

NUCLEAR MONITOR

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PAKISTAN: ANOTHER NUCLEAR WHITE ELEPHANT

Pakistan agreed to buy its second Chinese-made nuclear power plant in May. The new plant will be identical to the earlier reactor at Chashma, about 30 miles from Mianwali. The project has been given the go-ahead despite the fact that the experience with the first reactor has not been encouraging. Economic factors related to the project are dubious and many questions that were raised about the safety of the Chinese design and the location of the first reactor at Chashma remain unanswered.

(614.5628) Zia Mian and A.H. Nayyar - The reactor will apparently be built in less than seven years, with some reports suggesting it could start operating by 2010. There were similar claims about the Chashma-1 plant.

When the contract was signed in 1991, it was thought that operation would start within six years but it was almost nine years before the Chinese finally handed over to the Pakistan Atomic Energy Commission (PAEC) in late 2000. The plant was formally inaugurated in early 2001. It is quite likely that the schedule for Chashma-II will slip too – it may be closer to 2015 before any electricity is produced.

Economics factors related to nuclear electricity are quite mysterious in Pakistan, since the PAEC cloaks itself in secrecy and seems reluctant to

divulge any detailed accounts. It was, however, reported that Chashma-1 cost between US\$600 million and over US\$1 billion. Well-informed sources suggest the actual cost was about US\$1.3 billion, approximately double the original cost. A staggering figure considering the plant was designed to produce only 300MW, meaning over US\$4 per MW of electrical power capacity. This is over twice the cost per megawatt of electricity generating capacity from the Ghazi Barotha hydroelectric project inaugurated by President Musharraf in August 2003. It has been reported that Pakistan has budgeted some Rs54.392 billion (797m Euro/US\$ 960) for Chashma-II and as with Chashma-1, the actual final cost is likely to be higher.

The operating costs of nuclear reactors (per unit energy produced) are

invariably higher than those of a thermal power plant. This is true in Pakistan's case. Thus the electricity produced by nuclear power plants is bound to be costlier.

While China designed and built the Chashma-1 project, which the PAEC now operates, it is the Water and Power Development Authority (Wapda) that has to buy the electricity (to distribute for domestic use etc). In 2003, Wapda complained publicly that it was being forced to pay almost twice what it should for electricity generated through Chashma-1. The electricity that Wapda produces and buys from independent power producers is much cheaper than what is being charged by the PAEC for Chashma-1.

The dispute over price was eventually settled after the government intervened and forced Wapda to pay an extra amount. Wapda officials have argued that this is causing them an annual loss of Rs3 billion (44.2m Euro/US\$ 53.3m). One senior official commented that the Chashma-1 plant is "going to eat our revenues for decades". There is no reason to expect that electricity generated by Chashma-II will be any cheaper but whatever the cost may be, Wapda and electricity consumers will be forced to pay.

Wapda officials have also protested about the unreliability of Chashma-1 when compared to its own plants or

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SUMMER BREAK

The editorial team is taking a much-needed break for summer.

Unfortunately, this means a short interruption in service but happily, the Nuclear Monitor will be back in September; next issue will be mailed out on the 17th.

Until then, we wish you well and look forward to communicating with you again in the autumn.

Happy holidays!
WISE Amsterdam

those run by commercial independent power producers. According to Wapda, the plant has been shut down frequently without any prior warnings and requires long maintenance periods. For instance, according to the PAEC's own reports, in 2002-2003, the plant remained out of operation for nearly 175 days. In one instance, it took authorities 33 days to repair a breakdown.

Part of the problem is that Chashma-1 is a 'turn-key' project. The design is Chinese and all the major components were made in China. All Pakistan did was pay and turn the key to start it. The Chashma-II plant will be the same because the PAEC will not be involved in the basic design or engineering work. Therefore, if something goes wrong PAEC will not be able to fix it. In such a situation, Chinese engineers would have to be called upon to make repairs – for an additional fee, of course. There is little incentive for the Chinese to allow Pakistani engineers

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to carry out repair work so the PAEC will remain dependent on Chinese expertise.

This is a more serious problem than it may appear. While the PAEC is clearly operating a reactor of which it has very little experience, it is also not clear whether China has the required competence.

Chashma-1 and Chashma-II plants are based on a Chinese prototype reactor that was built in 1990. Owing to serious design faults, China decided not to build any more for itself. Instead, it first sold one copy, and now a second, to Pakistan. The original Chinese reactor (at Qinshan) suffered an accident in 1998 causing it to be shut down for a year.

China could not fix the problem and hired a US company to complete the repairs at a cost of tens of millions of dollars. If China cannot deal with the problems of its own indigenously designed reactor; it is by no means clear how it will be able to solve problems at Chashma-1 or Chashma-II. Perhaps the PAEC also expects American help...

The location of the reactors is also problematic. The site is close to the banks of the Indus River in an area of seismic activity where soil properties can magnify the effects of an earthquake, worsening the effects. An accident, God forbid, would have very serious consequences. In case of a large release of radioactivity, as at Chernobyl, Pakistan could face catastrophic problems. Estimates suggest that in the long-term there could be over 12,000 cancer-related deaths, and a possible three-fold increase in cancer cases. There would also be radioactive contamination of the land, the Indus River, and possibly the groundwater. The effects, as at Chernobyl, would last for decades.

These are grave risks to run and seem foolish given that both are small plants, together making up just over 3% of the already installed electricity generating capacity in the country. Reducing the enormous power theft in

the existing electricity distribution system (about 40%) could easily save more electricity than would be produced by both nuclear plants. Similarly, investing the same amount of money in electricity conservation and efficiency would go a long way towards removing the need for these plants altogether.

The poor economics, uncertain safety and potential environmental dangers that have surrounded the Chashma-1 plant suggest that serious public debate is required before the Chashma-II project is allowed to become a reality. The same demand was made about Chashma-1.

In 2000, a coalition of Pakistani environment groups and other NGOs wrote to President Musharraf asking him to stop work on Chashma-1 until there had been a detailed public environmental impact assessment of the plant. The groups argued that people were entitled to know, and decide, about the dangerous programs that will be run in their name. Such public assessments are required by the law, under the 1997 Pakistan Environmental Protection Act, but since Chashma-1 was almost operational, the PAEC has refused to admit that any public assessment was needed or possible. The government apparently agreed and the environmentalists were ignored.

It is not too late to stop the Chashma-II NPP. The project is still on the drawing board and there is still plenty of time for a public environmental impact assessment. It remains to be seen if all things nuclear prove to be beyond the law, beyond public debate and beyond reason.

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25 YEARS AGO

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

Then

In WISE Bulletin 6, we reported on the conception of the Ukrainian Khmelnytsky project: "The Soviet Union started construction of a new power plant in the Ukraine. The installation will have a capacity of 4000 MW. Part of the electricity will be exported to Eastern European countries". (*WISE Bulletin 6*, October 1979)

Now

The project to build a NPP at Khmelnytsky has been under media and NGO scrutiny in recent years since the European Union considered and later approved financial subsidies for the second reactor at the site (and money for the Rovno-4 reactor). Initially, the Khmelnytsky NPP was a joint project of the Soviet Union, Czechoslovakia, Hungary, the German Democratic Republic and Poland. Each would be responsible for one element of the construction, such as building equipment and power lines. A special grid connection was to be built in Poland for the export of electricity to mid-European countries. (*Nuclear Engineering International*, August, 1979; *Dansk Industri*, October 1979)

The 950 MW Khmelnytsky-1 reactor was under construction from November 1981 and went critical on 10 December 1987. The construction of the other three reactors started between February 1985 and February 1987 but the last two units were never completed. After the Chernobyl disaster in 1986, a five-year moratorium on new reactors was adopted in 1991, also affecting the construction of Khmelnytsky-2. (www.iaea.org; *Nucleonics Week*, 8 April 1993)

The European Commission, in 1995, proposed support for Ukraine in the form of financial contributions for two new reactors (K2/R4) on the condition that the remaining Chernobyl reactor closed. Ukraine and the G-7 countries then signed a Memorandum of Understanding on the closure of Chernobyl and the European Bank for Reconstruction and Development (EBRD) was asked to make a first assessment on the completion of K2/R4. (*Nieuwsblad van het Noorden*, 28 April 1995; EBRD press release, 4 September 1996)

The plan was to approve an EBRD loan of US\$ 215 million and an Euratom loan of US\$ 585 million. Other contributors would have to raise the outstanding amount required for the entire project (US\$ 1.48 billion). (*WISE News Communiqué 559*, 7 December 2001)

The plans for financing the completion of K2/R4 were opposed by NGOs like Greenpeace, FOE, CEE Bankwatch, WISE/NIRS and many others. Campaign work showed that the VVER-1000 reactors were not essential to Ukraine, lacked many safety features and that the decision-making process was undemocratic. (Various reports from Laka Foundation archive)

The Ukraine unexpectedly withdrew its application for the EBRD loan in December 2001 because it was not willing to meet the conditions. The EBRD however continued, in 2004, to consider a loan for K2/R4 safety upgrading projects. In July it decided to contribute US\$ 42 million for last-minute safety patches before the reactors open in August/September 2004. This amount will be increased by a US\$ 83 million loan from Euratom. (*WISE News Communiqué 559*, 7 December 2001; *WISE/NIRS Nuclear Monitor 611*, 11 June 2004)

INDIA'S DAE: FIFTY YEARS SQUANDERED

Odd as it may sound, the Department of Atomic Energy (DAE), one of the most powerful and pampered departments of the government of India, is celebrating its 50th anniversary with little fanfare. Although the department has emerged as the darling child of the Indian elite, and one of the "fathers" of the frightful atomic bomb has been crowned as the President of India, the mood in DAE is subdued.

(614.5629) S. P. Udayakumar - In fact, in an interview to the *Frontline* magazine (14-27 February 2004), Mr. Anil Kakodkar, Chairman of Atomic Energy Commission and Secretary of DAE, said: "We are not in the celebrations mode." When the persistent interviewer pointed out that fifty years is an important milestone, Kakodkar reiterated: "We are in the introspection mode right now." He pointed out two elements of this

introspection: "looking at how to prepare ourselves for the future" and "trying to capture some important aspects of the history of the atomic energy programme in our country." Translation: "We need to accomplish something concrete, and we haven't been doing a good job."

Although the tentative 'Indian Atomic Energy Commission' was set up in August 1948 in the new and fledgling

Department of Scientific Research, it was only on 3 August 1954 the fully-fledged Department of Atomic Energy (DAE) was created under the direct control of the Prime Minister through a Presidential Order. The Atomic Energy Commission (AEC) itself was established in the Department of Atomic Energy by a Government Resolution of 1 March 1958. Just three months after the DAE was established, Prime Minister Jawaharlal Nehru

unequivocally declared in a conference on 'Development of Nuclear Power for Peaceful Purposes': "We want to utilise atomic energy for generating electricity because electricity is most essential for the development of the nation."

On the occasion of the fiftieth anniversary of the DAE, it is pertinent to reflect on what the Indian nukedom has accomplished in the past fifty years. Take a good look at the statistics. In 1950, India was producing a meagre 1,800 MW power but by 1998-99 had generated about 90,000 MW – almost all from thermal and hydro-power. The amount produced by nuclear power was an insignificant 1,840 MW – a ridiculously low 2% of total energy production. Today, the Indian nukedom claims, that energy output has increased to 2,770 MW, hardly 3% even when total energy output is kept at the stagnant level of 90,000 MW.

Although the DAE failed to achieve its target of producing 10,000 MW power by the year 2000, it remains full of pipe dreams and continues to promise big things. The fact of the matter is that most of the 14 units (two at Tarapur in western Maharashtra state, four at Rawatbhatta in western Rajasthan state, two at Kalpakkam in Tamil Nadu, two at Narora in northern Uttar Pradesh, two at Kakrapar in western Gujarat and two at Kaiga in southern Karnataka) are beset with technical problems. Dr B K Subbarao, a retired naval captain familiar with the nuclear department, asserts that "the country's six nuclear power plants with 14 units are operating at low capacities."

A simple comparison of nuclear power projects with hydro and thermal power projects would show that nuclear energy is much too expensive and ineffective. For the first time, on 1 December 1999, the Nuclear Power Corporation of India Ltd. (NPCIL) presented a maiden dividend cheque of Rs 504.4 million (9m Euro/US\$ 10.9m) to the Prime Minister. It is important to note that NPCIL itself was incorporated in 1987. You do not have to be a genius to imagine the amount of money, time, energy,

human and other resources that should have gone into these nuclear institutions and their activities since 1948. Put all these facts and figures together and you get a classic picture of inefficiency and incompetence.

Nuclear power is not only costly but also deadly. Serious accidents are happening at the Indian nuclear power plants. For instance, in March 1999, there was a leak of heavy water in the second unit of MAPS reactor at Kalpakkam, near Madras. The Atomic Energy Regulatory Board (AERB), another wing of Indian nukedom, dismissed the incident by claiming that "the release to the environment is maintained well within the limits specified by the AERB."

...certain departments, projects and scientific advisors are treated as "sacred cows" with no need for any transparency and accountability.

But M V Ramana, an Indian scientist, estimated that the radioactivity released to the environment was "several times the permitted 300 curies per day per reactor and perhaps even exceeding the discharge limit of 10 times the daily quota." He further asserted that the dose to workers was likely to have been much greater than the AERB claims.

The Indian government admitted for the first time, in December 1999, that heavy water, with radioactive tritium levels above the limits set by the AERB, had been released into the Rana Pratap Sagar Lake from the Rajasthan Atomic Power Station in May 1998. In December 1999, New Delhi also acknowledged that 21 issues relating to nuclear safety raised by the AERB as far back as 1996 had not yet been addressed. In December 1991, Bhabha Atomic Research Centre reactor workers discovered a big radioactive leak from poorly maintained pipelines in the vicinity of the Cirus and Dhruva reactors causing severe soil contamination.

We know only what they say. Protected by secrecy and opacity, the Indian nukedom has been hiding things rather efficiently. Considering our national track record on safety awareness and emergency preparedness, many Indians do fear that major accidents could take place in Indian nuclear power plants. A cursory look at the Bhopal tragedy, frequent train accidents, aeroplane accidents, assassination of so many top-level leaders, and other such fiascos show that we, as a nation, are not good at averting disasters or at being prepared for unexpected emergency situations.

It is very strange that in a democratic country like ours, certain departments, projects and scientific advisors are treated as "sacred cows" with no need for any transparency and accountability. They function like extra-constitutional authorities and not even elected public representatives and the media have any knowledge or information about these entities, their budget or their activities.

The specifics of nuclear weapons and energy programs that have such an enormous bearing on the lives and futures of Indian citizens of India are kept away from the "ordinary citizens" under the pretext of national security. In fact, the Atomic Energy Act of 1962 (clause 18) states that we cannot ask, or gather or disclose any information about present, past or future or planned atomic plants.

Instead of facilitating closer scrutiny and vigilance, the Indian nukedom and officialdom are heading in the opposite direction. In June 2000, the Indian government took away the AERB's authority to oversee the safety of a large number of critical nuclear installations meant for the weapons program in the Bhabha Atomic Research Centre (BARC). An internal safety committee became responsible for ensuring the safety of the public and the workers from dangers that could emanate from these facilities. This move seriously undermined the AERB's responsibility for unbiased and independent safety regulations.

Many local people and anti-nuclear activists in Kanyakumari, Tirunelveli and Thoothukudi districts of Tamil Nadu have been demanding that the Department of Atomic Energy (DAE) and the Government of India respect their Right to Information and to release the Environmental Impact Assessment (EIA), the Site Evaluation Study, and the Safety Analysis Report that are claimed to have been done way back in 1988 for the Koodankulam Nuclear Power Project that may go critical in 2007.

Even though these studies are now outdated and many changes have been brought about in the project, local people do have the right to know what the government and the Indian nukedom really argue.

The DAE has also sidestepped the Tamil Nadu Pollution Control Board (TNPCB) in getting proper permission for setting up the Koodankulam project. The mandatory Public Hearing has never been conducted to this day. Although the original plan was to have two 1000 MW reactors, the DAE authorities keep adding the number of reactors in Koodankulam unilaterally as if they were running a state within the Indian state. Keeping the civil and political societies in the dark about their actual plans in Koodankulam, the DAE is acting with no transparency and accountability whatsoever.

So much money has already been wasted on nuclear power projects and the current cash crunch is mainly due to nuclear power being very expensive, inefficient and capital intensive. So the top officials of Indian nukedom have expressed interest in inviting private investments. To reach their target of 20,000 MW power by the year 2020, they say they need a whopping amount of Rs 800 billion (14b Euro/US\$ 14b).

What all this means is that while private companies make money with no responsibilities, Indian taxpayers and the "ordinary citizens" will bear the cost of dealing with the nuclear waste and other dangerous consequences.

A highly populated developing country like India does have an increasing need for energy. But that energy has to be economical, sustainable and environment-friendly precisely for the same reasons of over – and dense – population. Even a small mishap could harm or kill a huge number of people.

The "use and discard" strategy adopted for nuclear power projects is not viable for obvious reasons of limited land availability and the serious impacts of nuclear waste on the health and safety of present and future generations. Moreover, we cannot afford to spend all our scarce resources on energy production alone because we have other pressing needs such as health, education, housing, transportation and so forth.

It is foolhardy for India to embark upon power production through nuclear plants when technologically advanced countries such as Sweden and Germany have decided to phase out the nuclear power option. The nuclear energy companies in the United States are closing down old units and not starting new ones. The nuclear power projects do not help the social and economic development of India but only add to the power, prominence and prestige of upper class financiers and power barons.

These "temples of science and technology" (in Russian President Putin's view) provide the middle class scientists and engineers' stable job, steady income, and comfortable living. But what the 400 million poor people of India get out of these nuclear power projects is a big question mark.

To face the increasing needs of energy, the answer is not embarking upon costly and highly dangerous nuclear power generation, but preventing distribution loss, theft and streamlining inefficient administration.

There are also many viable non-conventional energy sources such as solar, wind and biomass. We already have solar refrigerators, solar radios, and even solar hearing aids. We have solar cookers in various shapes and

sizes. Now the world's first solar-powered crematorium is built in Gujarat and it will save about 600 pounds of firewood for each body cremated.

India's potential realisation in the wind power sector is said to be in the range of 20,000 MW to 45,000 MW. As of today, the total installed capacity of windmills in Tamil Nadu alone is more than 1,350 MW and an additional 450 MW will be added in this financial year. The Ministry of Non-conventional Energy Sources (MNES) has prepared a master plan for 80 potential sites in 10 States on the revised criterion based on mean annual wind power density (MAWPD).

The Koodankulam (Tamil Nadu) area that has hundreds of windmills now is one of them. There have been several teething troubles such as inadequate wind data, weak grids and outages and incompatibility of the largely imported infrastructure. If only we put enough emphasis and resources on renewable sources of energy, we could have sustainable living in India without dangerous radiation and deadly diseases.

[PMANE circulates an email newsletter "Red Earth" to spearhead the struggle against the Koodankulam nuclear power plant. To subscribe email koodankulam@yahoo.com]

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EDF IN DANGER OF FINANCIAL MELTDOWN

The European electricity market, as required by European Union regulations, is in the process of deregulation. The plans for (part-) privatization of Electricité de France (EDF) have resulted in massive protests by labor unions. The financial position of EDF is poor and the company faces large liabilities because it used money from decommissioning funds to invest in foreign utilities.

(614.5630) WISE Amsterdam – EDF was founded in 1946 as a state company and had a monopoly, guaranteeing not-profit based electricity prices. Nationalization was led by a minister of the Communist Party and resulted in the retirement age for EDF employees being set at 55 and also strong social guarantees for consumers. (1)

The European process of liberalization is now at the halfway stage. The first step in 1999 saw some large commercial firms being allowed a choice of power suppliers. As of 1 July 2004, two-thirds of all European consumers were given this right, on paper at least, and by 2007, it will be the right of every European. (2)

As of 1 July 2004, 2.3 million non-residential French consumers (representing 70% of the French electricity market) were able to select an electricity supplier of their choice. (3)

France, together with Germany, has

SORTIR

The French organization, Sortir du nucléaire (Network for a nuclear phase out) has suggested that plans for the part-privatization of EDF are intended to raise money for the construction of the European Pressurized water Reactor (EPR). Sortir campaigns for changes to the present practices used in the production of electricity in France. The deliberate promotion of electricity consumption is often used to justify the existence of nuclear power. Budgetary restrictions as a consequence of economic drives will result in more risks to citizens and environment. Sortir wants to phase out nuclear energy and has produced an ambitious plan for the development of renewable energy.

Press release Sortir du nucléaire, 28 June 2004

been doing its best to delay opening the market. In 2002, the right-wing French government announced its intention to partly privatize EDF and in recent weeks a law on restructuring EDF, and Gaz de France (GdF), was discussed in parliament. The government probably anticipated some problems but was unprepared for the demonstrations and direct actions by workers opposed to privatization. (4)

France's National Assembly (Lower House) adopted the restructure law at its first reading on 29 June and the Senate (Upper House) on 9 July. (5) The conversion of EDF to a public limited company is unlikely to begin before the summer of 2005. Even before it can be conducted, a detailed calculation of EDF's economic value is required as well as a survey of its liabilities and debts. (6)

Opposition and strikes at NPPs

The majority of EDF's 113,000 (and 25,000 GdF employees) are opposed to the plans. A demonstration on 27 May brought 80,000 workers to Paris and began a series of actions. In the second week of June, electricity supply to three Paris train stations was disconnected, leaving 500,000 travellers without transportation. The electricity supply to the working palaces of the President and Prime Minister as well as the homes of MPs supporting privatization was disconnected. Up to 23 distribution stations of the grid were occupied and the voltage of electricity to 30 large consumers was lowered, forcing the companies to start up emergency generators.

Workers also conducted public-friendly actions, supplying 300,000 households with electricity at a cheap night rate and poor families and hospitals for free on 24 June. Supply was also restored to consumers disconnected for non-payment. (7) (8)

Actions were also held at NPPs.

Around 14 June, the reactors at Saint Alban-Saint Maurice and other NPPs were disconnected from the grid by workers from the left-wing CGT union (General Confederation of Workers). Output from NPPs was lowered by up to 13,000 MW on 14-15 June (about 20% of total nuclear capacity). The strikes have forced EDF to buy electricity (1000 MW capacity) from British companies; EDF usually exports the same amount to the U.K. (9) (10)

EDF's financial condition critical

A sensitive aspect of the restructure is the removal of EDF's exemption from French bankruptcy laws. It will now become a company, like others, and can no longer count on the state's de facto guarantees of debts, to which the European competition authorities had objected because it amounted to illegal state aid. This state guarantee has been very important because EDF's balance sheet is under strain: its net debts are around 24 billion Euro (US\$ 30 billion). (11)

A report by MP, Yvelines Masdeu-Arus, in 2002 calculated a decline in EDF's net value by over 11 billion Euro (some US\$ 11 billion at the time) between 1998 and 2001. (12)

EDF is in urgent need of cash to solve its debt problems. The French government, however, can no longer afford to inject large amounts of capital into the bottom-less pit, so part-privatization was 'inevitable'. Funds are to be raised by selling 30% of EDF's shares but how attractive is EDF for potential investors? *The Economist* examined EDF's financial figures and concluded that it used questionable accounting practices and has taken risks with extracting money from NPP decommissioning funds. Where accounting is concerned, EDF has been known to use artificial methods to paint a more positive

financial picture at year-end. For instance, EDF's operating profits increased 33% in 2003, made possible by the lifetime extension of NPPs from 30 to 40 years thereby reducing the annual charge for depreciation. Annual profits for 2003 would have been lower had EDF not manipulated the figures.

EDF also failed to make a provision in its balance sheet for pension obligations accrued to date. A parliamentary report had put the figure at 50 billion Euro (US\$63 billion). "With these gigantic liabilities on its balance sheet, EDF would have been technically insolvent", concludes *The Economist*. The part-privatization of EDF is "solving" this problem by reforming the legal status of the pension scheme. France's general social security will pay basic pensions to retired employees and EDF has to pay an undecided amount as a one-off cash payment. In effect, EDF will be freed from its pension obligations by state aid and if past accounts had reflected these costs the firm would never have shown a profit. (13)

Decommissioning risks

Most of EDF's production capacity is nuclear and major costs include the decommissioning of reactors, reprocessing of fuel and storage of nuclear waste. These (future) costs are included in the balance sheets and the sums are huge: total nuclear provisions amounted to 26.8 billion Euro (US\$ 33.6 billion) in 2003. EDF has taken a huge risk in not separating this money into a specific external pot. In reality, it has used the money to fund its business and to buy up competitors and assumes that the investments will generate sufficient returns to fund the future decommissioning and waste costs. (14)

French MP Masdeu-Arus pointed out that only 1.6 billion Euro (US\$1.9 billion) of the total nuclear provisions were in a dedicated fund, the rest being "no more than an accounting classification". (15)

It is similar to a company investing employee pension contributions in its business rather than establishing a

EPR DECISION

The decision on the site for the planned demonstration EPR expected on 23 July has postponed by EDF. The delay is reportedly connected to the expiration of EDF board chairman Francois Roussely's mandate that expired on 11 July. It is not yet known whether he is to be re-nominated or replaced; Roussely's chairmanship has been criticized in the past years. A French parliamentary commission inquiry concluded in 2003 that proper procedures were not being followed under Roussely's chairmanship; for example the board and state officials were not kept informed on some large investments. The report concluded that EDF had taken "certainly excessive" risks in particular investments. Given the magnitude of the EPR site decision, it was decided that the board meeting be postponed until there was clarity on the position of chairman. Expectations are that site selection

will not be made before September, further pushing back EDF's project schedule.

EDF will likely designate at least two locations for the EPR, with public debates being conducted at each. The two most likely sites are Penly and Flamanville, both on the Channel coast and already NPP sites. Penly would be EDF's technical preference because all required infrastructures are already in place and a platform for a third unit had previously been prepared. However, the Socialist Party controls the regional government of Upper Normandy, where Penly is located, and is opposed to EPR. Flamanville is in the more 'EPR-friendly' Lower Normandy region and is said to be "politically more robust".

Nucleonics Week, 22 July 2004; "A very big French turn-off", *The Economist*, 3 July 2004

separate legal fund. If the company disappears, so do the employees' pensions. As decommissioning takes place far in the future (about 50 years), EDF is making bold predictions regarding its existence and solvency for decades to come.

Two years ago, the European parliament passed an amendment to a planned directive on electricity liberalization. The amendment would have required legal separation of decommissioning funds; however, the European Commission rejected it and included an annex in another directive on nuclear safety. This annex unfortunately contains a loophole that allows companies to take money from decommissioning funds "if exceptional and duly justified reasons make such a legal separation impossible". (16)

The European parliament wanted to end the unfair use of decommissioning funds and the differences that existed between EU member states. Some countries allowed access to the funds for purposes other than decommissioning; the amounts of annual contributions to funds differed, as did timeframes for decommissioning. EDF

would (eventually) have access to an amount of 63 billion Euro (US\$75.9 billion), in conflict with fair competition as companies from other countries have limited or no access to funds. (17)

EDF's method of estimating decommissioning costs seems rather arbitrary, based as it is on ancient government advice from 1979. Many uncertainties remain about the real future costs; EDF has never previously decommissioned a large reactor, the rate of inflation is unpredictable and environmental regulations may change and influence waste storage costs. (18)

The biggest risks for EDF, as a private company, are that it could become bankrupt or that all the decommissioning money has been plundered into loss-making investments. In that case, the French government would be forced to pay all the costs for decommissioning and waste storage itself.

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18. As (4)

HUNGER STRIKE

The protest of two hunger strikers acting against plans for the EPR and a redirection of R&D budgets to renewable energy has entered into its second month. Dominique Masset and Andre Lariviere began fasting on 21 June, refusing any food but drinking water. A third activist, Michel Bernard was forced to give up earlier for medical reasons. More than 200 people, including some prominent political figures, have fasted for a limited period to call attention to the lack of democratic debate on nuclear energy and 70 local support committees have been established to support the two

activists. The duo had demanded an audience with French president Jacques Chirac but the President refused to meet the activists. Instead they were received at the president's office and were given a written response to their demands. Chirac offered to allow them participation in official debates to be held on the EPR site selection but refused to meet any of the other demands. Masset and Lariviere stopped fasting on July 27 for medical reasons. Others will continue fasting (by rotation) until the end of August. **AFP, 23 and 27 July 2004; Liberation, 28 July 2004; Nucleonics Week, 22 July 2004**

YUCCA DECISION: "STILL ON TRACK" OR "DERAILED"?

What a difference two years can make. On July 9, 2002, the U.S. Senate overrode Nevada's veto of the proposed Yucca Mountain national repository for highly radioactive waste, a huge blow to dump opponents. But on July 9, 2004 the U.S. Court of Appeals for the District of Columbia Circuit dealt a huge blow to Yucca proponents.

(614.5631) *NIRS* - Although the three-judge panel ruled against 11 of the 12 legal challenges the State of Nevada and environmental groups argued before it on 14 January 2004 (see *WISE/NIRS Nuclear Monitor* 601.5567 "Yucca's Day in Court,"), the one case Yucca's opponents did win is a potential show stopper, perhaps marking the beginning of the end for the Yucca Mountain Project (YMP).

The court ruled that the U.S. Environmental Protection Agency (EPA) radiation release regulations for Yucca Mountain violate the Nuclear Waste Policy Act (NWPA). Specifically, EPA's termination of public health protections 10,000 years after wastes would be buried at Yucca violate the NWPA's explicit requirement that EPA regulations be "based upon and consistent with" National Academy of Sciences (NAS) recommendations.

Using unusually blunt language, the court stated "Only in a world where 'based upon' means 'in disregard of' and 'consistent with' means 'incon-

sistent with' could EPA's adoption of a 10,000-year compliance period be considered a permissible construction" of the Energy Policy Act of 1992, the relevant amendment to the NWPA. (1) In fact, NAS advised that regulations be enforced till the time of peak dose from radiation to people downstream of the dump, projected to be hundreds of thousands of years after wastes would be buried at Yucca. (2)

Nevada dump opponents hailed the ruling as "stake through the heart" for the YMP, declaring the dump "effectively dead" because the site's earthquake-fractured geology cannot meet the more stringent standard required by NAS and the court (see articles at www.reviewjournal.com/news/yuccamtn/ beginning on 10 June).

The U.S. Department of Energy (DOE), on the other hand, assured the Senate Energy and Natural Resources Committee that the court ruling would not even slow down the YMP, that the license application would be submitted by the end of this year, and

that the dump would open by 2010. (3)

The U.S. Nuclear Regulatory Commission (NRC), however, is "scrambling" to determine if it can even accept the license application from DOE given the court ruling. NRC Commissioner Ed McGaffigan admitted that once the legal questions are answered, the dump would still require ten years to grant an operating license - violating DOE's self-imposed 2010 deadline by several years at least. (4)

In addition to Nevada, the coalition of environmental organizations that sued EPA over its woefully inadequate Yucca regulations includes Citizen Action Coalition of Indiana, Citizen Alert of Nevada, Natural Resources Defense Council (NRDC), Nevada Desert Experience, Nevada Nuclear Waste Task Force, *NIRS/WISE*, and Public Citizen. NRDC attorney Geoff Fettus argued the environmental coalition case before the court.

Through a change in the law, Congress could overrule the court thereby re-

establishing EPA's rejected 10,000-year standard. Also, EPA, DOE, and nuclear industry appeals to the full D.C. Circuit Court or even to the Supreme Court are expected. In addition, EPA could simply rewrite its regulations, as the court requires, although that process could take years. (5)

Tellingly, pro-dump Senate Energy Committee Chairman Pete Domenici (Republican of New Mexico) referred to the court ruling as "ominous" and said "It is terrifically important that we find a solution to this...The entire nuclear power industry in the United States could stand or fall with this interpretation." (6)

The court's decision came at a bad time for dump supporters. A miscalculated attempt by the Bush Administration to take Yucca "off budget" (that is, to allow DOE to access the Nuclear Waste Fund directly without the YMP having to compete with other federal programs in the annual congressional budget and appropriations battles) has left the YMP facing a major budget shortfall for Fiscal Year 2005 (FY05). (7)

In addition, DOE's attempt to initiate the license application phase of the YMP is being challenged by Nevada, with friend of the court briefs filed by Nevada Nuclear Waste Task Force, NIRS/WISE, and Public Citizen. DOE "certified" its over 5 million pages of documentation in support of a YMP license application on 30 June. The

dump opponents' challenge argues that DOE's rushed filings are incomplete, impossible to access effectively, and not even posted to the official NRC "Licensing Support Network" website. Oral arguments took place before a NRC Atomic Safety Licensing Board (ASLB) three-judge panel on 27 July 2004 and a decision is pending.

If the ASLB rules in favor of DOE's document certification of 30 June, opponents to the YMP who want to challenge DOE's license application as official intervenors before the NRC ASLB would have only until 30 September to file any and all documents they plan to use in the upcoming 3 to 4 year-long licensing proceedings, despite the fact that DOE has not yet submitted its license application, nor even settled upon a final repository design. (8)

References:

- (1) "Nuclear Energy Institute vs. Environmental Protection Agency," U.S. Court of Appeals for the District of Columbia Circuit, 9 July 2004, page 29. See: <http://www.state.nv.us/nucwaste/news2004/pdf/usca040709.pdf>. See also Public Citizen's summary of the lawsuits at www.citizen.org/cmep/energy_enviro_nuclear/nuclear_waste/hi-level/yucca/articles.cfm?ID=10882
- (2) "Technical Bases for Yucca Mountain Standards," Committee on Technical Bases for Yucca Mountain Standards, Board on Radioactive Waste Management, Commission on Geosciences, Environment, and Resources, National Research Council, National Academy Press, Washington, D.C., 1995.

(3) Chris Baltimore, "Nevada Waste Site Plan to Proceed Despite Ruling," Reuters, 13 July 2004, www.reuters.com/newsarticle.jhtml;jsessionid=XUADLENAMH2NOCRBAELCFFA?type=topNews&storyID=5661010

(4) Steve Tetreault, "Yucca ruling has agency scrambling: NRC seeks recommendation on whether to accept nuclear waste dump application," 22 July, 2004, *Las Vegas Review Journal*, www.reviewjournal.com/lvrj_home/2004/Jul-22-Thu-2004/news/24367426.html

(5) Matthew Wald, "Ruling on Nuclear Site Leaves Next Move to Congress," *New York Times*, 15 July 2004, <http://www.nytimes.com/2004/07/15/politics/15yucca.html>

(6) J.R. Pegg, "Yucca Mountain Project Radioactive To Nevadans," Environment News Service, 14 July, 2004, <http://www.alternet.org/envirohealth/19233/>

(7) The Bush Administration wants \$880 million for the YMP in FY05. At press time, only \$131 million has been budgeted by Congress, although the Bush Administration and dump supporters in Congress are strategizing to restore funding to at least the FY04 level of \$577 million to keep the YMP "on track". See Suzanne Struglinski, "Biggest Yucca obstacle may be budget: Congress has yet to boost funding," *Las Vegas Sun*, 26 July, 2004, www.lasvegassun.com/sunbin/stories/text/2004/jul/26/517234152.html

(8) See Suzanne Struglinski, "Panel to evaluate state's challenge of Yucca database," *Las Vegas Sun*, 9 July, 2004, www.lasvegassun.com/sunbin/stories/text/2004/jul/09/517148260.html

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NEW MEXICO: LES LICENSING HEARINGS

The vast majority of contentions submitted by NIRS and Public Citizen (PC) were admitted into hearings by the Nuclear Regulatory Commission's (NRC) Atomic Safety and Licensing Board (ASLB) on July 19. NIRS/PC jointly intervened against the license application by Louisiana Energy Services (LES), mostly owned by the European consortium Urenco, to build a new private uranium enrichment plant in New Mexico (see *Nuclear Monitor* 591)

(614.5632) NIRS - The New Mexico Department of the Environment and New Mexico Attorney General had also submitted contentions, but most were rejected by the ASLB, although each agency had at least one contention accepted, meaning that both will continue to participate in the upcoming hearings. Some of the

contentions made by the agencies were rejected by the ALSB on procedural grounds but were referred to the NRC Commissioners for further review.

The rejected NIRS/PC contention involved the proposed plant's effect on U.S. nonproliferation strategy; whether the application had properly

considered the potential effect of the plant on ongoing programs to downblend highly-enriched uranium from Russia and whether the need to prevent nuclear proliferation outweighs the perceived need for the plant. At the time of the *Monitor* going to press, NIRS/PC were still considering whether to appeal against

the ASLB's decision on the nonproliferation issue. The NIRS/PC contentions accepted cover all of the most important issues for residents of New Mexico and Texas, which is within one mile of the plant, including that the:

- LES application does not contain a complete or adequate assessment of the potential environmental impacts of the proposed project on ground and surface water.
- The application does not contain a complete or adequate assessment of the potential environmental impacts of the proposed facility on local water supplies. Further, to introduce a new industrial facility with significant water needs in an area with a projected water shortage runs counter to the federal responsibility to act "as a trustee of the environment for succeeding generations," according to the National Environmental Policy Act (NEPA).
- LES does not have a sound, reliable or plausible strategy for disposal of the large amounts of radioactive and

hazardous depleted uranium hexafluoride (DUF₆) waste that the plant would produce. Moreover, LES's application seriously underestimates the costs and the feasibility of managing and disposing of the DUF₆.

- The application fails to discuss the impacts of construction and operation of facilities that will be required to manage the waste that would be produced by the plant.
- LES has presented insufficient estimates of the costs of decommissioning the plant at the end of its useful life.
- The LES application does not adequately describe or weigh the environmental, social and economic impacts and costs of operating the facility, and LES inadequately considers the need for the facility.
- The application does not contain a complete or adequate assessment of the potential environmental impacts of accidents involving natural gas transmission pipelines.

NIRS Executive Director, Michael Mariotte, said "The substance of our contentions is strong; we believe it will be very difficult for LES to make a case before an impartial board that it should be allowed to operate this unnecessary nuclear facility."

Pre-trial activities, including discovery and taking of depositions of expert witnesses, will take place over the next three months. Actual hearings will occur sometime after that.

Meanwhile, a separate ASLB hearing has delayed, until August, its decision on which contentions will be accepted in interventions against Early Site Permits for new reactors at Grand Gulf, Mississippi; Clinton, Illinois; and North Anna, Virginia. NIRS/PC have also filed joint interventions in those cases, along with several other regional and local organizations.

Source and contact: Michael Mariotte at NIRS: nirsnet@nirs.org

MINING LANDS COGEMA IN CRIMINAL COURT

The extraction of uranium began in France at the beginning of the 1950's. Some 200 mines have been operated in 25 departments; the last closed in May 2001. For many years, minimal protection was required in terms of radiological impact, water treatment, waste transport and management. The main French operator, COGEMA, explained to the local population that uranium was "a natural substance" and therefore "was not a hazardous one." The official statement was that the uranium industry was extracting the radioactive metal from the soil, therefore leaving a less radioactive environment.

(614.5633) CRIIRAD - From 1992 to 1994, the CRIIRAD laboratory demonstrated the radioactive contamination of the environment near COGEMA uranium mines in Limousin and Loire Atlantique Prefectures.

In the Limousin area the CEA (Atomic Energy Commission), then COGEMA, operated more than 40 uranium mines and 2 uranium mills.

In 1992, CRIIRAD laboratory demonstrated that the radioactive tailings from COGEMA uranium mill were falling from COGEMA trucks, onto a public road, contaminating the

property of an inhabitant of Bessines-sur-Gartempe, the city where the main mill was located.

In 1993, the Local Authorities (Conseil Régional du Limousin and Conseil Général de la Haute Vienne) commissioned the CRIIRAD laboratory for a preliminary study of the radiological impact of uranium mines. At this time, the mines were being closed. This study, published in 1994*, proved that COGEMA monitoring protocols completely failed to properly evaluate the actual contamination of soils, rivers, and the open air by uranium and uranium decay

products (radium 226, radon 222 and lead 210) scattered by the mine's operation.

CRIIRAD's laboratory demonstrated that:

- the activity of radon in the open air, in the public domain, near COGEMA main site was very high (up to 30 times above background level),
- the ambient gamma dose rate in the public domain near uranium mines was very high due to the dispersal of radioactive rocks and radioactive deposits on river and stream banks,

- some of the radioactive tailings from the mill were dumped into an old open pit and the finest part of this radioactive mud (total activity above 1 million Bq/kg) was migrating towards underground galleries. COGEMA operation generated 20 million tons of tailings in this area,

- radioactive rocks up to 20 times more radioactive than local granite were used as backfill and hard core material in many areas,

- the radiological monitoring of waters was inadequate (no measurements of dissolved radon, lead and polonium 210, whose radiotoxicity is higher than plutonium one),

- river sediments and aquatic plants, downstream uranium mines were seriously contaminated, with activities exceeding the limits for low level radioactive waste (radium 226 activities up to 25 000 Bq/kg).

- the activity of radioactive effluents regularly exceeded legal limits but the administration in charge of controls (DRIRE) apparently failed to ask COGEMA to improve water treatment before discharges.

Taking into consideration all these results, CRIIRAD asked for an improvement in French regulation, drastic changes in water treatment processes, waste management, radiological monitoring protocols and rehabilitation criteria.

The CRIIRAD study had been managed as an inter-comparison. Each sampled collected by CRIIRAD scientists was shared with COGEMA laboratory in order to compare results. In 1997, a few years after CRIIRAD had published its report, the local administration (Prefecture and DRIRE) published a note where they falsely stated that CRIIRAD and COGEMA results were comparable and showed no radiological problems linked with mining operations.

Later, in 1998, CRIIRAD laboratory and another laboratory of the University of Limoges demonstrated that the

sediments of the Saint-Pardoux Lake were also contaminated by uranium and uranium decay products downstream COGEMA uranium mines. This lake was used as a leisure place for tourists.

All these studies enabled a local NGO "Streams and Rivers of Limousin" - whose goal is to protect the aquatic environment - to lodge a complaint in March 1999. The examining judge finally decided to prosecute COGEMA in August 2002, but, in May 2003, the public prosecutor required the withdrawal of the case. In 18 August 2003, the examining judge confirmed his decision to send COGEMA to criminal court. An appeal was lodged by the public prosecutor on the same day but eventually, the Limoges Court of Appeal decided to send COGEMA to criminal court on 25 March 2004. COGEMA is accused of "*pollution, abandonment and dumping of waste containing radioactive substances*". This decision represents a first in France. COGEMA has decided to lodge an appeal of this decision.

The decision of the judges is argued in a 20-page document. The following points were emphasised:

- The local administration (DRIRE) did not properly fulfil its mission of controls,
- COGEMA did not managed radioactive waste in accordance with the regulations,
- COGEMA used rudimentary techniques to prevent the dispersal of radioactive substances in the environment,
- COGEMA is unfair as it initially argued that the contamination of the aquatic environment had a "natural" origin and was not linked to its activities,
- COGEMA 's offences are deliberate as it knew about numerous scientific reports that demonstrated the environmental pollution and did nothing to improve the situation,
- COGEMA is a world-wide industrial Company whose communication is almost solely based on arguments of environmental protection,

- These offences enabled COGEMA to lower operating costs. The environmental cost of these former activities should not be borne by the Limousin area 's inhabitants, knowing that COGEMA made substantial profits in the area of uranium mining.

The judges' decision is a real first as CRIIRAD and other NGOs in the area of environmental protection have been fighting for more than 10 years to demonstrate the shortcomings of the French administration and French regulation in the field of uranium mining impact. It should be stressed that the French State is, since the beginning, totally involved in the nuclear industry's growth.

The various independent monitoring campaigns conducted by the CRIIRAD laboratory around former uranium mines in the prefectures of Limousin and Loire-Atlantique and the departments of Hérault, Loire, and Cantal show that the local populations are still exposed to non-negligible radiation doses. In many cases, doses are above international and national standards. This situation will last for centuries if nothing is done to properly decontaminate these sites.

* Summary and additional information can be found (in French) at www.criirad.org.

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IN BRIEF

Plutonium cancer risk possibly higher than thought. The risk of cancers from internal exposure to plutonium could be 10 times higher than current international safety limits assume. The danger is highlighted in a report written by UK government radiation experts who unanimously agreed that low-level radiation emitted by plutonium might cause more damage to human cells than previously believed. The report, which has been leaked to the *New Scientist*, is due to be published in the next months and was produced by the Committee Examining Radiation Risks from Internal Emitters (CERRIE). The committee includes 12 specialists from the UK government's National Radiological Protection Board, the nuclear industry, universities and environmental groups. Hopefully the report will provoke changes in the guidelines on exposure to radiation.
***New Scientist*, 18 July 2004**

Paks-2 to restart. Hungarian Paks-2 is to restart after being issued with a conditional license from nuclear safety authorities. The 448-MW VVER had been offline since March 2003 and experienced a fuel meltdown accident in April (see *WISE/NIRS Nuclear Monitor* 586.5507 "Serious incident at Hungarian Paks-2 reactor"). Greenpeace has sent an open letter to authorities in Hungary demanding that the restart be cancelled as warnings of increased risk have been overlooked to prevent larger financial losses. The organization also accused Paks of refusing to provide the public with information requested on the safety restart.
***Nucleonics Week*, 29 July 2004;
Greenpeace press releases, 29&21 July 2004**

E.On interest in CEE nuclear companies. German electricity giant E.On is actively involved in plans to expand nuclear options in CEE countries. It has joined a Russian led consortium to bid for the 66% of Slovenske Elektrarne (SE) shares being

sold off by the Slovak State. SE is owner of the Mochovce NPP and is seeking to finish units 3 & 4 at the plant. The Slovakian Economy Minister has lobbied for this completion as one of the central conditions of the privatization deal. Another competitor in the race for SE is the Czech electricity utility CEZ.

It also emerged that German Company E.On aims to participate in the design process for the Belene NPP in Bulgaria. On a recent visit to Germany, Bulgarian president, Mr. Parvanov, announced that Bulgaria has the goal to become the nuclear-power house in the Balkans. He added, "We expect Germany to become the number 1 investor in Bulgaria very soon". He also pointed to the fact that E.On's role in the privatization of Bulgarian electricity distribution companies would open the market to future German investment.
***Pari Daily*, 23 July 2004; *WISE Czech Republic*, 29 July 2004**

Iran accused of continuing weapons work. Diplomats have accused Iran of breaking the seals on centrifuge equipment and restarting the assembly of centrifuges. Inspectors of the IAEA affixed the seals last year. An intelligence report of unknown origin also claims that Iranian agents are negotiating with a Russian company to buy deuterium. Deuterium, mostly in the form of heavy water, can be used in nuclear fusion bombs or in "boosted" fission bombs. The report says that Iran had tried to produce deuterium and tritium itself but had so far failed.
***AP*, 27 July 2004; *Reuters*, 28 July 2004**

Sellafield: Blair's white elephant. The NPP personally approved by Tony Blair, despite warning from ministers, has so far cost British taxpayers £600 million (US\$1.9 billion) without producing a single saleable item. The Sellafield MOX Plant is already eight years behind schedule and Energy Minister, Stephen Timms, has conceded that it is unlikely to operate

before the end of 2005. This comes as Blair announced that plans for new NPPs were under consideration – economics are obviously not considered important at No. 10...
***The Guardian*, 26 July 2004**

Leningrad NPP extended 15-years. The world's oldest Chernobyl-type reactor initially shut down in 2003 after thirty years of activity is to be extended for another 15 years. Neglecting laws requiring that relevant information be made available, operators have not given the public access to any documents behind the decision. Moreover, there will be no environmental examination of the design for the modernization of the old unit. NGO Sosnovy Bor is to take legal action to forestall this threat.
***Baltic Newsletter of the Green World*, 26 July 2004**

Chernobyl invalid dies fasting. An invalid from the 1986 Chernobyl disaster has died staging a hunger strike to demand for new housing. Pyotr Budyonny, 58, had both legs amputated due to blood circulation failure, which is common among Chernobyl veterans. He held his protest in his mud house in the Medvedkovskaya settlement of the Timoshevsky region. Budyonny had waited several years to be re-housed although local authorities are obliged to provide this to Chernobyl invalids within three months.
***BBC News*, 27 July 2004**

Russian activists protest Kola extension. Members of environmental group Priroda I Molodezh ("Nature and Youth") have protested against the illegal lifetime extension of the oldest reactor at Kola NPP. The reactor's lifetime was extended last summer without state environmental examination, which is against Russian legislation. The management refused to provide information or respond to questions about the borders of the Kola NPP sanitary-protection and

surveillance zones. One of the activists was detained by plant security and charged with trespassing in the sanitary-protection zone.

Baltic Newsletter of the Green World, 23 July 2004

Kyrgyzstan gets Russian and U.S. support to secure waste sites. Russia and the United States have pledged US\$560,000 (some 460,000 Euro) to safeguard radioactive waste sites that Kyrgyzstan inherited from the Soviet nuclear industry. Russia's Nuclear Energy Agency pledged US\$160,000 (131,000 Euro) and the U.S. State

Department will give \$400,000 (239,000 Euro) for securing and rehabilitating uranium waste sites in Kaji-Say, 250 kilometres (155 miles) east of the capital Bishkek. The waste sites contain 170,000 cubic meters (6,002,824 cubic feet) of radioactive uranium waste and the project is to begin in August.

The Associated Press, 22 July 2004

Vanunu warns Jordan of nuclear danger. Nuclear whistleblower Mordechai Vanunu has cautioned that the Israeli Dimona nuclear reactor endangers the lives of millions throughout the Middle East in an

interview with London-based Al Hayat. Vanunu advised Jordan's government to prepare for possible leaks from Dimona and said that Jordanians living close to the Israeli border should be examined for possible nuclear radiation. However, the Jordanian government's spokesperson, Ziad al-Qudah, refuted the allegations, claiming that the Jordanian Nuclear Energy Commission conducts "round the clock measuring of radiation" and that no abnormal levels had been detected. Vanunu remains subject to severe suppression and on 26 July, the High Court of Justice rejected a petition filed against the restrictions

"For a Brighter Future - Strategies for a World without Nuclear Madness" FOLLOW-UP SYMPOSIUM 1-2 October 2004

**The Lie of the Peaceful Use of Atomic Energy; Nuclear Weapons and Nuclear Power Plants - Two Sides of the Same Coin
Venue: Ursulinenhof, Landstraße 31, A-4020 Linz, Austria**

The mining of uranium begins the long chain of violence and destruction. Civil rights are violated, indigenous peoples uprooted. "Side products" from the manufacture of nuclear fuel, such as depleted uranium 238, are reused as uranium ammunition, which was used in both Gulf Wars and in the Balkans, leaving death and misery in its wake and whole swathes of land radioactively contaminated.

Nuclear materials are transported without any information given to the public and are even, as is the case in France, classified as military secrets. Reprocessing the nuclear fuel, so destructive to the environment, provides the plutonium for atomic bombs. Under the guise of pursuing a "nuclear programme", countries the world over are trying to get their hands on nuclear capabilities - and Europe is following suit. The Euratom Treaty (as one of the three founding treaties of the European Communities) has opened that door.

With this symposium, it is our intention to shine some light on the hidden connections between nuclear weapons and nuclear power plants and to develop joint strategies for creating a world without nuclear madness - for a brighter future without nuclear power plants and without nuclear weapons.

Program includes:

Working groups on:

- Nuclear programs as a pretext for worldwide nuclear armament
- How to use a nuclear power station to build a dirty bomb
- European Union-Russia - nuclear (power) trade
- Exit scenarios - worldwide antinuclear campaigns
- Networking strategies - networking: effective and fast!
- The military rearmament of Europe thanks to Euratom
Heading towards a European nuclear bomb? (Nuclear weapons and the militarisation of the European Union)

Speakers:

- Alexey V. Yablokov (Russia) on "Nuclear Twins: Inseparable Connections between Nuclear Weapons and Nuclear Power" (with simultaneous interpretation), followed by plenary discussion.
- Gerald Oberansmayr (Austria) on: Auf dem Weg Zur Europäischen Atombombe? Atomwaffen und die Militarisierung der Europäischen Union.
- Sebastian Pflugbeil (Germany) on: Die nebelige deutsche Position zu Atomwaffen (Germany's vague position on nuclear weapons)

imposed by security services following his release from prison in April. Further legal action is being considered.

AP, 27 July 2004; Al-Bawada & Al Jazeera, 25 July 2004; The Jordan Times, 26 July 2004; Haaretz, 26 July 2004

Israel: aquifer radioactivity caused by Dimona. Results of official Israeli scientific research published on 18 July and conducted by the Ben Gurion University, the Water Authority and the Centre for Atomic Researches in Wadi Sureek, asserts that a significant amount of radioactive material has leaked into the aquifer reservoirs in the areas of Negev and Arava. The radiation is due to the activity and increased nuclear waste production of the Dimona reactor, in the Negev Desert. The radioactive water is mainly used in agriculture and fish farming. Scientific reports and satellite images of the Dimona reactor indicated that the 40-year old facility has suffered cracking (of the reactor's core) and increased nuclear waste leakage. Scientists have warned that if the Israeli government continues to operate the reactor (already ten years past its anticipated use-by-date), an accident as severe as Chernobyl could occur.

Al Jazeera, 19 July 2004

Radioactive Finnish Mushrooms. The Finnish Radiation and Nuclear Safety Administration issued an alert on the dangers of eating certain types of mushrooms, eighteen years after Chernobyl. *Hydnum Repandum* and *Rozites Caperatus* are thought to be dangerous if eaten raw but cooking is said to reduce the presence of radioactive materials like Cesium 137 by 70-90%.

Agence France Press, 19 July 2004

Greenpeace UK calls for shutdowns.

The report "Assessing the Risk of Terrorist Attacks on Nuclear Facilities", published by the Parliamentary Office of Science and Technology (available at <http://www.parliament.uk/documents/upload/POSTpn222.pdf>), is said to provide further evidence that nuclear power plants should be shut down. A

wide range of potential terror threats to nuclear facilities, from large aircraft attack to the deliberate release of radioactive material, are included in the report. The report concludes that a worst-case scenario aircraft impact could cause a significant release of radioactive material. Greenpeace nuclear campaigner Jean McSorley, said that the report underlines why the British government should close nuclear installations as soon as possible.

BBC News, 22 July 2004

South Korea: local leaders balk at nuclear power centres.

The mayors and chief representatives of seven cities and counties that had submitted residents' petitions to attract nuclear waste management facilities have now declared that no preparatory applications will be made. If preparatory applications are not submitted before 15 September, just one candidate would remain, Wido in Buan-gun of North Cholla Province. After the deadline, the government plans to solicit the opinions of residents from applying regions using polls. The location will be confirmed by the end of 2004 after final applications are received.

Dong-A Ilbo, 19 July 2004

Mutating Pine Trees. Genetic malformations have been detected in the pine trees of Sosnovy Bor, 80 km west of St. Petersburg's center. The mutations testify to the level of mutagenicity in the environment surrounding the nuclear complex. Feasibility studies for new nuclear projects fail to consider the long-term consequences caused by increased radioactivity. Pine trees, sensitive to chemical and radioactive contamination, warn of hazards to other plants, animals and humans.

Baltic Newsletter of the Green World, 17 July 2004

More nuclear waste to be stored at Sellafield. The UK government is to allow thousands of extra tons of radioactive waste to be stored in the

UK, under plans thought to be designed to generate an additional £200m (around US\$ 368m) for the nuclear industry. The proposal is to be presented later this summer by the Department of Trade and Industry (DTI). Classed as intermediate level and owned by foreign governments and companies, the nuclear waste will be stored at BNFL's Sellafield reprocessing plant in Cumbria. The DTI is expected to say that money generated from the extra waste storage will be injected into the new Nuclear Decommissioning Agency (NDA), which will issue contracts for clean-up work from April 2005.

The Independent, 18 July 2004

U.S. Entergy's political contributions.

Entergy Corporation donated over US\$1.2 million in campaign contributions to U.S. Senators and representatives from 1 January 1999 to 30 June 2003, according to a report from Common Cause, NY, which investigated the company's political activities. The report also found that Entergy spent US\$1.38 million on lobbying the federal government from 2000-2003. Entergy owns the Indian Point facility in New York and gave about US\$80,000 to local New York officials and spent more than US\$670,000 on lobbying in New York State alone, in its attempts to prevent a mandated shutdown of Indian Point. Common Cause, which does not take a position on nuclear power, probed Entergy as part of a series of investigations into the links between campaign and lobbying spending and political power. Entergy is seeking an Early Site Permit to build a new reactor at its Grand Gulf, Mississippi site. No figures on Entergy political funding in other states have been compiled.

www.commoncause.org/states/newyork, 2 December 2003

French mobilization against EPR.

Demonstrators lined up "radioactive jerrycans" on the beach at Carnac to denounce the EPR launch. Comparing the jerrycans to nearby 7000 year-old megaliths, the activists sought to show what humanity could expect if it

continues to produce nuclear wastes.
Dernières Nouvelles d'Alsace, 19 July 2004

Missing fuel rods found at Vermont Yankee NPP. Missing since April (see WISE/NIRS *Nuclear Monitor* issue 610, in briefs), two missing fuel rods were overlooked during previous searches by operator, Entergy. The company claims to have already revised record-keeping procedures but the Nuclear Regulatory Commission (NRC) is to conduct a special investigation to determine why the material was unaccounted for and why the breakdown in record-keeping occurred.
WNA News Briefing, 14-20 July 2004

Euratom unreformed. Despite efforts by three member states' to eliminate text promoting nuclear, European

leaders meeting last week to reform the EU's institutional framework, left Euratom untouched. The outcome "was no surprise" according to Mark Johnston of Friends of the Earth Europe. The "chapter isn't closed" and the declaration for Euratom revision remains open should other member states decide to sign before the EU treaty is formally signed this autumn.
Nucleonics Week, 24 June 2004

German plans to protect NPPs questioned. Energy firms, E.ON, RWE, EnBW and Vattenfall Europe have commissioned utility and arms firm Rheinmetall to supply and construct a defense system to protect NPPs against terrorist attacks that use large airplanes. German Energy Minister, Juergen Trittin, has criticized the system, said to surround NPPs with a smokescreen as insufficient. The

scheme would involve equipping Germany's 18 active reactors with smoke machines... The idea being that once activated the smokescreen would decrease visibility by enveloping the reactors in smoke within seconds. Trittin told the *Financial Times Deutschland* that state authorities had been requested to improve the plan.
Reuters, 29 July 2004

Switzerland: projected decommissioning costs increases. Estimated costs for decommissioning Swiss NPPs have increased by 18% or CHF286 million (US\$224 million) due to the additional costs of dismantling boiling water reactors (BWRs) at Leibstadt and Muhleberg according to the Swiss federal agency (SFOE). The latest calculations project a total cost of CHF1.8 billion (US\$1.4 billion).
WNA News Briefing, 14-20 July 2004

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THE NUCLEAR MONITOR

The Nuclear Information & Resource Service was founded in 1978 and is based in Washington, DC. 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.

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Fund For A Nuclear-Free World parties!

We now have a videotape of Ed Asner's April 15 speech kicking off the Fund for A Nuclear-Free World campaign. We'll send you a copy free to show at house parties to build membership and raise needed funds for NIRS as we struggle with 4 major NRC interventions and 2 federal court cases! We'll also send you brochures and full packets of material to hand out to your friends and neighbors. Call Mary Olson at 828-675-1792 or e-mail to nirs@main.nc.us for more info.

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