

# NUCLEAR MONITOR

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## U.S. NUCLEAR REACTORS – AL QAEDA’S ORIGINAL TARGET

**Several European newspapers have reported that in an interview with a journalist from *Al-Jazeera*, two top Al Qaeda commanders said that the original plan for the attacks carried out on 11 September 2001 was to target two unnamed nuclear power stations. Apparently fearing that such an attack “might get out of hand”, Al Qaeda chose other targets instead.**

(573.5434) WISE Amsterdam – On 8 September, the Spanish *El Mundo* and the UK *Sunday Times* ran stories in which Al-Jazeera journalist Yosri Fouda described how he interviewed two Al Qaeda leaders, Khaled Sheikh Mohammed and Ramzi Binalshibh. Both men are on the FBI’s most wanted list, and the U.S. has offered a US\$25 million reward for them.

Fouda described how he had to go to great lengths to meet the men, flying first to Islamabad, then to Karachi where he stayed two days in a run-down hotel. Eventually, after meeting various intermediaries, he was blindfolded and taken in the trunk of a car to meet Mohammed and Binashibh.

The date of the interview is unclear – June according to The Associated

Press, August according to *The Guardian*. Al-Jazeera had decided to wait until Thursday 12 September to broadcast the interview as part of their coverage of the anniversary of the terrorist attacks.

In the interview, Mohammed described himself as the head of the Al Qaeda military committee and said that Binalshibh was the coordinator of the 11 September attacks, which he called “Operation Holy Tuesday”.

*Targeting nuclear installations*  
Mohammed said that when Al Qaeda first decided two and a half years ago to launch a suicide attack in U.S. territory, the original plan was to attack a couple of nuclear installations. However, they then decided against it for fear it would

“get out of hand” (or “get out of control”, according to the English version).

Mohammed refused to be more specific, saying “you do not need to know more at this stage. Anyway, it was decided to abandon the idea of attacking nuclear targets – for now”.

Fouda asked, “What do you mean by ‘for now?’”

“ ‘For now’ means ‘for now’ ”, replied Mohammed, implying that nuclear installations might be considered as Al Qaeda targets in future. He added that there is no lack of people willing to carry out suicide attacks for what he called Al Qaeda’s “Department of Martyrs”.

If Mohammed’s claim is true, it leaves the nuclear industry and regulators in a tough dilemma. If they try to talk down the possible impact of terrorist attacks on nuclear installations, this might remove Al Qaeda’s objection to carrying out such an attack up till now for fear it would “get out of hand”. Yet if they admit the horrific truth of the possible consequences of an attack, the nuclear industry would put its own future under threat.

Their current strategy seems to be a combination of bluffing and cover-up (see “Protecting nuclear installations

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by 'bluff and cover'?" in this *NIRS/WISE Nuclear Monitor*). They try to talk up a "nuclear renaissance", while at the same time doing their best to play down or hush up studies that show the true scale of the danger to nuclear installations from terrorism.

This seems to apply not just to anti-nuclear groups, but also to the U.S. Nuclear Regulatory Commission (NRC) itself. The "Fact Sheet" for reporters dated 5 September 2002 merely states that the NRC has studies underway to investigate potential vulnerabilities of facilities to deliberate aircraft crashes.

However, according to a "Platts Nuclear News Flash" dated 6 September 2002, the NRC has finished an initial assessment of power reactor vulnerabilities to a deliberate aircraft attack and is developing measures that would mitigate potential damage.

The scope of vulnerability research has been broadened to include other types of installations, but "beyond that, the agency has said little about the studies" according to Platts. An

unnamed NRC official did admit that the pace of NRC activities has been "a little methodical and slow" for some legislators. Nevertheless, the NRC apparently believes it has accomplished a lot.

In reality, a lot of what has been "accomplished" since 11 September 2001 serves only to increase risks: approving Yucca Mountain despite the "Mobile Chernobyl" transports this entails, shipping plutonium across the country, extending the licenses of existing reactors and developing fast-track licensing procedures for new reactors.

Still, when the nuclear lobby accuses anti-nuclear groups of helping terrorists by spreading "scare stories", we can say: maybe we did help terrorists such as Al Qaeda to realize the extent of the dangers involved and step back from attacking nuclear installations – "for now".

Our task now is to stop plans to build new nuclear installations and get existing installations safely closed down, since as we said in last December's *NIRS Nuclear Monitor*, in

### IS IT TRUE?

How true is Khaled Sheikh Mohammed's claim about Al Qaeda's original plan to attack nuclear installations? It certainly rings true. The *Sunday Times* said Mohammed was an uncle of Ramzi Yousef, now serving a life sentence for the first attack on the World Trade Center in 1993. Yousef's group had trained near Three Mile Island and threatened to attack "nuclear targets". Well before 11 September 2001 Yousef apparently also had the idea of hijacking an aircraft and crashing it into the Pentagon.

**Reuters, 10 September 2002; WISE News Communiqué 554.5315, "US attacks: The Three Mile Island connection"**

the nuclear age, security means ending the nuclear age.

**Sources:** *El Mundo*, 8 September 2002; *The Guardian*, 9 September 2002; AP, 8 September 2002; U.S. NRC Fact Sheet, 5 September 2002; *Platts Nuclear News Flashes*, 6 September 2002

**Contact:** NIRS or WISE Amsterdam

## PROTECTING NUCLEAR INSTALLATIONS BY "BLUFF AND COVER"

**One year after the 9/11 terrorist attacks, industry experts are still trying to reach agreement on improving the physical protection of nuclear installations against terrorist attack. To date, their main strategy seems to be "bluff and cover" – while their P.R. departments keep talking of a nuclear revival, bureaucrats have tried to suppress at least one report on the vulnerability of nuclear installations on the grounds that it might be harmful to national security.**

(573.5435) **WISE Amsterdam** – Unbelievably cynical as it may seem, the U.S. nuclear industry has chosen to celebrate what they claim is a revival of the nuclear industry in a conference to be held from 10-12 September in Washington, D.C. (1)

Entitled "The Nuclear Renaissance", the conference began with an "Executive Forum" for "evaluating the viability of future nuclear developments". The conference blurb quotes the decision to restart Browns

Ferry-1 (2) as evidence that "the nuclear industry has begun to take the first tentative steps towards increasing nuclear capacity in the United States."

It also includes an update of the Department of Energy's "Nuclear Power 2010" program, designed "to facilitate bringing a new plant into operation by 2010" (3). This program is "rapidly ramping up" and "leading operators are reportedly considering construction of new facilities"

Behind the upbeat marketing-speak of the nuclear industry, what this means is: building new nuclear reactors remains too much of a financial risk, but instead of accepting this, the U.S. government is contributing taxpayers' money to study how to "reform" the licensing process to reduce the financial risk.

The "new" risks posed by terrorist threats – which mean that every nuclear plant must be considered as a terrorist target – are not even

mentioned in this part of the program. Amazingly, they seem to be no more than a side issue in the main part of the conference starting on the anniversary of the terrorist attacks.

### **"Celebrating" terror anniversary**

Rather than remembering the victims of last year's horrific attacks, the nuclear industry has chosen 11 September to talk about "Maximizing the Value of Nuclear Assets". Exactly one year after thousands died in the horrific attacks, the nuclear industry is treating conference-goers to stories of how utilities have saved money by reducing plant outage times.

The issue of nuclear security was reserved for lunchtime, in the form of an address by U.S. Nuclear Regulatory Commission chairman, Richard Meserve, followed by an after-lunch presentation by Jeff Benjamin, vice-president of Exelon Corporation. Yet by following this with a talk on "Removing Barriers to New Plants", the industry's strategy is clear. It can be summed up in one word: chutzpah.

Since the truth – that nuclear installations are sitting targets for terrorists – is inconvenient, the nuclear industry tries to talk it out of existence by talking up plans to build new reactors. If these plans, no matter how vague, get enough media exposure, then they hope that the public will make the mental association "building new reactors" (instead of "terrorist target") when they hear the words "nuclear power".

However, the latest revelations (4) could well derail this strategy. Clearly, the nuclear industry will be pulling whatever levers of influence it has in the media to ensure that this story is downplayed as much as possible.

### **Arguing behind the scenes**

Behind the scenes, another story emerges of the nuclear industry after 9/11. One year on, international experts are still trying to reach agreement on amending the

Convention for the Physical Protection of Nuclear Material to deal with the new level of terrorist threats (5).

Shocking as it may seem, even after 9/11, U.S. regulations were not brought in line with the IAEA's 1999 revision of its recommendations and principles on the physical protection of nuclear material and nuclear facilities (Infcirc 225 Rev. 4). While U.S. standards are mostly higher than Infcirc 225, for some types of nuclear material, such as MOX fuel, they are lower (6).

**Rather than remembering the victims of last year's horrific attacks, the nuclear industry has chosen 11 September to talk about "Maximizing the Value of Nuclear Assets".**

In 1998, the Clinton administration had proposed making the international Infcirc 225 standards mandatory, but the Department of Energy insists that bringing U.S. installations up to this standard would be excessively costly and have little benefit. Nevertheless, U.S. regulations insist on Infcirc 225 standards applying to countries to which U.S. nuclear material is exported (7).

### **IAEA headquarters "a major security risk"?**

While the U.S. applies double standards to nuclear security, an even stranger objection to mandatory international standards comes from Finland. The country's governor on the IAEA's board of governors argues that a system of international inspectors, reports and peer reviews would result in centralizing "information about all the weaknesses of the world's nuclear facilities in a single place": the IAEA Headquarters in Vienna, Austria. This would be, according to the governor from Finland, "a major security risk" (8)

The IAEA hopes that the amendments proposed to the Convention for the Physical Protection of Nuclear Material can be sent to a diplomatic conference for adoption before the end of the year.

### **Dissenting UK report suppressed**

Before the terrorist attacks, the nuclear industry claimed that its plants were safe and secure (and that we need more of them). After the terrorist attacks, the nuclear industry still claims that its plants are safe and secure (and that we need more of them). Yet the terrorist attacks may have led to a different approach to dealing with people who show that this isn't true, as an alarming episode in the UK shows.

When consultant engineer John Large sent his paper "The Implications of September 11th of the Nuclear Industry" (9) to the Institute of Mechanical Engineering (IMechE) Power and Energy Journal, he didn't have great expectations that it would be published. What he didn't expect, however, was that the paper would be the subject of more than 130 pages of e-mails and other correspondence, much of it with bureaucrats in various government departments.

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**The next issue** (574) will be mailed out on 4 October 2002.

**Oops!** In the last issue, we gave the wrong contact number for Earthlife Africa. The correct number is +27 834 717276. Also, the license extension period now under consideration for Zorita (Spain) is now 6 years (not 3 years).

Until he obtained copies of these through the Data Protection Act, Large was unaware that government departments – the Nuclear Installations Inspectorate, the Office for Civil Nuclear Security and the Health and Safety Executive – had been sent copies of his paper.

Indeed, Large was intentionally kept in the dark. All those involved were sent an e-mail to "let everyone know that the author is not to be made aware of investigations" (10).

While some of the bureaucrats suggested publishing the study might be harmful to national security, Large stated that all the facts in his paper were already in the public domain, and said, "I toned down my paper for publication to make sure it could be no use to terrorists." (11)

Rather than help terrorists, the paper is more likely to cause embarrassment for various government departments. Large recounts how he was easily able to obtain information about nuclear installations from national and local government that might be useful to terrorists, and was not even asked why he wanted the information (12).

Even the IAEA's Director-General, Mohamed ElBaradei, has publicly admitted that nuclear installations cannot withstand attacks on the scale of 11 September 2001, so this can hardly be called a secret (13).

What is more, Large has already given several talks on the subject, for example at Basle, Switzerland on 26 April 2002 (14).

This is not the first time that studies such as this have faced accusations of playing into the hands of terrorists. Gordon Adam, Labour MEP for the UK's North-East Region, who is well known for his pro-nuclear views, made similar comments on the reports of WISE-Paris on the possible effects of aircraft crashes on the nuclear complexes at Sellafield, UK and La Hague, France (15).

However, in the case of those reports, controversy centered more on its relation to a report for the European Parliament's Scientific and Technological Options Assessment (STOA) unit (16).

This report on radioactive discharges from the reprocessing plants (17) was only released after "a long story of hassles and attempts to sabotage the project and publication" (18).

Meanwhile, as this *WISE/NIRS Nuclear Monitor* goes to press, the U.S. NRC's own interim study into deliberate aircraft crashes into nuclear power stations remains unreleased (19).

#### Notes:

- (1) "The Nuclear Renaissance" conference information pack.
- (2) *WISE/NIRS Nuclear Monitor* 569.5411, "U.S.: Browns Ferry-1 restart – worth the candle?"
- (3) *WISE/NIRS Nuclear Monitor* 563, "In Brief"
- (4) See "U.S. nuke plants – Al Qaeda's original target" in this *WISE/NIRS Nuclear Monitor*.
- (5) *NuclearFuel*, 2 September 2002
- (6) See note 42 of *Reducing the threat of nuclear theft and sabotage* by M. and G. Bunn, [www.iaea.or.at/worldatom/Press/Focus/Nuclear\\_Terrorism/bunn02.pdf](http://www.iaea.or.at/worldatom/Press/Focus/Nuclear_Terrorism/bunn02.pdf)
- (7) U.S. Nuclear Regulatory Commission regulation 10 CFR 110.44
- (8) According to Denis Flory, chairman of the IAEA expert group, quoted in *NuclearFuel*, 2 September 2002
- (9) John Large's paper *The Implications of September 11th of the Nuclear Industry* is available from Large & Associates ([largeassociates@aol.com](mailto:largeassociates@aol.com)).
- (10) Excerpt quoted by John Large in a letter to the editor of *Professional Engineering*.
- (11) Quoted in the *Sunday Herald*, 1 September 2002
- (12) *The Implications of September 11th of the Nuclear Industry*, available from Large & Associates ([largeassociates@aol.com](mailto:largeassociates@aol.com)).
- (13) *WISE News Communique* 557.5332, "IAEA: 'No sanctuary any more, no safety zone' "
- (14) *WISE/NIRS Nuclear Monitor* 567.5400, " Rethinking nuclear energy and democracy after 09/11". Large's presentation is available at [www.ippnw.ch/PowerPoint/JohnLarge.ppt](http://www.ippnw.ch/PowerPoint/JohnLarge.ppt)
- (15) Gordon Adam MEP, press release 24 October 2001. Note: WISE-Paris is not related to NIRS/WISE Amsterdam.
- (16) See box "STOA Report causes stir" in *WISE News Communique* 557.5332, "IAEA: 'No sanctuary any more, no safety zone' "
- (17) *Possible toxic effects from the nuclear reprocessing plants at Sellafield (UK) and Cap de la Hague (France)*, STOA Report, November 2001
- (18) *WISE News Communique* 559.5348, "STOA report condemns reprocessing".
- (19) See "U.S. nuke plants – Al Qaeda's original target" in this *WISE/NIRS Nuclear Monitor*.

**Contact:** NIRS or WISE Amsterdam

### LAX SECURITY

In the run-up to 11 September, some intrepid journalists have decided to test how security measures face up to terrorist threats. One used a false address and bogus references to get a job as a fire-watcher at the UK's Dungeness B nuclear power station. He walked unchallenged into sensitive areas of the plant, filming his exploits with a hidden video camera, which he said could just as easily have been a bomb.

ABC News journalists smuggled 15 pounds of depleted uranium through seven countries into New York, using a route outlined in court documents by an Osama bin Laden associate. Although customs officials selected the package for closer examination when it arrived on a ship from Istanbul, Turkey, X-ray and radiation detectors found nothing suspicious.

**Sky News, 9 September 2002; Fox News, 6 September 2002**

# JAPAN: WHISTLEBLOWING TURNS INTO TORNADO

**The Tokyo Electric Power Company (TEPCO)'s falsification of safety records has plunged the Japanese nuclear industry into deep crisis.**

(573.5436) WISE-Paris – "We personally hurt the public's trust in us" (1) were the words of TEPCO's president after revelations that the main Japanese power company had filed falsified voluntary inspection reports at three nuclear power plants for years.

The scandal could plunge the whole country's nuclear industry into the worst crisis it ever went through, with serious secondary consequences worldwide, especially for the plutonium industry in Europe.

The falsification, unveiled by the Japanese Nuclear and Industrial Safety Agency (NISA) on 29 August 2002, concerned safety records in reports of internal inspections that TEPCO filed to the safety authorities. NISA is an agency of the Ministry of Economy, Trade and Industry (METI).

The Ministry's services started investigating the case in July 2000, when an engineer working for General Electric International Inc. (GEI), the daughter company of General Electric Co. (GE) in Japan, alerted the agency. It is GEI that was performing inspections of the reactors operated by TEPCO.

The ongoing investigations have yet to determine the real extent of the falsifications. The document released by NISA on 29 August 2002 reported 29 cases of suspect inspections and repair records, concerning thirteen boiling water reactors (BWRs) in the three nuclear power plants of Kashiwazaki-Kariwa, Fukushima Dai-Ichi (number 1) and Fukushima Dai-Ni (number 2) (2).

Although the cases involve other damages, most of them are cracks in the "shroud", the stainless steel envelope of the reactor core. Even if

some of the concealed cracks have been repaired since, it seems that the problems TEPCO failed to report were never fixed in at least eight cases.

Cracks in the reactor vessel shrouds are due to insufficient resistance of the alloy to corrosion. They constitute potential sources of major accidents since they can lead to losses of primary coolant and, in worst case scenarios, to criticality accidents. Although NISA denied there was immediate safety risk due to the situation of the eight reactors left unrepaired, it recognized the potential severity of the problems (3).

The first announcement by NISA included falsification of records from the late 1980s to the 1990s, running over a period of 14 or 15 years. But since 29 August, ongoing official and media investigations have already uncovered more cases, continuing up to 2001. After cracks in the shroud of the Fukushima Dai-Ni Unit 3 reactor were reported to METI during the summer of 2001, instruction was given to all utilities to check for similar cracking at other reactors.

In its report to METI about the subsequent inspections, TEPCO covered-up the existence of cracks in the shrouds of three reactors in Fukushima (Dai-Ichi, Unit 4, and Dai-Ni, Units 2 and 4), and concealed the full extent of the cracking in the Dai-Ni Unit 3 shroud.

All four units will be shut down for inspection of the damaged parts in September or October 2002, anticipating their next scheduled outage, TEPCO announced on 1 September. Fukushima Dai-Ni Unit 2 was shut down as early as 3 September 2002, after a radiation

leakage was detected, possibly due to a fuel leak (4). TEPCO has also shut down for repair, on 3 September 2002, Unit 5 of the Kashiwazaki-Kariwa plant, where the company announced "newly-discovered" cracks in the shroud on 24 August 2002, only a few days before the falsification scandal broke up in the news.

The 29 falsified reports also include cracks in some reactors' shrouds that have since been replaced. This was the case of three other reactors in Fukushima Dai-Ichi (Units 1, 3 and 5). According to the *Mainichi* newspaper's edition (5) of 4 September 2002, the cracks had been identified by TEPCO before the company replaced the shrouds, but they were not mentioned in the applications submitted to the safety authorities for the operations, which only referred to "preventive maintenance".

Unlike the voluntary inspections reports, which the power companies are not required by law to submit to the authorities, such applications are compulsory documents included in safety control procedures.

Ongoing investigations should also clarify responsibilities in the falsifications and their covering. It appears almost certain that the falsification of inspection reports by GEI was concerted and instructed by senior managers in TEPCO. According to newspaper reports, METI's investigation would now indicate that over 100 employees were involved in these cover-ups (6).

Moreover, there is suspicion of a cover-up by the METI, as it took NISA more than two years to make the information public. According to METI's explanations, it was not

before the informer resigned from GE, in November 2001, that NISA approached GE and GEI officials and obtained their cooperation. Besides, METI claimed that before this move, the investigation did not gather enough evidence to force TEPCO officials into admitting the falsifications. TEPCO did not set up an internal investigating committee on the matter before May 2002.

Soon after the public announcement by NISA, TEPCO officials declared that they "would like to uncover the entire truth by mid September" (7). Nevertheless, before the investigations go further, TEPCO confirmed in a press release on 2 September 2002, the announced plans for resignations of several executives, including its Chairman, Hiroshi Araki, at the end of the month and its President, Nobuya Minami, by mid-October.

The affair will cause serious harm to the nuclear industry, in Japan and worldwide. While most countries have completed or are engaged in the opening of their electricity market, the attitude of TEPCO, one of the largest private power companies in the world, and General Electric, reinforces already strong concern over the weakening of nuclear safety under the pressure of economic competition.

The scandal will also have severe consequences for the plutonium industry, as it casts a shadow on the development of the Japanese "Plutothermal" plan to re-use plutonium arising from reprocessing of spent fuel in thermal reactors. The news of the TEPCO falsifications broke up just a few days before the company could obtain the last authorization needed for a major step of the program, with the first introduction of MOX fuel (mixed oxide of uranium and plutonium) in a Japanese thermal reactor. TEPCO's president admitted that the company was not anymore in the position to "ask for understanding to continue the MOX fuel project" (8).

Major victims could be European reprocessing companies, the British BNFL and French COGEMA, both producers of MOX fuel for Japan. The first constructed a whole MOX fabrication plant, in Sellafield, arguing its economic justification because of forthcoming Japanese contracts; the second constructed a second line, producing MOX for BWRs, in its Melox plant with the only prospect of providing fuel for Japanese utilities.

**Notes:**

(1) Declaration of M. Nobuya Minami, President of Tokyo Electric Power Co. (TEPCO), as reported by the *Asahi*

*Shimbun*, "TEPCO faked repair reports at 3 nuke plants", 30 August 2002

(2) See the Plutonium Investigation map of nuclear installations in Japan, [www.wise-paris.org/english/ournewsletter/maps/cartjap\\_en.pdf](http://www.wise-paris.org/english/ournewsletter/maps/cartjap_en.pdf)

(3) *Yomiuri Shimbun*, "False records found at N-plants", 30 August 2002

(4) *The Japan Times*, "Radiation leak shuts down Tepco reactor", 4 September 2002.

(5) *Mainichi Daily News*, 4 September, 2002, "TEPCO inspectors admit to covering up nuclear reactor problems"

(6) *The Asahi Shimbun*, "TEPCO execs linked to cover-up as 100 investigated from within", 2 September 2002

(7) Bloomberg, "Tokyo Electric Investigates Nuclear Plant Reports", 29 August 2002

(8) In the *Asahi Shimbun*, 30 August 2002, op. cit. (see note 1)

**Source:** WISE-Paris web site ([www.wise-paris.org/english/ournews/year\\_2002/ournews020907.html](http://www.wise-paris.org/english/ournews/year_2002/ournews020907.html)), 7 September 2002.

(Note: WISE-Paris is entirely independent of NIRS/WISE Amsterdam.)

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## CONVERSION PLANT PROJECTS CONTRACTED FOR U.S. DEPLETED UF<sub>6</sub> STOCKPILE

**Concrete steps are finally being taken towards dealing with the risks posed by the huge U.S. stockpile of depleted uranium. At present the stockpile is mostly stored as chemically reactive uranium hexafluoride in deteriorating steel cylinders, which are vulnerable to terrorist attack (see *WISE News Communiqué 554.5316*, "Consequences of attacks on nuclear installations").**

(573.5437) **WISE Uranium** - On 28 August 2002, the U.S. Department of Energy (DOE) selected a contractor for the conversion of DOE's stockpile of depleted uranium hexafluoride (UF<sub>6</sub>) to the chemically more stable oxide form of U<sub>3</sub>O<sub>8</sub>. The contractor will build and, for at least five years,

operate two conversion plants at Paducah, Kentucky and Portsmouth, Ohio. The contractor selected is Uranium Disposition Services, a consortium formed by Framatome ANP Inc, Duratek Federal Services Inc, and Burns and Roe Enterprises Inc. The contract runs until 2010 and

is worth an estimated US\$558 million. It is estimated that conversion of all the material will take about 25 years.

DOE's stockpile of depleted UF<sub>6</sub> comprises some 700 000 metric tonnes, located at Paducah, Kentucky;

Portsmouth, Ohio and Oak Ridge, Tennessee. It is a by-product of decades of uranium enrichment performed at these three sites. The UF<sub>6</sub> so far is stored in steel cylinders in open cylinder yards near the enrichment plants. The deteriorating condition of the cylinders has been causing increasing concern, since UF<sub>6</sub> forms aggressive chemicals, such as the extremely corrosive hydrofluoric acid and the highly toxic uranyl fluoride (UO<sub>2</sub>F<sub>2</sub>), when in contact with atmospheric humidity.

The decision on the conversion of the depleted UF<sub>6</sub> does not yet include a decision on the ultimate fate of the material. In the form of U<sub>3</sub>O<sub>8</sub>, the depleted uranium will be suitable for intermediate or long-term storage, for final disposal, but also for re-use for various purposes. The storage options would allow for future recovery of the residual uranium-235 contained, once market conditions or new technologies would make this viable. Most of the re-use options considered so far, such as counterweights in forklifts, or radiation shielding for nuclear waste casks, would use the uranium for its high density, requiring further conversion of the U<sub>3</sub>O<sub>8</sub> to uranium metal.

#### European approaches

While the U.S. are only now beginning to get hold of their depleted UF<sub>6</sub> problem, European enrichers have been using other

management approaches for years already:

France's Cogema is converting UF<sub>6</sub> into U<sub>3</sub>O<sub>8</sub> in its "Usine W" in Pierrelatte. Since 1998, the U<sub>3</sub>O<sub>8</sub> is then brought to Bessines-sur-Gartempe (Haute-Vienne), where purpose-built storage buildings have been constructed at a former uranium mill site. The licensed storage capacity for this site is 199 900 metric tonnes.

The British/Dutch/German consortium Urenco started in 1996 to send depleted UF<sub>6</sub> to Russia for re-enrichment to natural-equivalent uranium-235 assays. While the re-enriched fraction is sent back to Urenco for further enrichment, the re-depleted fraction (that is the vast majority of the material) remains in Russia - with unknown fate.

Urenco also sends parts of its UF<sub>6</sub> to Cogema's Pierrelatte facility in France for conversion to U<sub>3</sub>O<sub>8</sub>. Urenco is now planning to construct storage buildings for U<sub>3</sub>O<sub>8</sub> near its enrichment plants. The application for the construction of such buildings at its Gronau (Germany) plant has been filed together with the 1998 application for the enlargement of the plant. The buildings will be designed for a storage capacity of 50 000 metric tonnes of U<sub>3</sub>O<sub>8</sub>. In the Netherlands, the construction of a first storage building will start this year at the site of the COVRA nuclear

waste management agency. This first of six planned buildings will have a capacity of 6000 metric tonnes uranium equivalent, that is 7076 metric tonnes U<sub>3</sub>O<sub>8</sub>.

From an environmental viewpoint, the conversion of the depleted uranium hexafluoride to U<sub>3</sub>O<sub>8</sub> is highly welcome for the reduction of the chemical hazard from UF<sub>6</sub>. However, this conversion is a first step only for a more responsible management of the depleted uranium. The currently only practiced (or planned) option of intermediate storage of the oxide only defers the burden of ultimate disposal into the future. In addition, the conversion makes the material even better accessible for making use or misuse of it for various purposes. An example is the (meanwhile discontinued) use of depleted U<sub>3</sub>O<sub>8</sub> in French enamel jewelry. The re-use options considered in the U.S. have in common that they disperse the material from a few guarded locations to a multitude of places, where it is very difficult to keep track of the material. Such tracking, however, is necessary to assure that the material is correctly managed once the re-use has ended.

**Source:** WISE Uranium, with contributions from Laka Foundation, 8 September 2002; For details, see also [www.antenna.nl/wise/uranium/ediss.html](http://www.antenna.nl/wise/uranium/ediss.html)

**Contact:** WISE Uranium

## CZECH REPUBLIC: TEMELIN-1 OFF AND ON – TEMELIN-2 ON AND OFF

**Predicting whether at the time of publishing of these words, the Temelin nuclear power plant will be on or off-line is by now as difficult as ever. Where Unit 1 has received permission for an 18 month commercial so called test-run, it is still plagued by what are called "common problems" in the non-nuclear part. Unit 2 has regularly to stop testing because of problems in the turbine.**

(573.5438) Jan Haverkamp – The continuing problems triggered even nuclear regulator SUJB's president to remark that the situation was getting extraordinary. Still both SUJB and CEZ keep insisting that the nuclear part is without any serious trouble. Greenpeace, on the contrary, is still

trying to get SUJB to release information about weld inspections on the reactor, and has now turned to the High Court to demand release of the inspection reports (see box).

#### New Czech government

The Czech Republic in the mean time

has a new government. Even though the new Christian Democrat Environment Minister Libor Ambrozek has stood out over the last years by backing up criticism on Temelin, he remarked at the start of his office after pressure from Austria, that the Temelin chapter was for him

closed. He wants to focus on a new energy policy that includes a larger focus on renewables. Text suggested by him, that the Czech Republic is excluding any further nuclear power projects was in the end not taken up in the government program under pressure of the new Industry Minister Rusnok, who was Finance Minister in the former government.

Ambrozek took up long term critics of Temelin in his direct staff, like Hnutí DUHA / FoE CZ's former press spokes person Karolina Sulova, former FoE lobbyist Daniel Vondrouš, and EkoList's Jakub Kaspar. However, the position of nuclear expert and well known Temelin critic Dalibor Straský as the Minister's direct advisor on the issue is said to be in danger. 74 year old Industry Minister Miroslav Gregř did not return to the cabinet but remains adviser to the new Prime Minister Spidla. His successor Rusnok explicitly stated he sees Temelin and the nuclear option as necessary for the Czech Republic's future, if it is to meet its Kyoto targets.

#### **Temelin-2 testing**

Temelin block 2 is continuing with testing, but suffers from similar problems with the main 1000 MW turbine as block 1 and full operation is now delayed to March 2003 at least.

#### **Privatization CEZ**

In February of this year, the privatization of Temelin operator CEZ had come to a halt after a non-transparent tender and a negotiation stale-mate with main interested partner EdF.

Now, former Industry Minister Gregř has finished an attempt to recreate the pre-revolutionary giant by merging CEZ with six of the eight distribution companies which were slated for the same privatization package as CEZ.

Under pressure from the EU, the grid operator CEZP was removed from the package and will remain state-owned for the time being. Prime Minister

Spidla announced that renewed attempts to privatise CEZ would be postponed for at least two years. After the floods, however, which made another important privatization - of chemical giant Unipetrol - crash, the government has announced that privatization of CEZ might be on the agenda again.

CEZ is expected to yield a price of around 100 billion Czech Crowns (US\$3.17 billion) at the moment, which is a lot lower than the price that the government had set at the start of the year (200 Billion CZK). This is mainly due to a strong Crown, exclusion of the grid and changes in the European electricity market.

To date, no specific interested parties have been mentioned yet, but it is generally believed they will include EdF, E.ON and possibly ENEL / Iberdrola.

#### **Austria**

The Temelin NPP continues to play a role in Austrian internal politics. These, however, have virtually stopped influencing the political debate in the Czech Republic. Directly after the installation of a new Czech government, renewed Austrian pressure for a "zero-option" triggered strong adverse reactions from all new Czech Ministers involved.

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## **WELD INSPECTIONS**

Greenpeace has turned to the Czech High Court to demand release of the inspection reports of the welding work of the primary circuit, which are kept by SUJB. These reports should shed light on a whistleblower claim that a welding seam connecting one of the main cooling pipes directly to the reactor has been cut after a mistake and re-welded without proper documentation of the repair in 1994.

The whistleblower still stands with his claim. Police investigated the claim in 2000, but Greenpeace found out they investigated another welding seam than indicated by the whistleblower to SUJB. It is not clear who gave the false number. Nevertheless, the police refuses to re-open investigations without specifying further reasons.

SUJB in the mean time claims that it received from Temelin operator CEZ results of an additional external investigation, which is said to show that all documentation concerning welding is now in order. Several welds were also physically tested.

Greenpeace, however, found out that these welds did not include the welds directly on the reactor and therefore turned to SUJB to release its own internal report, as SUJB informed Greenpeace earlier that that does address the indicated weld. SUJB, however, claims in different denials of access that the report does not exist at all, or that it is not finished.

According to information available to Greenpeace, the report is finished, but only lacks the final approval of SUJB top-management. Hence its turn to the High Court, which is expected to deal with the case in September or October of this year, although the floods may postpone the case.

# THAILAND: THE FINAL COUNT DOWN FOR ONGKARAK

**U.S. company General Atomics is threatening legal action over delays in a project to build a research reactor in Ongkarak, Thailand.**

(573.5439) AEPS - The contract to build a 10 MW research reactor in Ongkarak district, Nakorn Nayok province, Thailand was signed between the Office of Atomic Energy for Peace and General Atomics (GA), an American based company, on 26 June 1997. Four years passed by, and the contract expired, but not even a single sign of the reactor's construction was seen at the site.

GA – the contractor who failed to accomplish the work - ironically announced that it was ready to sue the Thai contract partner if the construction could not be started. Still the construction permit for the reactor is not likely to be given soon.

Back in 1991, the Office of Atomic Energy for Peace (OAEP) launched its public relation program of the Ongkarak Nuclear Research Center Project, targeted at local people in Ongkarak. The area was chosen as a site because, according to OAEP, it was only about 60 km away from Bangkok, therefore convenient for transportation of radioactive material.

The question of how appropriate the site was, for safety concerns, was not raised at that time because the public did not yet know about the project. To the understanding of local people in Ongkarak then, the project was nothing but a blissful place where they could bring in buckets of cabbages and turn them into miracle cabbages that would stay fresh forever. Nobody had a clue of any possible danger or adverse impacts from it, they had never heard of a nuclear reactor, and many of them did not even know the word "nuclear".

It was around 1997 that local people in Ongkarak started questioning

about the project and started coordinating with NGOs and academics. Seminars were held in local areas and in Bangkok. Rallies were held occasionally in local centers where information about the impacts of nuclear reactors was distributed.

Two representatives from Ongkarak were even invited to join the 7th No Nukes Asia Forum hosted in Thailand in 1998, to collect all the information and exchange with friends from other countries with more experiences of nuclear projects, and even brought some of NNAF delegates to visit the community.

Later, local people set up Raksa Ongkarak (Save Ongkarak) Group, and the campaign against the project has continued from then on.

Strangely enough, the project was delayed not only by the opposition from local people, but also by nuclear scientists of the Nuclear Facility Safety Sub-committee (NFSS) which was obliged to use the best of its knowledge on nuclear technology, to establish measures and standards for safe control of the reactor (to the extent that humans can control an uncontrollable disaster.)

For the fact that Thailand has not enough experiences and expertise on nuclear reactor construction and safety investigation, the NFSS, in 1995, had put in its guideline for nuclear facility safety that the reactor to be constructed must be of a proven type that has been reviewed and constructed in its country of origin.

This guideline was put in the terms of reference during the bidding process of Ongkarak, but later changed by OAEP so that if such guarantee could not be provided, the

process would take longer. However, this change made by the OAEP ironically did not help making the process easier for the project as the OAEP might have expected. The NFSS took five years from 1997 until present, yet it is still not able to give the green light for the project's construction permit.

The present NFSS, which is the second panel, took 8 months from January to August this year to consider the project's safety review, and finally announced on 30 August 2002 that it still could not give recommendations to the National Board of Atomic Energy for Peace, which must decide whether to grant a construction permit for OAEP's Ongkarak nuclear research reactor.

The panel was supposed to send its findings with recommendations to go for this long-delayed project, but it could not do so due to insufficient information presented in the project's Preliminary Safety Analysis Report (PSAR) which is a key documents for granting a construction permit.

The panel applied six criteria, based on standards set by the International Atomic Energy Agency (IAEA), as a guideline for making a decision. They looked at the construction site, reactor design, quality assurance, the project operator's qualifications, measures to prevent sabotage, and the safety analysis review. Of all the six, the report was still wanting in at least three areas.

a) The project's Environmental Impact Assessment (EIA) report which is a standard IAEA requirement, though not yet specified in existing Thai Environmental Law, was first done in 1997, and was supposed to be

finished within six months. However, it was only finished just a few months ago, and is now being considered by the National Environmental Board. The NFSS insisted that the EIA should be scrutinized first, before the project's safety was examined by the National Commission of Atomic Energy for Peace.

b) Safety Analysis Review. The panel demanded that the safety analysis report be reviewed by the vendor's nuclear safety regulatory agency. Argonne National Laboratory, under the US Department of Energy, was assigned to do the review, but it was

rejected at one point for lacking essential information. And this time, again the review still lacked the review on the reactor's cooling system.

c) The project's site characteristics. The NFSS concluded that some significant information on the site characteristics is still needed. And the process of site selection failed to provide for people's participation, and therefore caused a lot of "misunderstanding" and opposition from local people.

These final comments from NFSS were submitted to the National Board

of Atomic Energy for Peace last month. The Board was expected to call for its meeting in September. GA announced earlier that the final decision on construction permit should be made soon, otherwise it would leave the project and demand US\$20 million in compensation.

**Source and contact:** Alternative Energy Project for Sustainability (AEPS), 97/90 Kred Kaew 3, Prachacheun Rd., Meung, Nonthaburi 11000 Thailand  
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**Jabiluka uranium mine victory.** Sir Robert Wilson, head of mining corporation Rio Tinto, announced on the BBC that there would be no development of the mine project without the consent of the traditional landowners, the Mirrar people – who have consistently opposed Jabiluka. He also said that there was "no more than a tiny hole, an adit" on the site, and pledged that Rio Tinto would rehabilitate the area and block off the adit (mine entrance). Australian Conservation Foundation campaigner Dave Sweeney said, "Rio Tinto need to put their words into action and to begin to rehabilitate Jabiluka".  
**www.acfonline.org.au, 9 September 2002**

**Yes, they did.** The answer to the question posed in *WISE/NIRS Nuclear Monitor* 572. 5432, "Will the UK government bail out British Energy?" is "yes". The government agreed a 410-million-pound (US\$640 million) emergency loan. However, the loan is only until 27 September, and when trading re-opened in British Energy's shares, they fell by a further 65%, presumably because of fears of what would happen after then. As this *WISE/NIRS Nuclear Monitor* goes to press, the Canadian Nuclear Safety Commission is expected to discuss

whether financial guarantees for Bruce Power, in which British Energy owns an 82.4% stake, are adequate.  
**Platts Nuclear News Flashes, 9 and 11 September 2002**

**No N-word in Rio+10.** Nuclear power was not mentioned in the final draft report of the World Summit on Sustainable Development in Johannesburg. The nuclear industry seems to be pleased with this, since they claim nuclear is implicitly included in the "advanced energy technologies" encouraged for development in the Third World (and indeed elsewhere). On the other hand, EU Environment Commissioner Margot Wallström's interpretation is that the accord excludes nuclear power.

The final draft report can be found at: [www.johannesburgsummit.org/html/documents/summit\\_docs/0309\\_aconf199\\_crp7.pdf](http://www.johannesburgsummit.org/html/documents/summit_docs/0309_aconf199_crp7.pdf)  
**Nucleonics Week, 5 September 2002**

**US: A weekend conference**  
"Radiation & health in the nuclear heartland" will be held on 11-12 October at the University of North Carolina, Asheville. Speakers include Dr. Helen Caldicott and many others. The conference is dedicated to low

level radiation pioneer Dr. Alice Stewart, who died in June at the age of 95. The only cost is \$20 for lunch and snacks (free if you bring your own). Full details, including a pre-registration form, are available at [www.main.nc.us/psr/rads/radconf.htm](http://www.main.nc.us/psr/rads/radconf.htm) or by contacting Mary Olson at NIRS Southeast (please note new telephone number: +1 828 675 1792)

**LES picks Hartsville.** Louisiana Energy Services (LES) has picked Hartsville, Tenn. as the location for its proposed gas centrifuge uranium enrichment plant (see *WISE/NIRS Nuclear Monitor* 571.5426, "Louisiana Energy Services tries again in Tennessee" and 572, "In Brief"). LES hopes to begin construction in late 2004 at the 250-acre site, where the Tennessee Valley Authority at one time planned to build four nuclear units.  
**WISE Uranium web site, 9 September 2002**

**Cobalt-60 Court Case : Thailand's first case of radiation accident in court.**  
Twelve victims have filed a civil lawsuit against Kamol Sukosol Company for negligence in leaving a discarded medical therapy machine containing radioactive Cobalt-60 on a

parking lot (see *WISE News Communiqué* 525.5140, "Radiation sickness after cobalt source was left on parking lot" and 527, "In Brief"). Exposure to radiation caused three deaths, 4 people with visible injuries and 6 patients with unusually low white blood cell counts and damaged chromosomes, including a woman who had an abortion. The case is expected to continue until 2004.

They have also prosecuted, in the newly established Administration Court, the Office of Atomic Energy for Peace, for its failure as the sole authority to regulate radioactive substance use in the country. On this, the court had earlier announced that it might be able to reach a decision by July, but the procedure took longer when it came to the most difficult part: proving the victims' health damages caused by radiation,

and the long-term effects of radiation. Thai courts have no experience of such arguments, and there are very few doctors and experts available. The judgement from the Administration Court is expected to be announced by the end of this year.

**Alternative Energy Project for Sustainability, 10 September 2002**

**Sellafield's dumping.** Sellafield has confirmed reports that it has re-started discharges of technetium-99 into the Irish Sea. BNFL denied claims that is attempting to release as much as possible of the radioactive substance from its Sellafield stores before the UK government decides whether to cut Sellafield's authorized discharge limits for Tc-99, which are currently 90 Terabequerels per year.

Meanwhile, billboards advertising the visitors center at the UK's Sellafield nuclear complex with the slogan "How will you react?" have had the word "leukemia" sprayed on them.

**Greenpeace UK, 9 September 2002; *The Irish Independent*, 11 September 2002; uk.indymedia.org, 10 September 2002**

**China: Ling Ao-2 critical.** The 935 MW Ling Ao-2 reactor achieved criticality on 27 August 2002, more than nine weeks ahead of schedule. The reactor, supplied by Framatome ANP of France, is expected to be connected to the grid in September, with commercial operation planned for early 2003.

**WNA News Briefing, 3 September 2002**

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The *Nuclear Monitor* publishes international information in English 20 times a year. A Spanish translation of this newsletter is available on the WISE Amsterdam website ([www.antenna.nl/wise/esp](http://www.antenna.nl/wise/esp)). A Russian version is published by WISE Russia and a Ukrainian version is published by WISE Ukraine. The *Nuclear Monitor* can be obtained both on paper and in an electronic version (pdf format). Old issues are available through the WISE Amsterdam homepage: [www.antenna.nl/wise](http://www.antenna.nl/wise).

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