it puts a zero value to its plutonium (and reprocessed uranium) stocks in its accounts, as does the UK Government. And the fact that 'EDF makes money' out of the 'service' to take over plutonium indicates that its value is actually

negative.

Because it is prohibited to store foreign waste in France, EPZ cannot send the used MOX-fuel to La Haque without reprocessing it. According to Mycle Schenider, Independent analyst on Energy and Nuclear Policy in Paris, it is envisageable that the MOX-fuel then either is reprocessed as well at La Hague (although there are no plans for reprocessing MOX-fuel on an industrial scale), with the plutonium being 'sold' to EDF in one stage later, or to swap it against spent uranium fuel and get that reprocessed etc. After reprocessing the quality of the plutonium degrades: it becomes less fissionable and more non-fissionable Pu-isotopes appear. Although multiple 'recycling' of Pu is technically possible, you can always blend it with other fuel, it makes even less economic sense than one round. The Dutch would definitely have to pay EDF even more to keep second generation plutonium.

Currently about 40 reactors in Europe (Belgium, Switzerland, Germany and France) are licensed to use MOX, and over 30 are doing so. In 1997 (when WISE Amsterdam published the 'MOX Myth') there were 21 reactors in Europe using MOX. Most reactors use it at about one third of their core, but some will accept up to 50% MOX assemblies. France aims to have all its 900 MWe series of reactors running with at least one-third MOX. Japan aims to have one third of its reactors using MOX by 2010, and has approved construction of a new reactor with a complete fuel loading of MOX.

But what about the use of MOX-fuel? What are the consequences?Due to the presence of plutonium, MOX production is more dangerous than uranium fuel production. Small accidents, which occur all the time, are likely to have far more serious consequences than they do at present, because of the wide-spread use of plutonium.

The use of MOX will not decrease the danger of nuclear proliferation, as is often claimed, but on the contrary, will increase it, due to:

- · Continued reprocessing.
- The inevitable increase in the transportation of separated plutonium.
- The use of plutonium will become more wide-spread.
- Countries building plutonium stocks will provide a bad example.
- Safeguarding nuclear materials will become more and more difficult due to the quantities of material involved and the inevitable financial limitations.

Light Water Reactors are designed and constructed for the purpose of burning uranium fuel. They have to be adapted for the use of MOX. The use of MOX has three specific consequences for the behavior of the reactor:

- Leak burn-ups cause the fuel rods to weaken.
- Far more fission gas is released during the process.
- The reactor vessel may become brittle as a result of increased radiation damage, due to the higher energy of the neutron spectrum.

Sources: Platts, 8 May 2008, / Mycle Schneider, email 9 & 13 May 2008 / World Nuclear News, 13 May 2008 / The MOX Myth, WISE News Communique 469/470, 11 April 1997 Contact: Laka Foundation, Ketelhuisplein 43, 1054 RD Amsterdam. Tel: +31-20-6168294

# **IN BRIEF**

**U.S. Receives North Korean Plutonium Program Documents.** North Korea delivered 18,000 pages of documents describing the nation's plutonium production program to a senior U.S. State Department official during his latest trip to Pyongyang this week, the New York Times reported May 9. Included in the records is information on the Stalinist state's efforts in 1990, 2003 and 2005 to reprocess plutonium for nuclear weapons, according to a high-level Bush administration official. The documents do not address North Korea's suspected uranium enrichment or nuclear proliferation activities. The records should help to clarify the amount of plutonium produced by Pyongyang. Officials there have apparently placed the stockpile at around 30 kilograms, while U.S. officials believe the actual amount could be closer to 50 kilograms. North Korea used some plutonium in an October 2006 nuclear test.

Currently, talks are held aiming at breaking the deadlock over the October 3, 2007 six-nation agreement under which North Korea would receive economic, security and diplomatic benefits in exchange for giving up its nuclear sector. The six

parties agreed that North Korea would provide a complete list of its nuclear programs and disable its facilities and its main reactor by Dec. 31. North Korea failed this deadline. On February 22, 2008, North Korea opened its main nuclear reactor in Yongbyon to foreign media for the first time. American researchers say North Korean officials told them they had slowed the removal of fuel rods because the United States and other nations fell behind in supplying aid promised under the disarmament deal.

A recent compromise apparently calls upon Pyongyang to provide details of its plutonium effort while only acknowledging U.S. uranium and proliferation suspicions. If the nuclear deal moves ahead, North Korea would be required to finish disabling three key facilities at its Yongbyon nuclear site and then move to fully dismantle the facility. On April 24, 2008, the White House accused North Korea of assisting Syria's secret nuclear program.

Global Security Newswire, 9 May 2008 / AP, 24 April 2008

**E.ON:** U.K.-reactors will cost twice estimate. The U.K. Government has vastly underestimated the cost of building a new generation of nuclear power plants, according to Wulf Bernotat, chairman and chief executive of the German E.ON; the world's largest power company. The E.ON chief, not really known for its anti-nuclear stance, stated in an interview with English daily The Times, that the cost per plant could be as high as 6 billion (£4.8 billion) - nearly double the Government's latest £2.8 billion estimate. His figures indicate that the cost of replacing Britain's ten nuclear power stations could reach £48 billion, excluding the cost of decommissioning ageing reactors or dealing with nuclear waste. "We are talking easily about 5 billion to 6 billion [each]," Dr Bernotat said.

The Department of Business, Enterprise and Regulatory Reform said the  $\mathfrak{L}2.8$  billion figure, contained in a White Paper published in January, was an estimate and that the final costs would hinge on many factors The Times (UK), 5 may 2008

Anti-nuclear whitch-hunt opened in France? "Sortir du nucléaire" denounced the fact that Jean Marcon, one of the network members, had been detained for interrogation by the police in Provence. They expressed concern about the "witch-hunt directed against anti-nuclear activists" just a few days before a day of action aimed at commemorating the 22nd anniversary of the Chernobyl disaster (in which 150 French groups and 50 from other European countries are taking part). 'Sortir du nucléaire' is a French Federation against nuclear power consisting of 820 groups) Jean Marcon was arrested in the evening of April 22 at his home in Pertuis (Vaucluse), handcuffed and taken to the Manosque police station where he was held for questioning. His flat was left in an appalling state by the police. He was accused of alleged misuse of government seals reproduced on a humorous leaflet criticizing the ongoing construction of the ITER nuclear fusion reactor at Cadarache. All forgery and unlawful use of an official stamp in order to abuse the public is punishable by five years imprisonment and a fine of 75,000 euros, according to Article 444-3 of the French Code of criminal law. Jean Marcon was released after 19 hours of interrogation.

The spokesperson for 'Sortir', Stephane Lhomme, himself had been held for questioning at the DST headquarters (MI6/CIA equivalent) on March 25, during an investigation over a document classified "defence: confidential" which was in the collective¹s possession. The document stated that, in fact, EPR-type reactors had not been designed to resist a shock caused by a collision with an airliner.

" Do we still have the right to disagree with nuclear energy in France? This disturbing drift towards an obsessive pronuclear position is directly in line with Mr Sarkozy's plans and his renewed effort to sell nuclear power to oppressive regimes (Libya, China, etc)", according to "Sortir du nucléaire"

AFP, 24 April 2008 / Sortir du nucleaire, 28 April 2008

**Russia, Putin re-organizes.** Sergey Shmatko, president of Russia's state-owned nuclear power reactor vendor AtomStroyExport (ASE), has been appointed as Russia's new energy minister.

Vladimir Putin, who became prime minister early may after two terms as President, reshuffled the cabinet to bring in high-profile figures from his presidency but leave prominent ministries unchanged. Putin announced the 24 positions, eight of them new, at a cabinet meeting in the government headquarters. President Dmitry Medvedev, Putin's hand-picked successor, quickly approved the appointments.

Putin's major structural change was to split the Ministry of Energy and Industry into two separate ministries - the Ministry of Energy (Minenergo) and the Ministry of Industry (Minprom). This is a reflection of the growing importance of oil and gas exports and concerns that the country's industrial sector is underdeveloped. Victor Khristenko, formerly minister of industry and energy, will head the Ministry of Industry. Sergey Shmatko, aged 42, was appointed as president of ASE in 2005. Since January, he has also served as deputy director of AtomEnergoProm, the state giant that includes all of Russia's civilian nuclear assets. Between 1985 and 1988, Shmatko worked on Soviet nuclear submarines in the Northern Fleet.

World Nuclear News, 13 May 2008

**USA:** Areva Chooses Idaho for Uranium Enrichment Plant. Areva recently chose Idaho Falls for the location of its proposed \$2 billion uranium enrichment plant. Areva, a French-owned energy services company, said that it received the best overall economic package from Idaho officials. Five states were in the running, including New Mexico.

The proposed location for the Areva plant in New Mexico was between Carlsbad and Hobbs. Currently, the National Enrichment Facility, which will also enrich uranium, is under construction near Eunice, on the Texas/New Mexico border. It is

operated by Louisiana Energy Services and owned by Urenco, a European company.

Eddy and Lea Counties offered Areva an incentive package they valued at \$316 million. Nevertheless, Areva officials were concerned about the workforce shortage in the Carlsbad area, water availability and high electricity costs. Don Hancock, of the Southwest Research and Information Center, based in Albuquerque, explained the NRC process for the National Enrichment Facility. "The NRC licensed the plant even though there was no waste disposal site. Uranium enrichment plant waste is both radioactive and toxic and there is no disposal site. So any new enrichment plant is a long-term radioactive and hazardous waste dump. That's not good for New Mexico, Idaho, or anywhere."

Since learning about the Areva proposal in January, the Snake River Alliance, Idaho¹s nuclear watchdog, has opposed it. Andrea Shipley, Executive Director of the non-governmental organization, said, "We will engage our members and supporters in what we know will be a long process as Areva begins its uphill fight to secure federal, state, and local permits for this ill-advised industrial plan."

CCNS News Update, 9 May 2008

STUK annual report - more safety problems in Olkiluoto. During 2007, violations of safety regulation and delays have continued in the Olkiluoto 3 project. Defects in welding and other construction have still been found. Many subcontractors still lack adequate training and understanding of nuclear safety. Because of time pressure, manufacturing of some components was started before the designs had been approved by the authorities and components have been brought to inspection before they are finished.

According to Greenpeace, the failures exposed in Olkiluoto during 2007 show that the time and cost pressure is leading to attempts to cut corners with nuclear safety. The chronic problems in safety culture and quality control will most likely lead to further delays and cost overruns. In addition, there is a risk that failures during construction undermine the safety and reliability of the reactor.

Greenpeace, 14 May 2008

Spain: More accidents. On May 3, the environmental grassroots organization "Ecologistas en Accion", made public yet another incident in one of the Spanish nuclear power plants. A worker of the plant informed that the day before water brimmed over the reactor's core during the process of re-filling. As a consequence, the working area had to be evacuated. The incident took place 6 days after protests were held in front of the main gate of the nuclear plant to denounce the constant security leaks in Spanish nuclear power plants in the frame of Chernobyl's 22nd anniversary. The radioactive escape in the plant of Asco (Tarragona), the loss of one of the screws from the fuel bars inside the reactor core in Trillo (Guadalajara), the emission of radioactive aerosols after a human failure in the nuclear fuel-processing plant of Juzbado (Salamanca) are some other incidents which have recently been made public in Spain and which have caused strong criticism from ecologist groups towards the Nuclear Security Council (CSN) for minimizing their dimension, risks and consequences.

## Twenty second Chernobyl commemoration.

The website www.chernobyl-day.org, an initiative by the French anti-nuclear network 'Sortir du nucleaire', listed 174 actions on April 26, to commemorate the 22nd anniversary of the Chernobyl catastrophe. Most of the activities were held in France but some 45 outside France, even a gathering in Tunisia took place.

The largest demonstrations took place in Turkey where on several locations thousands of people demonstrated against the plans of the government to built nuclear reactors. Journalists covering the demonstration in the southern coastal city of Mersin, where the government plans to construct Turkey's first nuclear power plant, wore t-shirts carrying the slogan "We do not want to report on polluted shores."

In Belgium a platform of NGO's organized a debate with politicians about the phase-out (or not) policy and invited the debaters to take part in a commemorative action at the Doel nuclear power plant where 443 small windmills, folded from paper, were put in the gates, altogether forming the slogan No Nukes!

In Geneva, Switzerland, hundreds of anti-nuclear demonstrators wearing white masks formed a human chain around the headquarters of the World Health Organization (WHO) denouncing the links between WHO and IAEA and to ask for an independent WHO that would recognize and cure people sick of radioactivity.

In Ukraine's capital Kyiv, people gathered in the city-center demonstrating against new reactors: The anniversary was also marked by an all-night vigil in Slavutich, 50 kilometers from Chernobyl, where many of the reactor site's employees lived.

In Belarus, protesters marched through the capital of Minsk, to mark the 22nd anniversary of the Chernobyl nuclear disaster and denounce plans to build a nuclear power station in the ex-Soviet state. Belarus was the country most affected by the world's worst nuclear accident and the anniversary is traditionally the year's biggest rally for opponents of President Alexander Lukashenko, accused of violating fundamental human rights. A crowd of about 2,000 passed along a route approved by authorities leading from the city center to an outlying square. Police last year beat protesters in Minsk at the end of the annual march. Protesters in Minsk demanded an end to plans to build the country's first nuclear power station from next year. "These people are not academics, they are political bandits. They will not exploit this topic. I will not allow it. They are not even politicians -- they are enemies of the people", said Lukashenko, quoted by local news agencies

Reuters, 26 April 2008 / AFP, 27 April 2008 / www.chernobyl-day.org

# The NUCLEAR MONITOR

The Nuclear Information & Resource Service was founded in 1978 and is based in Takoma Park, Maryland. The World Information Service on Energy was set up the same year and is housed 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.

The 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). A Russian version is published by WISE Russia, a Ukrainian version is published by WISE Ukraine (available at www.nirs.org). Back issues are available through the WISE Amsterdam homepage: www.antenna.nl/wise and at www.nirs.org.

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# **WISE/NIRS offices and relays**

# WISE Amsterdam

PO Rox 59636 1040 LC Amsterdam The Netherlands Tel: +31 20 612 6368 Fax: +31 20 689 2179 Fmail: wiseamster@antenna.nl

Web: www.antenna.nl/wise

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 Web: www.nirs.org

# NIRS Southeast

P.O. Box 7586 Asheville, NC 28802

Tel: +1 828 675 1792 Email: nirs@main.nc.us

# WISE Argentina

c/o Taller Ecologista CC 441 2000 Rosario Email: wiseros@ciudad.com.ar Web: www.taller.org.ar

# WISE Austria

c/o Plattform gegen Atomgefahr Roland Egger Landstrasse 31 4020 Linz

Tel: +43 732 774275; +43 664 2416806

Fax: +43 732 785602

Email: post@atomstopp.at Web: 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 Web: www.wisebrno.cz

## WISE India

42/27 Esankai Mani Veethy Prakkai Road Jn. Nagercoil 629 002, Tamil Nadu Email: drspudayakumar@yahoo.com;

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

## WISE Russia

PO Box 1477 236000 Kaliningrad Russia Tel/fax: +7 95 2784642 Email: ecodefense@online.ru Web: 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 Web: 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 Web: 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 Web: www.folkkampanjen.se c/o FMKK

# WISE Ukraine

P.O. Box 73 Rivne-33023 Tel/fax: +380 362 237024 Email: ecoclub@ukrwest.net Web: www.atominfo.org.ua

# **WISE Uranium**

Peter Diehl Am Schwedenteich 4 01477 Arnsdorf Germany Tel: +49 35200 20737 Email: uranium@t-online.de Web: www.wise-uranium.org

# The NUCLEAR MONITOR

Nuclear Information and Resource Service 6930 Carroll Avenue, #340 Takoma Park, MD 20912