

NUCLEAR MONITOR

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SERIOUS INCIDENT AT HUNGARIAN PAKS-2 REACTOR

A serious incident has happened in cleaning fuel elements at the Hungarian Paks-2 reactor. A majority of the 30 fuel elements in a 'washing' machine got severely damaged and radioactivity was released into the environment. The incident was initially classified at level 2 ("incident") of the International Nuclear Event Scale (INES), but later reclassified to level 3 ("serious incident").

(586.5507) WISE Amsterdam – The incident was discovered by the plant at 22.30h on 10 April, when a sudden increase in released radioactive gases through the exhaust stack was observed. Radiation monitors inside the reactor hall also reached alarm levels.

The reactor hall was evacuated immediately after the alarm signals were activated. Radiation levels decreased when technical measures were taken at a fuel cleaning system with 30 spent fuel elements inside (1).

In the cleaning system, dust and corrosion particles are removed from fuel elements. The system was hired from Framatome ANP (a joint company of French Areva and German Siemens). The cleaning

system is placed on the bottom of the spent fuel pool, next to the reactor, and consists of a container in which fuel elements are placed (2).

The cleaning system was first used at Paks-2 in 2001. At that time it was even the first ever trial in the world of this new *CORD UV/AMDA* technology. Paks-2 had experienced problems with Russian fuel elements due to the presence of corrosion deposits. These deposits resulted in coolant flow problems which had resulted in an unscheduled refueling outage. In 2001, the new *CORD UV/AMDA* chemical cleaning system was used for the first time and 148 fuel elements and 22 control rods were cleaned (3).

The 467 MW Paks-2 was taken offline on 28 March for its annual refueling

and maintenance period. The fuel elements from the reactor were stored in the spent fuel pool next to the reactor. Part of the fuel elements were to be cleaned to operate more effectively during the further operation of the reactor (4).

When the incident at 10 April started, radioactive gas discharges were detected as coming from the cleaning system. The operators think that the radioactivity escaped due to insufficient cooling of the fuel elements inside the system. The release of radioactive gases through the NPP's chimney continued during some days but were lower than during the first hours of the incident (5).

On 11 April Paks personnel tried to open the lid of the cleaning container but the cable of the crane broke and the lid was half open. That allowed radioactive gases to escape from the container, bubble up from the water, and enter the reactor hall and eventually escape into the environment. According to the Hungarian Atomic Energy Authority (HAEA), radioactivity outside the plant would be only 10% higher than normal (6).

Fuel damaged

When the head of the cleaning container was completely removed on 16 April, video inspections

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revealed that most of the elements (probably even all of them) had been damaged (7). The extent of the fuel damage was reason to newly classify the incident at level 3 of the INES scale (8).

The HAEA however had doubted to uprate the incident at level 3 because it feared that such a rating could cause unwarranted public "excitement". But they had to admit that a level 3 was justified "because the situation in the tank was worse than expected" (9).

The damage to the 30 fuel elements is very serious as it appeared that elements had been broken and its uranium pellets had fallen to the bottom of the cleaning system.

The damage of the elements might have occurred when the operators discovered that the cooling inside worked improperly (after having observed an increase in radioactivity). A sudden flow of cold water into the system could have broken the fuel claddings due to thermal stress.

The amount of fuel pellets at the bottom of the system raises another concern: that a criticality accident could occur. In that case, a chain reaction will start when sufficient fissionable material is put together. Neutron absorbing borated water has been injected into the fuel pool to prevent this (10).

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The next issue (587) will be mailed out 16 May 2003.

According to an official of the Hungarian Nuclear Inspectorate, the restart of Paks-2 could be delayed by one year (11).

Hungarian press agency MTI has reported that the incident could have been that serious that Paks-2 possibly never get permission to restart (12).

The plant has established eight teams of experts to make a plan for the removal of the fuel. The teams include experts from the plant, the Hungarian university and specialists from Germany and Russia (13).

Openness

The Energy Club has urged the responsible authorities to reveal the details about the accident and the releases of radioactivity into the environment. Until now they have not been satisfied with communication from the plant itself.

They criticize the Hungarian government which is venting statements like "no problem" and "calm down" and thus neglecting the seriousness of what happened at Paks (14).

The Austrian environmental NGO Global 2000 sent its Radiation Monitoring System (RAMOS) team to Hungary when it learned from the incident in the neighbouring country. On 17 April they measured the radiation levels next to the plant and found 90 to 130 nanoSievert per hour, which is a level of normal natural background radiation.

But at that time, a week after the incident, discharges from the chimney were back to normal. Radiation levels immediately after the incident could have been much higher.

Therefore the RAMOS team wanted to collect soil samples near the plant (to check for radioactive fallout) but were interrupted by the police. RAMOS has demanded full openness by the Hungarian authorities and the release of all data on radiation levels after the incident (15).

Four Russian designed VVER 440-213 reactors are located at the Paks NPP. The three other Paks reactors continued to operate after the incident at Paks-2 (16).

Sources:

1. INES Event Rating Form, www-news.iaea.org, 11 and 17 April 2003
2. Information from Ada Amon, Energy Club Hungary, 23 April 2003
3. *Advanced Nuclear Power*, Framatome ANP, August 2001
4. INES Press Release Detail, www-news.iaea.org, 14 April 2003
5. INES Press Release Detail, www-news.iaea.org, 17 April 2003
6. *Nucleonics Week*, 24 April 2003
7. INES Event Rating Form, www-news.iaea.org, 17 April 2003
8. INES Press Release Detail, www-news.iaea.org, 17 April 2003
9. *Nucleonics Week*, 24 April 2003
10. Information from Ada Amon, Energy Club Hungary, 23 April 2003
11. *Magyar Hirlap*, 22 April 2003
12. MTI (Hungarian News Agency), 23 April 2003
13. MTI (Hungarian News Agency), 19 April 2003
14. Information from Ada Amon, Energy Club Hungary, 23 April 2003
15. Global 2000 press release, 18 April 2003
16. *Nucleonics Week*, 17 April 2003

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25 YEARS AGO

NIRS and WISE both celebrate their 25th anniversaries this year. This is the fifth article in a series, "25 years ago", comparing anti-nuclear news "then" and "now", to mark our first quarter-century of anti-nuclear campaigning.

Then

In issue 2 of *WISE Bulletin* we wrote about "women fighting nuclear energy": "We live in a society where the basis of government and capital power is oppression. On this strength the nuclear industry proceeds, completely ignoring the demands of the people. But for women, as for gay people, ethnic minorities and children, this oppression is too often built into the anti-nuclear movement. Awareness of this is growing. [...]"

Many women choose to work in feminist anti-nuclear groups, fighting for a non-nuclear society, and one in which they will not be oppressed. These groups publish, hold workshops and conferences and work in the movements from a feminist perspective. WISE can help the information flow between these groups, by providing contact addresses". (*WISE Bulletin* 2, July 1978)

Now

On 11 May 1999, we published our Special issue "*Women respond to the nuclear threat*". This special edition of the WISE News Communique contains stories (amongst others) on a women's group fighting against the French reprocessing plant at La Hague, India's nuclear weapons program, a testimony of a woman living near the UK Sellafield plant, a health worker who studied the health of women near Indian uranium mines, women in Japan's anti-nuclear movement, women and militarism, etc.

All articles for this special issue had been written by women and most of the articles contain the contact addresses of groups working on the issue.

The *Women respond to the nuclear threat* special issue is still available from WISE. At our website (www.antenna.nl/wise); go to the section newsletter and look in the list for issue 509/510 (11 May 1999). The paper copies are also still available. Please contact us if you want to receive it. For our address details see page 11.

THE NEVER-ENDING STORY: EBRD RESTART TALKS ON K2/R4

After announcing in September to consider loans to Ukraine to complete the power generating units at the Rivne and Khmelnytsky nuclear power stations (K2/R4), the European Bank for Reconstruction and Development (EBRD) and its president Jean Lemierre have agreed to submit a financing project that incorporates Ukraine's proposals to the EBRD board (1).

(586.5508) **NIRS/WISE Ukraine** - The conditions that President Lemierre has decided to ease financing, include requirements that Ukraine increase its tariffs on nuclear energy, impose new nuclear regulations in the country, establish an independent safety body, and reform the electricity industry.

Talks are set to restart in the summer of this year. The previous project cost of US\$ 1.48 billion is also expected to be reduced (2). The Ukrainian government is hoping to bring that figure down to US\$ 1.26 billion (3).

Ukraine had rejected a loan worth US\$ 215 million from EBRD in 2001,

(see *WISE News Communique* 559.5345: "Ukraine withdraws EBRD loan application for K2/R4") and indicated it would look for support from Russian instead.

Environmentalists have voiced concern over the use of Russian help to complete the K2/R4 units, basing their concern over the 1986 meltdown of the Soviet-designed RBMK Chernobyl-4 reactor.

Russia has passed legislation for this year to give US\$ 44 million toward the completion K2/R4, yet the money has been slow in coming and environmentalists suspect that it will not be enough to complete the

project without the EBRD.

According to Yury Urbansky from the National Ecological Centre of Ukraine, "K2/R4 cannot be made safe since they are old design reactors,

CHERNOBYL VICTIMS MARCH IN KIEV

Victims and survivors of the Chernobyl disaster marched in central Kiev on 19 April to demand an increase in social service benefits and compensation for medical and emotional losses. According to press reports, 5000 people were in attendance at the rally.

there are serious concerns regarding economic justification of the project, and public opinion in Ukraine does not support the increase of the nuclear energy use".

Also in February this year, the EU signed an agreement worth Hr 5,200,000 (US\$ 1.01 million), aimed at assessing the progress made on the Khmelnytsky plant by means of a thorough on-site review (4).

Another agreement providing a blueprint for shutting down nuclear plants and opening a decommissioning fund received funding by the EU to the amount of 600,000 Hr (US\$ 117,000) (5).

At the same time, the nearly bankrupt state-run nuclear monopoly Energoatom inhabits a luxurious office building in downtown Kiev while failing to implement urgent safety and maintenance works at 13 nuclear reactors under its control, declaring a shortage of cash (6).

Energoatom's supervisory board has asked Ukraine's cabinet of ministers to sanction the utility, saying management had not fulfilled its program of modernizing nuclear power plants.

Tatyana Amosova, a member of the board and assistant to the first deputy prime minister, said only 13%-15% of planned safety measures were funded and expenditures only reached that level because of purchase of new equipment."

Furthermore, board president and MP Andrey Derkach is reported to have said, "Energoatom still hasn't resolved the issue of insurance against third-party liability, a requirement for getting nuclear plant operating licenses."

He said that as long as the licenses weren't fulfilled, "...Energoatom is operating as an outlaw company with no responsibility for nuclear risks" (7).

Energoatom disputes the extent of the lapses in implementing safety measures, but still admits only a 66% completion of a modernization plan last year, and a US\$49 million deficit in what is needed for safety and modernization in 2003, out of a total US\$ 158 million (8).

K2R4 Plaintiffs Harassed

In a related incident, law students who submitted a legal challenge against the Energoatom have reported that they have been threatened and harassed for their opposition to K2/R4 completion.

Alexei Tolkachov, a representative for the group, was phoned by an anonymous caller who said that, "if students think that they live in a tank and are not afraid of bullets from machine guns, then they should continue struggling".

An unknown person was also seen at the students' dormitory claiming he wanted to persuade the students to withdraw their case (9).

Harrasments of anti-nuclear activists are not new. In the past ten years of negotiations on K2/R4 many cases of illegal pressure and threats have become publicly known.

Environmental activist think much more happens but most people do not dare to speak out.

K2/R4 Opposition Plans

"EBRD must clearly say "NO!" to nuclear development in the Ukraine and the entire region. The country has an immense potential to improve efficiency of energy production and consumption and this is where money should be spent first of all," says Yury Yurbansky.

NIRS/WISE Ukraine and Ecoclub, in conjunction with CEE Bankwatch and the NGO Voice of Nation are expressing their opposition to the K2/R4 plans with a media campaign, energy tour, and increased activism in the coming weeks and months.

Sources:

1. Reuters, 7 April 2003
2. Reuters, 7 April 2003
3. Correspondence with Yury Yurbansky, 14 April 2003
4. *Financial Times*, 16 February 2003
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6. Correspondence with Yury Yurbansky, 14 April 2003
7. *Nucleonics Week*, 17 April 2003
8. *Nucleonics Week*, 17 April 2003
9. Public Committee for National Safety of Ukraine press release, 11 April 2003

Contact: WISE/NIRS Ukraine

DECOMMISSIONING MONEY WASTED ON FINANCING EXPANSIONS

On 22 April, Greenpeace published the results of an economic study exposing the uncertainties and complexities surrounding nuclear power plant decommissioning reserve funds across the European Union and the market distortions created by the unrestrained access to these funds.

(586.5509) **Greenpeace European Unit** - The members of the European Parliament's Industry, Trade, Research and Energy (ITRE) committee are urged to vote in favour of an amendment which is in line with the conclusions of the study and

which will contribute to the creation of a level playing field in the EU's emerging liberalized energy market.

Decommissioning fund models were designed at a time when monopolies existed. With the advent of a

liberalized energy market the situation has significantly changed and now, according to Greenpeace. The rules governing decommissioning fund reserves must also be changed.

To date, Member States have adopted extremely different decommissioning fund management models - the main difference being the operator's access to them.

The Greenpeace-commissioned economic study exposes how excessive risks are taken with decommissioning funds in Europe and how this jeopardizes their future availability for their intended purpose: the decommissioning of nuclear power plants.

Some utilities, such as French EdF and German E.on and RWE have used decommissioning funds to finance expansion (see also *WISE/NIRS Nuclear Monitor* 576.5454: "Financial problems and earthquake risks affect French reactors").

"Access to these funds can cause a significant market distortion," said Frederic Marillier from Greenpeace France. "Decommissioning fund

management must be based on public interest and not on private and short-term financial gain," he explained.

The study's conclusions underline the need for a democratic harmonization of the rule of access to decommissioning funds. This must be implemented with a view to the separate management of these funds along with a revision of the control mechanisms involved.

Greenpeace has sent its recommendations to the members of the ITRE committee in advance of their vote on the internal electricity market directive.

The Greenpeace recommendations put special emphasis on parts of the directive that deal with decommissioning fund management and the obligation of suppliers to provide information on the origin and on the environmental impact of

the electricity that their consumers are buying.

The full study (*Economie des modèles européens de gestion des provisions pour démantèlement des centrales nucléaires*) is in French available at:

www.greenpeace.fr/energie/provisions.pdf

English and French language summaries available at:

www.greenpeace.org/multimedia/download/1/219613/0/english.pdf

www.greenpeace.org/multimedia/download/1/219615/0/french.pdf

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KOZLODUY: "WHO IS THE BOSS IN BULGARIA?"

In the beginning of April the Supreme Administrative Court (SAC) of Bulgaria issued a verdict that the Government's decision for the closure of units 3 and 4 in 2006 violates a Decision of the Parliament from July 2002. With that Decision the Parliament adopted the new Energy Strategy that envisages a number of analyses to be done before the decision for closure of units 3 and 4 is to be taken. Re-discussing the closure dates with the European Union would lead to a severe crisis and for sure damage the negotiations towards accession.

(586.5510) CEIE - Despite the initial surprise among some of the Ministers it is clear that the Government very likely will not follow the SAC verdict to re-negotiate the closure dates for units 3 and 4.

There are several arguments supporting that position and the one that the negotiations are run by the Government (based on the specific rules and procedures already adopted by the Parliament) is probably the most valuable.

The case already generated number of questions, most of them related to the reaction of the European Commission to the situation (see

WISE/NIRS Nuclear Monitor 581.5480: "Kozloduy-1 and -2 shut; court blocks closure of -3 and -4").

One way or another – it is obvious that the Government will work to fulfill its promises and engagements, taken during the negotiations of the Energy chapter.

Much more important question is whether – and to what extent – the SAC is competent to regulate the negotiations for the accession as a whole. This should be a question of big concern for the Bulgarian society.

Having in mind the current "cold war" between the Government and

the legislative power in the country, one could expect new cases when the court would be allured to "punish" the cabinet.

And it will be an easy effort since the Government pays sometime little attention to the internal legislation giving high priority to the negotiations with EU.

From environmental point of view the Energy Strategy that the SAC refers to might be questionable as a whole.

The Strategy didn't pass through an Environmental Impact Assessment procedure although this was a

specific requirement of the Environmental Protection Act.

Therefore there is a point for debate whether the Parliament itself could "legalize" any document that is not in compliance with the law just by deciding so. Another big question is why the Parliament should ratify strategies and plans at all.

Meanwhile, some 3 months after an incident that occurred in the first circuit of unit 3 at Kozloduy, the full information what actually happened on 20 January 2003 still remain unavailable.

According to the INES event website (www-news.iaea.org), the pressure in the primary circuit had decreased,

actuating three emergency cooling injection pumps. A leak was identified at a cooling system for one of the main cooling pumps and caused by vibration. The incident was rated as INES level 1 ("anomaly").

CEIE requested the full dossier of the case, including answers to some specific questions, but the Bulgarian Agency for Nuclear Regulation (ANR) denied providing it. In a letter, the Agency refers to the right of a "third party" (Kozloduy NPP) not to disclose information.

This right is based on a "List of the categories of information, classified as official secrecy of the MEER", approved by the Minister of Energy and Energy Resources.

The list covers information for all events, actions, etc., related to the systems for generation, transfer and distribution of energy in Bulgaria, including the one for accidents with the exemption of the officially released information.

CEIE already appealed the denial of the ANR at the SAC and expect to hear soon when the court session will take place.

Source and Contact: Centre for Environmental Information & Education, (CEIE)
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LES STUMBLING IN TENNESSEE

The U.S. Louisiana Energy Services (LES) has missed its third self-imposed deadline for submitting a license application to the US Nuclear Regulatory Commission (NRC) amid signs that the company is losing most local political support for its proposed uranium enrichment plant.

(586.5511) NIRS - Meanwhile, the NRC issued a mixed verdict on a series of "white papers" the company had offered in seeking a smooth licensing path, meaning that some of the key issues that plagued LES when it unsuccessfully tried to license a plant in Louisiana in the 1990s could return (see also *WISE News Communiqué* 474.4694: "Environmental racism: LES license denied").

When LES missed its 31 January 2003 deadline to file its license application, the company said it would be filing by 31 March. That date came and went, and now LES will only say that it expects to file sometime during the second quarter of 2003 - or by 30 June.

But the company has run into serious grassroots and political trouble in Tennessee. It is being forced to restructure itself following the loss of a key partner, and is admittedly beginning to consider alternate sites, apparently in New Mexico.

The latest blow to LES came on 17 April, when officials of the Four Lake

Regional Industrial Development Group, a five-county organization formed to attract business to central Tennessee, voted not to offer LES a first right-of-refusal contract on 250 acres of land the company would need for its proposed uranium enrichment plant. LES had offered US\$200,000 for the first right-of-refusal.

On 24 March, the Trousdale County commissioners - where most of the plant site would be located - voted to not establish at this time new zoning parameters that would allow a plant like LES to be built.

And in May, the commissioners are expected to take up new zoning issues - but not that would approve an LES project.

Instead, the commissioners are deliberately avoiding approving any zoning that could enable LES, and are consciously striving to avoid loopholes that might allow LES to sneak in.

Trousdale County Executive Jerry

Clift, previously a supporter of the LES project - last fall LES sent him to Holland to visit consortium leader Urenco's enrichment plant at Almelo - has been increasingly critical of the project in recent months.

Following the advice of a local nuclear expert, Bill Rickman, Clift has said he will not vote to approve LES unless it can prove it will store only about a month's worth of nuclear waste onsite at any time, an impossible condition for LES to meet.

Clift and other local officials also have questioned LES' credibility as the company has issued contradictory statements about waste storage and emissions (see also *WISE/NIRS Nuclear Monitor* 582.5484: "LES delays license application").

Meanwhile, LES partner Cameco, the Canadian uranium mining firm, has dropped out of the project, saying that it doesn't fit in with the company's plans.

Cameco reportedly was the second largest partner after Urenco, owning

about 20% of LES. A restructuring of the consortium is taking place, and it appeared that Urenco has not found any other interested parties and will end up taking most or all of Cameco's share. However, a partnership agreement has not been made public.

In either case, the foreign domination of LES is likely to be an issue if the company ever actually submits a license application.

On 24 March, the NRC sent a three-page summary of its decisions on six LES "white papers," which the company submitted in an apparent attempt to settle key licensing decisions before an application even is submitted.

The NRC for the most part declined to go along with LES' recommendations, and so far has not agreed to set a legally binding Commission Order that would limit

issues that could be brought up in licensing hearings, as the company had requested.

Instead, the NRC pointed out that "binding standards can be set by adjudication and rulemaking" but that the NRC staff "is providing staff views on how it intends to review the LES application, subject to possible further Commission direction following the receipt of an application".

The letter rejected LES' appeal that the NRC presume a need for the facility, and that the agency would not, under NEPA, need to evaluate a no-action (or no plant) alternative.

The NRC declined to respond to LES' plea that the agency limit its environmental justice review, with the NRC stating that it is currently reviewing all of its environmental justice policies - a development to

which grassroots activists will need to pay special attention.

The NRC did essentially accept LES' argument that the agency should review financial qualifications issues along the same lines as it eventually ruled during the last LES effort (when the NRC Commissioners overturned an Atomic Safety and Licensing Board finding that LES was financially unqualified to hold a license) and agreed with LES that an antitrust review is not required for the project.

Foreign ownership of the plant will get scrutiny by the NRC, contrary to LES' request, although perhaps not to the extent asked for by the USEC (US Enrichment Corporation) and environmentalists.

The letter stated that "while the mere presence of foreign ownership would not preclude grant of the

California anti-nuclear organization needs help

The San Luis Obispo Mothers for Peace, a non-profit organization in Central California have been battling for the safety at the Diablo Canyon Nuclear Plant for three decades. The group is currently embattled in a legal case revolving around the safety of proposed dry cask storage to be sited 2.5 miles (4 kilometers) from a major active earthquake fault. Issues raised were the utility's current bankruptcy status, adequacy of earthquake review, high-level radioactive waste transportation, emergency planning and terrorism and acts of malice and/or insanity.

Similar issues regarding security and terrorism have been filed and denied by the U.S. Nuclear Regulatory Commission (NRC) in 5 different nuclear facility communities. Citizens are desperate to decrease the vulnerability of reactor and nuclear waste sites and the government's oversight agency has been deaf to their pleas. "It is unconscionable to have our government increase our fears by telling citizens that nuclear plants are terrorist targets and have the NRC tell us they do not have to deal with it, because no one knows where or when an attack will take place. It defies logic", Rochelle Becker of the Mothers for Peace stated. "No one knows when or at what magnitude an earthquake will happen and yet required under NRC regulation. We don't see the difference".

The NRC has admitted that the most vulnerable part of a nuclear facility are the spent fuel pools and yet have required no containment. In the case of Diablo Canyon, spent fuel is stored right between the twin reactors providing a bulls-eye target for an attack.

The proposed casks to transfer the waste from the pools are not independently reviewed and are not the most robust casks available. Pacific Gas & Electric company has proposed to line up the casks like bowling pins under their high power transmission lines. The Mothers for Peace asked that the casks be dispersed over the site with bunkers for protection.

This is an issue that must be reviewed in full hearings before a license is granted. If the NRC will not follow its mandate to protect public health and safety the Mothers will ask the Federal Court of appeals to force them to do so. It is expected that this issue will be ripe for appeal in late summer or early fall of 2003, but will need an estimated US\$100,000 to take this case to court.

Help the Mothers for Peace. Donations can be sent to: San Luis Obispo Mothers for Peace, PO 164, Pismo Beach, Ca 93448, US; or by credit card at: www.mothersforpeace.org.

application, any foreign relationship must be examined to determine whether it is inimical to the common defense and security".

Finally, the NRC did not give a definite approval to LES' preferred approach to disposition of the depleted uranium the plant would create.

While the agency said it might constitute a "plausible strategy" for disposition, the agency also added a number of "ifs, ands and buts" that make clear waste disposal will be an issue for this plant and certainly won't be decided before a license application is submitted.

The letter certainly was not what LES

wanted when it submitted its "white papers" and it appears that the company will have to steel itself to having to go through a relatively normal licensing process if it wants to proceed.

But whether that will be in Tennessee is uncertain. LES lawyer and former NRC Commissioner James Curtiss told a group at a Nuclear Energy Institute meeting in Baltimore 8 April that LES expects to submit an application for the Hartsville, Tennessee location, but is looking at alternate sites as well.

And it was learned that LES president George Dials, a resident of New Mexico, recently met with some political officials in that state. Senate

Energy Committee Chairman Pete Domenici of New Mexico publicly has invited LES to come there if its troubles in Tennessee prove too difficult.

However, LES may be remembering that the last time it tried to build a uranium enrichment plant, it relied on the support and staff of another Senate Energy Committee Chairman, J. Bennett Johnston of Louisiana, whose support wasn't enough to get the project licensed over determined local opposition. And it may turn out that will be LES' fate no matter where it tries to go.

Source and contact: NIRS
Washington

RUSSIA TO BUY BACK SPENT FUEL FROM IRANIAN REACTOR

In an attempt to convince the world in its non-proliferation commitments and Russian public in the fact that spent nuclear fuel is a valuable resource, Russian Minister for Nuclear Energy has said that Russia will pay Iran for the return of spent fuel from the Bushehr nuclear power plant, which is still under construction.

(586.5512) **Bellona Foundation** - Russia's Ministry for Nuclear Energy, or Minatom, is going to pay Iran for the return of the spent fuel from the Bushehr Nuclear Power Plant, which Russia is constructing in Iran. Russia is also to deliver fresh fuel for the reactor.

"The Iranians believe - and we support them on it - that the fact they buy the fuel from Russia means it becomes Iranian property, and Russia will have to pay for the irradiated fuel," Aleksandr Rumyantsev, Russian Nuclear Energy Minister, was quoted by press agency ITAR-TASS as saying at a recent press briefing.

Russia will supply nuclear fuel for the Bushehr reactor, which will begin after completion of the plant and finalisation of export agreements. The plant is expected to be ready for loading of the fuel by the end of 2003, although some experts believe this date is too optimistic.

Bushehr remains hot in Russia-US relations

The construction of Bushehr by Russia angers the United States, whose officials say Iran is pursuing a nuclear weapons programme. Russia has long denied these allegations, insisting that the nuclear programme in Iran is entirely peaceful.

During the past few months, however, Minatom being confronted with hard facts of Iranian nuclear activities, started to admit that there might be a problem (see also *WISE/NIRS Nuclear Monitor* 584.5496: "Iran's nuclear program").

Pointing at press reports that Iran has built a pilot cascade of 150 to 200 centrifuges for uranium enrichment as well as premises for several thousand such centrifuges at one of its nuclear facilities, Mr Rumyantsev said: "If true, those centrifuges may help enrich uranium to weapons-grade conditions, in which case the situation cannot but cause concern".

But Mr Rumyantsev also fought back the US by saying that Iran was using technologies of a certain US-based company. "On one hand, the US is criticizing Iran and Russia for cooperation at a nuclear plant project, but on the other, a US company is helping Iranians build a powerful uranium-enrichment facility", Rumyantsev was quoted by ITAR-TASS.

Russia's project in Iran undermines spent fuel import plans

The brief statement by Mr Rumyantsev that Russia will pay Iran to take back spent fuel indicates that in addition to all the trouble with the US, there are other problems looming.

Minatom has long advocated for the project to import foreign spent fuel to Russia for storage and reprocessing, claiming that it may bring a profit of up to US\$20 billion, given 20,000 tonnes of fuel is shipped in. The President of the

Russian legislation approved the highly controversial legislation package, which favours imports, in July 2001.

By since the approval of the package, there was no flow of cash earned on the importation. There have been indeed a couple of shipments from the Eastern European countries, which operate Soviet design reactors.

But the charge for the shipments was much lower than suggested by Minatom during the PR-campaign to ensure the passage of the importation legislation in the Russian State Duma.

Countries like Ukraine had troubles covering even these low priced services. Earlier this year, Ukraine had debt of US\$ 9 million to Russia for spent fuel shipment for storage at Zheleznogorsk, Krasnoyarsk county, situated in western Siberia.

Other countries, which Minatom considered as attractive markets for these services, in particular Asian countries, could not send any spent fuel to Russia without the consent of the US, as it holds rights over an approximate 80% of the world's spent fuel according to various estimates.

Until now the United States did not show any particular interest in granting Russia the right to import this fuel. There were some statements, however, coming from the States Department, which said that the US administration might consider such option, given Moscow drops its nuclear cooperation with Iran.

Minatom has so far rejected such proposal, but at the same time has become more cautious in blatantly denying nuclear weapons ambitions of Iran as the ministry did before.

Leasing of spent fuel may malfunction as well

Seeing the planned earning of US\$ 20 billion not materialising, Minatom complained - for domestic public

consumption - about the high competition at the "international spent nuclear fuel market", where "Russia is not welcomed" and started to work on a more realistic approach. That was to **lease** nuclear fuel to nuclear power plants in other countries and - after the fuel is burnt - take it back for storage or reprocessing.

Such a deal could be very lucrative to many countries, which operate nuclear power plants. The current practice suggests that once a country buys nuclear fuel, it will stay in this country, and this country also has to ensure its safe storage.

Minatom's scheme is malfunctioning in the case of Iran. Russia will have to pay Iran for its own fuel to be returned.

The management of spent fuel is a very expensive, headache-causing venture and, should Russia agree just to take it back for good, everyone will be happy about it.

It is even a better option for a particular country than sending spent fuel for reprocessing in the UK or France - the two countries which unsuccessfully try make business by providing such services.

Firstly, it will be more expensive and, secondly, the waste generated during reprocessing will be shipped back to the country of origin. Russia agrees in its leasing scheme to take care of the waste as well.

For some reason, however, Minatom's scheme is malfunctioning in the case of Iran. Russia will have to pay Iran for its own fuel to be returned. One may wonder what are the reason for Iran's stance and Russia's readiness to bow to such a demand.

It can either be a bad management of the contracts from Minatom's side,

which did not work out the leasing option properly. It can also be the understanding from Iran's side, that Minatom will simply have no choice but to accept such conditions.

Minatom stated earlier that the spent fuel would not remain in Iran after contractual documents between the two parties were made public by Greenpeace, where the return of spent fuel was not stipulated.

This reveal gave more arguments to the USA in criticizing Russia's nuclear cooperation and Minatom was forced to give a firm promise that Iran will not keep the material, which can be potentially used to create weapons of mass destruction.

Iranians from their side decided to either take advantage of this situation, or to make it more difficult for Minatom to take the fuel back.

On the other hand, the whole argument about the fuel return is becoming obsolete as Iran declared its intentions to develop its own fuel cycle. "Entirely for peaceful purposes", Iranian officials say, but the US is not convinced.

The spent fuel details of other Minatom's projects, such as in China or in India, are not known. But looking at the Iranian example even the leasing option does not seem to be easier than the original importation scheme advertised earlier by Minatom.

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IN BRIEF

Opponents of nuclear waste dump Australia win 'Nobel prize' of environmental movement. Australian Aborigines Eileen Kampakuta Brown and Eileen Wani Wingfield were among seven winners of a top environmental prize on 14 April. Both ladies lead a campaign to block construction of a nuclear waste dump near Woomera in their South Australian desert homeland. They traveled thousand of miles, visisted Parliament House and wrote to government officials to protest the proposed dump. The two women will split the US\$125,000 prize. The Goldman prize is awarded annually to grass-roots activists from six regions across the globe and often termed the Nobel prize of the environmental movement.

Reuters News Service, 15 April 2003; The Transcontinental, 24 April 2003

Hunger strike in Austria comes to an end. The two remaining hunger strikers have ended their strike on 17 April. They ended the strike out of solidarity with two other activists who were forced to stop their action because of bad health conditions. The anti-nuclear activists want to achieve a change of the Euratom-treaty including the highest safety standards for nuclear power plants in West- and Eastern Europe. They also want safety measures for the Czech Temelin plant just across the border. As the Austrian Platform against Nuclear Danger declared, the Austrian anti-nuclear activists will not step back, the resistance will continue in many ways.

Osterreichischen Plattform gegen Atomgefahr, 17 April 2003

Nuclear power plants Bruce A-3 and -4, Canada, may restart. Canadian Bruce Power has been given approval by the Canadian Nuclear Safety Commission (CNSC) to restart the Bruce A3 and -4 reactors, subject to certain conditions. The CNSC has imposed 55 prerequisites, generally seeking information at each reactor about areas that include worker

training, safety upgrades, maintenance, large break loss-of-coolant accident analysis, and structural integrity. The CNSC's director general has the authority to determine whether the utility has met conditions specified in appendixes to the amended licenses for the units. Unit 3 is expected to be operational by the end of April, while Unit 4 is expected to resume in June.

World Nuclear Association News Briefing 9-15 April 2003

Norwegian fishermen vent anger at nuclear waste. A group of Norwegian fishermen met British Nuclear Fuels (BNFL) at a conference near Sellafield in April to discuss discharging radioactive releases into the sea. About 25,000 people who live on the remote Lofoten islands, just off the Northern Norwegian coast, are totally reliant on the sea that surrounds them. During the last half of the 1990s, scientists have identified a sharp rise in the concentration of radioactive substances in marine life off the Norwegian coast.

Norwegian environmental minister Boerge Brende accuses the British government of breaking its promise. Last December, British authorities promised to consider halting the emissions from Sellafield temporarily, but four months later, the emissions are still continuing as before. The Norwegian minister has written a letter to European Union Energy Commissioner, Loyola Palacio, asking her to look into the issue. On 15 May the minister will meet his British colleague, Michael Meacher

BBC-on-line, 15 April 2003; The Norway Post, 24 April 2003

Radioactive parts of Russian lighthouse in Gulf of Finland. The radioactive power source of a lighthouse was found in the Gulf of Finland near its southern shores in late March. The power source, which contains strontium, was found some 100 kilometres from the Finnish coast. The so-called RITEG, or radioisotope thermo-electric generator, came from a

nearby Russian lighthouse. An unknown person had stolen the aluminium and steel parts that protect the generator, and discharged the radioactive material. The Russian authorities did not publish this information, but Helsingin Sanomat was informed by physicist Oleg Bodrov, who chairs a Russian environmental organisation. Russian authorities confirmed the incident on 15 April. The 40-degree (celcius) strontium cylinder had melted through the ice and sunk to the bottom of the Gulf. The cylinder is now at the Sosnovyi Bor nuclear waste storage depot. Bodrov assumes that the thief has died or will soon perish.

Helsingin Sanomat, 16 April 2003

North Korea extracts plutonium from fuel rods. In an apparent gesture of defiance towards the United States, North Korea said on 18 April that it was "successfully reprocessing 8,000 spent fuel rods" in order to extract the plutonium needed for nuclear warheads. The news came on the moment US, South Korean and Japanese officials were preparing negotiations on North Korea's nuclear weapon program. The news on the 8,000 spent fuel rods however later turned out to be not adequate. Officials said the statement may have been a bad translation and Washington said there was no evidence the North was reprocessing the fuel rods.

New York Times, 18 April 2003; Chicago Sun Times, 24 April 2003

Court challenge to £ 650 million (US\$ 1.1 billion) nuclear bail-out. The British government's rescue package for British Energy came under renewed doubt on 22 April when the U.S.-owner of Britain's biggest power station challenged the European Commission's approval of the aid. AES, owner of the coal-fired Drax plant in south Yorkshire, said it had asked the European court of first instance in Luxembourg, the EU's second highest court, to annul the aid. The American company is in the process of

restructuring Drax. It said the aid package, originally set at £ 650 million, seriously distorted the competitive market in Britain where a 40% drop in wholesale prices forced several power stations into the hands of creditors. But the troubled American energy group, has turned down an approach by Greenpeace to make a joint challenge.

The environmental group is pursuing a separate legal case. If both underlying challenges to the decision are successful, they will stop the government's continuing loan to British Energy. According to Greenpeace the government aid to British Energy advantages British Energy and disadvantages more efficient energy producers.
The Guardian, 23 April 2003;
www.greenpeace.org.uk

Russian company plans campaign to sell plant to Finland. Russian Atomstroyexport plans a massive

marketing campaign aimed at selling a nuclear power plant to Finland. The company hopes to persuade both the Finnish public and nuclear experts that Russia should supply Finland with its fifth nuclear reactor. The company even wants to open on 26 April a Helsinki office (on Chernobyl's day!). The Finnish power company TVO is to choose the supplier of the fifth nuclear reactor by the end of this year.
Helsingin Sanomat, 17 April 2003

Tawu Township, Taiwan, new home to Taiwan's nuclear waste? The small village of Tawu Township, in rural Taitung County, is being selected to become home to Taiwan's nuclear waste. Reports on this matter started surfacing on 17 April shortly after President Chen Shui-bian announced that a new home for the waste would be found before the end of 2003. Currently nuclear waste from Taiwan's three active power plants are stored on

Orchid Island, a small island some 42 kilometers off the coast of Taitung. Taiwan Power Co.'s contract to use that site to deposit its nuclear waste expired at the end of 2002. Members of the Tao tribe that call the island their home, have protested against the failure to remove the potentially hazardous material. In the past Taitung County magistrate Hsu Ching-yuan made statements indicating that he wouldn't object to seeing a storage site in his county as long as he was convinced of its safety and the residents in the area agreed. Taipower keeps its mouth shut. "The nuclear waste disposal is a very sensitive policy issue and we are not at liberty to address the topic", a Taipower spokesman said. But the Vice Minister of Economic Affairs made clear that his ministry had made progress in finding a new disposal site.
The China Post, 18 April 2003

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THE NUCLEAR MONITOR

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