

# NUCLEAR MONITOR

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## MONITORED THIS ISSUE:

## NUCLEAR FREE JAPAN APPROACHING: ONLY 3 REACTORS ONLINE

At the moment only three of Japan's 54 nuclear reactors remain online, and come April, there very well may be no nuclear plants running at all, and the impact on society here will remain all but invisible. This time last year, around 30% of Japan's energy came from nuclear. Given this source of energy has disappeared virtually overnight and there have been no significant problems for society the question must be seriously asked: does Japan really need nuclear?

**(742.6226) WISE Amsterdam** - Only three out of fifty-four nuclear reactors are now operating in Japan Since Shimane Nuclear Reactor Unit 1 was stopped for scheduled maintenance on January 27, 2012, only three out of fifty-four nuclear reactors are now operating in Japan. Unless the Japanese government and electric power companies restart some of the nuclear reactors, Japan will be completely without nuclear energy in late April when Tomari Nuclear Reactor Unit 3 is stopped for maintenance. The following is a schedule for stopping the currently operating nuclear reactors for maintenance:

February 20, 2012: Takahama Unit 3 (Kansai Electric Power Company)  
Late March 2012: Kashiwazaki Kariwa Unit 6 (Tokyo Electric Power Company)  
Late April 2012: Tomari Unit 3 (Hokkaido Electric Power Company).

In response to this situation, Yukio Edano, Minister of Economy, Trade and Industry, announced that the government began making a plan to meet electricity demand during the summer of 2012 without operating a nuclear reactor or imposing an order to restrict electricity consumption. This announcement came after the government think tank, the Japan Institute of Energy Economics, estimated that electricity supply would be only 7% short of peak demand even in case of an unusually hot summer.

Another important factor that contributed to Edano's announcement was the growing local opposition to restarting nuclear reactors. The government tried to use stress tests as a strategy to justify restarting reactors quickly. After the Fukushima nuclear disaster, however, public opinion became critical of electric power companies, and local residents near nuclear power plants began demanding the expansion of safety agreements between their municipalities and power companies. As a result, it has become increasingly difficult for an electric power company to meet one of the requirements for restarting a nuclear reactor, a local municipality's consent. After all, it is extremely problematic to try restarting a nuclear reactor when the cause of the Fukushima nuclear disaster remains unclear. At the negotiations between the government and NGOs on January 26, 2012, the Nuclear and Industrial Safety Agency also confirmed that restart of a nuclear reactor was going to require consent from local municipalities and residents.

### Lawsuit against restarts

On February 13, the first public hearing on a lawsuit filed by 612 plaintiffs from Hokkaido and elsewhere to decommission the three Tomari reactors, was held at the Sapporo District Court. It is the first lawsuit in Japan to dispute the future existence of nuclear reactors in operation since the March 11 accident at Fukushima.

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The group of plaintiffs is represented by Yugo Ono, professor emeritus at Hokkaido University, and others, who argue that "the existence of the nuclear reactors itself violates the personal rights of residents." In the court hearing on Feb. 13, Hokkaido University professor Masuyo Tokita, one of the representatives of the plaintiffs' group, said, "Nuclear power generation is the most dangerous way of producing electricity in Japan, a leading earthquake country in the world. For people to spend their days at ease, nuclear reactors must be stopped."

A total of 1,704 people from across Japan, the largest number of plaintiffs in a pending nuclear-related suit, sued the government and the operator of the Genkai nuclear power plant in Saga Prefecture on January 31, demanding that all four reactors at the plant be halted. In the suit filed with the Saga District Court against the state and Kyushu Electric Power Co., the plaintiffs from Saga and 28 other prefectures assert the reactors are dangerous and make them feel insecure amid the Fukushima nuclear crisis.

They are also seeking compensation of 10,000 yen each per month covering the period from March 2011, when the crisis erupted at Tokyo Electric Power Co.'s Fukushima Daiichi power plant, until Kyushu Electric suspends operation of the Genkai plant.

Another group of around 300 residents sued Kyushu Electric in already demanding that the utility suspend operation of the Genkai plant.

### Nuclear free Japan approaching

The nuclear lobby, big business, and the Japanese government are pushing hard to restart reactors claiming it is for the health of the economy, but while excess power once helped Japan grow rapidly, nuclear has not saved Japan's economy from decline, and it's not going to save it now. By remaining wedded to nuclear the government will be simply playing

#### Lucky at Fukushima Daini

The Fukushima No. 2 (Daini) plant, on the border of Naraha and Tomioka towns in Fukushima Prefecture, was opened on February 10, to the media for the first time since the disaster. It is 12 kilometers from the Fukushima No. 1 (Daiichi) nuclear power plant, which suffered several meltdowns. Both facilities are operated by Tokyo Electric Power Co.

Plant chief Naohiro Masuda, in charge of plant operations since the crisis, said that the reactors at No. 2 (4 BWR's, totalling 4,400 MW) were 'near meltdown'. "The No. 2 plant almost suffered the same fate as No. 1 [which led to a severe crisis]." The tsunami caused the No. 2 plant's seawater pumps, used to cool reactors, to fail. Of the plant's four reactors, three were in danger of meltdown. Luckily, one external high-voltage power line still functioned, allowing plant staff in the central control room to monitor data on internal reactor temperatures and water levels. Masuda noted the timing of the disaster was also critical in saving the plant. "We were lucky it happened on a Friday afternoon [and not on a weekend]," he said. Masuda pointed out only 40 employees would have been at the plant if the earthquake had occurred in the evening or on a weekend. "[In that case] it would be have been difficult for us to deal with the disaster," he said. On March 11, about 2,000 employees worked to stabilize the reactors. Some employees connected 200-meter sections of cable, each weighing more than a ton, over a distance of nine kilometers. However, despite intense efforts by all employees, it took a long time to stabilize the reactors.

**The Yomiuri Shimbun, 10 February 2012**

a game of dice with Japan's economic future, and the health and safety of its people. It should instead be using this moment of upheaval to end its unhealthy relationship with nuclear utilities like Tepco, and embrace energy solutions that will keep its people safe, help it stick to greenhouse gas reduction

targets, and give its economy a huge boost with a green industry revolution.

The Fukushima disaster created a contamination crisis, but not an energy crisis. It kick-started an identity crisis, destroying Japan's image as the poster child for a mythical clean and safe nuclear society, and turning it into yet another cautionary tale of the risks governments take on with atomic snake oil salesmen. But it's not too late. With the remaining three reactors due to go into shutdown over the next month, a nuclear free summer approaches, and a nuclear free future awaits.

Thus, the worst scenario that the government and electric power companies feared is now becoming quite realistic: Japan may really go nuclear-free as of late April 2012.

This "worst scenario" for the government and electric power companies, however, also points to the possibility of moving toward sustainable society that does not rely on nuclear energy.

The day Tomari Unit 3 will be stopped is approaching. So is the day for nuclear-free Japan.

**Sources:** Friends of the Earth Japan, News release 27 January 2012, Mainichi Daily News, 1 & 14 February 2012 / Greenpeace.org blogpost, 10 February 2012

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## GLOBAL CONFERENCE FOR A NUCLEAR POWER FREE WORLD

The "Global Conference for a Nuclear Power Free World" was held in Yokohama on 14 and 15 January 2012. More than 6000 people on the first, and 5500 on the second day, including 100 international participants from over 30 countries, gathered at the conference.

(742.6227) **WISE Amsterdam** - The entire conference was broadcasted live over the internet, with an audience of approximately 100,000. At the closing of the conference, the "Yokohama Declaration for a Nuclear Power Free World"

was announced. It demands  
1) the protection of the rights of those affected by the Fukushima nuclear power plant accident;  
2) Responsibility of the Japanese Government and the Tokyo Electric Power

Company (Tepco);  
3) Minimization of residents' exposure to radiation;  
4) A global road map for the phase out of the nuclear fuel cycle and the decommissioning of all nuclear power plants;

5) Currently closed Japanese nuclear power plants to not be reopened;  
6) The prohibition of export of nuclear power plants and components, especially to industrializing nations; and  
7) It emphasis of the role of local and municipal authorities; and declares to develop a global network to support Fukushima. It also calls for actions to be taken throughout the world on 11 March 2012.

The diverse proposals for action made by conference participants are being gathered on a web site entitled the "Forest of Action for a Nuclear Power Free World". These many proposals include a range of levels, from recommendations to governments to suggestions of what individuals can do, and this web site provides a forum to develop to concrete future actions.

Eight current and former mayors, including two from Fukushima, joined the Mayors' Forum which was held as

a special session at the conference. Here, it was decided to form a network of mayors to work to break free from nuclear power, and announced that a preparatory meeting for this network will be held in late February 2012. The Yokohama Declaration supports this proposal, and calls for citizens' support of this initiative.

The conference was coordinated by an Organizing Committee comprised of six Japanese NGOs, with Peace Boat as Secretariat. Many other organizations also cooperated in the coordination of programs throughout, and the conference was supported by a great number of endorsing organizations and corporations, and supporting organizations. More than 100 groups also held self-organized events at the conference, including around 20 organizations from Fukushima, and several international groups including WISE. A further characteristic of the conference was a diverse range of participatory work-

shops and opportunities for exchange, including in the Fukushima Room and children's programs.

The international guests visited the Fukushima town and region with a one-day bus tour. They spoke with farmers, civil servants of the City of Fukushima and villagers who have been evacuated out of the 20 kilometer zone to live in just a few miles out of this zone. One thing was made very clear to the foreign guests; the disaster is not over! Thousands of people still live in highly contaminated areas, the economy of the whole region has collapsed and thousands of families are disrupted because quite often children are evacuated to family far away while the adults stay in Fukushima to protect their houses and fight with national authorities and Tepco over compensation issues.

**More information:** <http://www.npfree.jp/english.html>

## NEVER AGAIN FUKUSHIMA. STOP NUCLEAR POWER!

**Thousands of people demonstrated in Japanese cities on February 11 (some 12,000 in Tokyo alone), to commemorate Fukushima and demand the end of nuclear power. The main anti-nuclear rallies were held on February 11, because on March 11, Japan will commemorate the earthquake and tsunami, resulting in 20,000 deaths.**

**(742.6228) WISE Amsterdam** - Elsewhere, many antinuclear events will take place in the weekend of on March 11. There is much more but here a first overview of actions and activities. If you have additions; let us know!

### **USA:**

Nuclear Information and Resource Service (NIRS) is making an overview of actions in the US. There are actions listed in New Jersey, New York, Texas, Vermont. Please visit their website at <http://www.nirs.org/action.htm>.

### **France:**

The French umbrella Reseau Sortir du Nucleaire organizes a very ambitious action on March 11; a Human Chain, between Lyon and Avignon. That means 230 kilometer of people..... More than 50.000 people are needed. In April France will elect a new president. This is very important for the future debate on nuclear power. For more information, also in English, see: <http://chainehumaine.org/>

### **Germany:**

153 local actions all over the country...

with 5 major demonstrations at Brokdorf, Neckarwestheim, Gundremmingen (nuclear reactors) Schacht Konrad (radwaste) and Gronau (Uranium enrichment). Best overview available via <http://www.ausgestrahlt.de/mitmachen/fukushima-jahrestag/mahnwachen-112.html>

### **South Africa:**

The conference 'Nuclear Power For Africa?' will take place in Cape Town on March 8 – 9. The South African government has stated it is planning to order 6 more nuclear reactors in early 2012. On the African continent today, South Africa is the only country to possess a nuclear reactor, and its developments in this field will undoubtedly influence other African countries. More information via: <http://koebergalert.org/npfree/>

### **Mali:**

Conference 'Uranium, Health and Environment, March 16-18, organized by the IPPNW and the Association of Inhabitants and Friends of the Municipality of Falea, the region which is being threatened by uranium mining plans. More information: <http://www.falea21.org/>

### **Netherlands:**

March 10, manifestation in Middelburg, capital of the province where new-build was planned and with the last Dutch commercial nuclear power station in operation.

More information (only in Dutch): [www.stopkernenergie.nl](http://www.stopkernenergie.nl)

### **Belgium:**

Nationwide demonstration in the capital, Brussels. Main aim is to put pressure on the new government to stand with the policy to phase-out nuclear power gradually over the coming decade. More information: the national platform "Stop and Go" (referring to a 'stop' on nuclear and a 'go' for renewables) <http://www.stop-and-go.be/> (only in Dutch and French)

### **Korea:**

The No Nukes Asia Forum takes place in Korea, this year from March 19 to 24. Not only will there be a conference with the international participants but also tours and actions at Busan (nuclear power station Kori 1), against the export of reactors to the UAE and visits to the

proposed site for new nuclear power plants (Samcheok & Yeongdeok) to support local resistance. The NNAF is being held just a week before the "Seoul Nuclear Security Summit 2012" takes place. The second Nuclear security summit (the first was held in Washington in 2010) was meant to focus on proliferation and nuclear terrorism issues. But it looks like it is taking a more overt pro-nuclear position. From its website: "The summit has been involved in cooperative measures to combat the threat of nuclear terrorism, protection of nuclear materials and related facilities, and prevention of illicit trafficking of nuclear materials. With new agendas like Fukushima nuclear disaster and

regional cooperation for peaceful use of nuclear power proposed, however, the scope is expected to be expanded from nuclear security to nuclear safety". It should be particularly noted that South Korean government, the host country, and Korean nuclear industry regard the summit as an opportunity to promote nuclear power plant export. (the Third nuclear security summit will be held in the Netherlands in 2014. More information about the NNAF: <http://nnafr.blogspot.com/2012/02/history.html>

#### **United Kingdom:**

Surround and blockade Hinkley Point, Somerset. Hinkley Point is the first of

eight proposed sites for nuclear new build to go ahead. We stopped them here before in 1987, and we can do it again in 2012. If they fail at Hinkley, it is unlikely the "nuclear renaissance" will have the momentum to continue. On the 10th -11th March 2012, we will return to Hinkley to form a human chain around the station to show our determined opposition to new nuclear. In 2010, dozens of us blockaded the gates at Hinkley. In 2011 hundreds of us blockaded the entrance again. In 2012, thousands of us will surround the power station to say No to new nuclear! Not here, not anywhere! More information at: <http://stopnewnuclear.org.uk/>

## GEORGIA AND THE SCHEME TO REVIVE NUCLEAR POWER IN THE US

**On February 9, the U.S. Nuclear Regulatory Commission approved a combined construction and operating licenses for two nuclear plants to be built in Vogtle, Georgia -both Westinghouse AP1000s. It is the first license for a new nuclear power facility in the United States since 1978 and the culmination of a scheme developed by nuclear promoters 20 years ago. Vogtle 3 and 4 are projected to come online in 2016–2017. The original construction plan for the Vogtle 1 & 2 reactors projected to cost US\$660 million total. The construction cost ended up being US\$8.37 billion in 1989-a 1200% cost overrun.**

**(742.6229) Karl Grossman** - The strategy for what happened early February was set with the passage of the Energy Policy Act of 1992. The vote in the House of Representatives was 381-to-37. "As the bill wound its way through the Senate and the House, the nuclear industry won nearly every vote that mattered, proving that Congress remains captive to industry lobbying and political contributions over public opinion," reported NIRS then. (The same could be said about Congress now.) The *New York Times* said, "Nuclear lobbyists called the bill their biggest victory in Congress since the Three Mile Island accident."

The measure, signed into law by the first President Bush, provided for "one-step" nuclear plant licensing. Previously, there were hearings held in the area where a nuclear plant would be built -one on granting a construction license and, later, a second on whether to issue an operating license.

This presented a big problem for the nuclear industry -not that the Atomic Energy Commission or its successor, the Nuclear Energy Commission, ever turned down an application for a construction or operating license. But at

the hearings for a construction license major issues arose -such as, with the proposed Shoreham nuclear plant on Long Island, New York, the impossibility of evacuation off the crowded island in the event of a major accident, important in the eventual stoppage of Shoreham. And at operating license hearings, whistle-blowers would emerge, often engineers and others involved in the construction of the plant, going public with testimony about faults, defects and dangers.

Under the Energy Policy Act of 1992, instead of these hearings, the NRC, sitting in Washington far from the areas and people to be impacted, would be authorized to grant in one move a construction and operating license. That's what the NRC did early February for the two AP1000 nuclear plants that the Southern Company plans to build at its Vogtle site.

Westinghouse said in the 1990s that with this "one-step" process, it would take but five years after NRC approval for an AP1000 to be completed. Indeed, that was what the nuclear industry was saying after the approval about the Georgia project: Vogtle 3 and 4 are projected to come online in 2016–2017.

The reactors chosen for the Vogtle expansion are of a new design—AP1000s by Westinghouse—that has never been built in the United States (not surprising, given that the most recently used U.S. design was deployed in the 1970s) or completed anywhere else in the world. Indeed, the NRC only approved the AP1000 design in December 2011. That means the reactors have never been tested under actual working conditions.

Westinghouse, before the Energy Policy Act of 1992, touted its AP1000 as an "advanced" nuclear power plant. The act specifically greased the skids for "advanced" nuclear power plants. It featured a section titled "Subtitle C-Advanced Nuclear Reactors" that stated: "The purposes of this subtitle are (1) to require the Secretary [of Energy] to carry out civilian nuclear programs in a way that will lead toward the commercial availability of advanced nuclear reactor technologies; and (2) to authorize such activities to further the timely availability of advanced nuclear reactor technologies."

To push the new system along, NuStart, which calls itself "a consortium for new

nuclear energy development," was formed. NuStart, says further on its website, that it has been "formed to respond to a Department of Energy issued solicitation to demonstrate the NRC's COL [Construction and Operating License] process." NuStart has been working closely with utilities for them to utilize the one-step licensing process and build new "advanced" nuclear plants.

As to its funding, its website says that "NuStart is participating in a 50-50 cost sharing program" with the Department of Energy.

Thus U.S. tax dollars have been and are being used for a system all but eliminating public input to get new "advanced" nuclear power plants up and running -and fast.

The chairman of the NRC, Gregory Jaczko, voted against the licensing on February 9. He cited the need to "learn the lessons from Fukushima." Jaczko stated: "I cannot support issuing this license as if Fukushima had never happened." But the other four NRC commissioners -nuclear power zealots all -voted for the licensing.

There will be challenges to the licensing -which beyond being the first issuance of combined construction and operating licenses is the first time since the 1970s that the NRC has given approval for a new nuclear power plant. There were no applications to build new nuclear plants as atomic energy, rightfully, went into a deep eclipse for decades.

The Southern Alliance for Clean Energy announced: "Our challenge maintains that the NRC is violating federal laws by issuing the license without fully considering the important lessons of the catastrophic Fukushima accident." It will also raise various safety issues involving the AP1000. Nine organizations, including the Southern Alliance, said they would sue to try to block the license because the commission had not adequately analyzed the new reactors' design for hazards in response to last year's calamity at Fukushima.

As to finances, not only was -and is-taxpayer money being used to facilitate the new nuclear plant licensing scheme,

it is the basis for their construction. Wall Street is wary of nuclear power. So the Department of Energy is providing the Southern Company with US\$8.3 billion in taxpayer-based loan guarantees for its new nuclear plants, part of a multi-billion dollar loan guarantee fund that has been established for new nuclear power plants.

#### **Stop nuclear tax!**

Progress Energy plans to cancel the main development and construction contract for its proposed 2 unit nuclear plant (the same Westinghouse AP1000 design as allowed to be built in Georgia), in Levy County, Florida, but its customers will have to keep paying in advance anyway. The move could add hundreds of millions of dollars to what customers are already paying, if Progress decides to restart the project. It also raises questions about the "pay as you go" advance fee set up by the Florida state Legislature explicitly to speed up nuclear plant construction and save money.

Progress spokeswoman Suzanne Grant said the utility will continue to seek federal approval for the US\$20 billion project, and "we'll reassess the project once we receive the (operating) license." Grant would not discuss the reason Progress wants to cancel the contract.

So far, Progress Energy has spent US\$1.1 billion on the development and planning of the Levy County nuclear project: US\$545 million coming from its customers through the end of 2011. Progress' 1.6 million customers in Florida will eventually pay the remaining US\$555 million, too.

The advance fee resulted from legislation passed by state lawmakers in 2006 to allow utilities to collect money from customers for future construction of nuclear power plants. It was considered a major shift in policy for building new power plants. Proponents said paying for the projects "as you go" would speed up construction and save money on the financing of the plants. But the Levy plant has not met either of those goals.

In 2006, Progress said the project would cost US\$4 billion to US\$6 billion and open in 2016. The price jumped to US\$10 billion in 2007. In 2008, the utility said the project would include two reactors, instead of one, and cost US\$17 billion. A year later, the price remained the same, but the start date moved to 2018. In 2010, the date moved to 2021, and last year price projections reached as high as US\$22 billion. Under nuclear fee law, none of the money Progress has spent on Levy has to be refunded, even if the utility doesn't build the plant.

**Tampa Bay Times, 26 January & 9 February 2012**

In a sales brochure for the AP1000 -online at [www.AP1000.westinghouse-nuclear.com](http://www.AP1000.westinghouse-nuclear.com)-Westinghouse trumpets it as "Simple, Safe, Innovative." Throughout the brochure is also the line: "The Nuclear Renaissance Starts Here." But although the AP1000 might be of

a different design, even the brochure acknowledges severe accidents can happen. "The AP1000 is designed to mitigate a postulated severe accident such as a core melt," says the brochure. Mitigate, not eliminate.

It also includes a "Probabilistic Risk Assessment" by the NRC on the possibility of "Core Damage Frequency" and "Large Release Frequency" at an AP1000. For both, the odds are given as very low, reminiscent of the very low odds NASA once set for a catastrophic accident involving one of its space shuttles -until the Challenger blew up.

"It follows," says Westinghouse, "that the AP1000 also improves upon the probability of large release goals for advanced reactor designs in the event of a severe accident scenario to retain the molten core within the reactor vessel." Improves upon -not eliminates the release of catastrophic amounts of radioactivity.

If Americans are anxious about a disaster involving the AP1000 -and want wind and solar and other safe, clean, renewable energy technologies which they can live with instead- well, under the new system, that's too bad. With the new nuclear licensing system -devised 20 years ago and now moving ahead despite Chernobyl and Fukushima and the availability of energy alternatives that render nuclear power unnecessary -the citizenry and what they want are to be excluded.

#### **Loan guarantees under scrutiny.**

President Obama has already promised Southern Company \$8.3 billion in tax-funded loan guarantees towards the \$14 billion cost of the proposed reactors. These taxpayer-insured loans would be lent at 0-.5% interest! The U.S. loan guarantee program has a 50% default rate history, and indeed, headlines have been captured lately by the failure of

much smaller companies with much, much smaller loans. Several members of Congress are now bulldogging a recent audit of DOE's loan guarantee program which is currently under White House review. Chief among their complaints are the secrecy of DOE with

respect to its selection process and the terms of the loan guarantees. With the decision on the reactor license, the White House is expected to finalize its review of the loan guarantees program very soon and make a decision on whether to give Southern Company the coveted US\$8.3 billion tax-funded loan at a rate of from 0% to .5% interest!

Read more and sign a petition at: [http://www.nonukesyall.org/Action\\_Obama.html#action](http://www.nonukesyall.org/Action_Obama.html#action)

**Sources:** This article is based on Karl Grossman's article The Nuclear Jugernaut, Counterpunch, 13 February 2012, with additions of Nuclear Watch Southeast and a Union for Concerned

Scientists fact sheet on Vogtle, available at [http://www.ucsusa.org/assets/documents/nuclear\\_power/Georgia-nuclear-fact-sheet.pdf](http://www.ucsusa.org/assets/documents/nuclear_power/Georgia-nuclear-fact-sheet.pdf)

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## EU ASSISTANCE FOR DECOMMISSIONING NUCLEAR PLANTS BULGARIA, LITHUANIA AND SLOVAKIA

**In the frame of their European Union accession negotiations and in view of increasing nuclear safety, Bulgaria, Lithuania and Slovakia committed themselves to the early closure and subsequent decommissioning of eight 'non-upgradeable' nuclear reactors. The European Court of Auditors found that progress has been slow, no comprehensive assessment of future needs exists, and available funding is plainly insufficient. The Court recommended making conditional any further support upon an evaluation of the EU added value.**

**(742.6230) WISE Amsterdam** - The special report "EU Financial assistance for the decommissioning of nuclear plants in Bulgaria, Lithuania and Slovakia: Achievements and Future Challenges" by the European Court of Auditors, deals with the implementation of the decommissioning programmes from 1999 up to the end of 2010. The main objective of the Court's audit was to "assess the effectiveness of the EU funded programs (1999-2010) in contributing towards the decommissioning of the nuclear reactors and addressing the consequences of their early closure." The EU provided financial assistance to the three country-programs: 2 850 million euro overall for the 1999-2013 period. The main vehicles for EU funding for decommissioning of the 8 reactors were the TACIS (providing technical assistance to the partner States in eastern Europe and central Asia) and the PHARE programs (supporting financial and technical cooperation with the candidate central and eastern European countries).

Meanwhile, Bulgaria (Kozloduy 1-4), Lithuania (Ignalina 1-2) and Slovakia (Bohunice V1 1-2) have closed the reactors between 2002 and 2008 in line with their commitment, the main process is still ahead and its finalisation faces a significant funding shortfall.

The conclusions are devastating:  
(a) As a result of a relatively loose policy framework, the programmes do not benefit from a comprehensive needs

### Delays and Cost-overruns

As at 31 December 2010, the programs had launched 101 projects which contributed towards the decommissioning of the eight reactors. The total value of these projects, which were almost exclusively funded by the EU, was 1 125 million euro.

An analysis of the infrastructure projects shows delays and cost overruns. In particular, key projects within the critical path of the decommissioning process are delayed, for example facilities for spent fuel and radioactive waste management (i.e spent fuel storage facilities and facilities for radioactive waste treatment, storage and final disposal). In March 2011 the recipient Member States updated their decommissioning cost estimates, to reach 5,3 billion euro. A comparison with the decommissioning funding currently available at national and programme level suggests a shortfall of around 2,5 billion euro.

Slovakia has committed itself to topping up the funding needed for decommissioning and has created a specific funding mechanism (a tax on electricity transmission) to contribute towards reducing the funding shortfall. Lithuania and Bulgaria have not put in place any equivalent mechanism. The absence of sufficient funding arrangements puts the completion of the decommissioning processes at risk.

assessment, prioritisation, the setting of specific objectives and results to be

achieved. Responsibilities are diffused, in particular with regard to monitoring and the achievement of programme objectives as a whole. The Commission's supervision focuses on the budgetary execution and project implementation.

(b) There is no comprehensive assessment concerning the progress of the decommissioning and mitigation process. Delays and cost overruns were noted for key infrastructure projects.

(c) Although the reactors were shut-down between 2002 and 2009, the programmes have not yet triggered the required organisational changes to allow the operators to turn into effective decommissioning organisations.

(d) Currently available financial resources (including an EU contribution until 2013 worth 2,85 billion euro) will be insufficient and the funding shortfall is significant (around 2,5 billion euro)!

The Court recommends that:

(a) The Commission should put in place the conditions for an effective, efficient and economical use of EU funds. It should establish a detailed needs assessment showing the progress of the programmes so far, the activities still to be

performed and an overall financing plan identifying the funding sources. Before

further spending takes place, the Commission should analyse the resources available and the expected benefits. This should lead in turn to objectives being aligned with the budget made available and to the establishment of meaningful performance indicators which can subsequently be monitored and reported on as necessary.

(b) Should the EU decide, as pro-

posed by the Commission, to provide further financial assistance in the next multi-annual financial framework, this support should be made conditional upon an ex ante evaluation of the EU added value of such intervention, identifying the specific activities to be financed through the EU budget and taking account of other funding facilities such as Structural Funds.

**Sources:** European Court of Auditors Special Report No 16/2011 "EU Financial assistance for the decommissioning of nuclear plants in Bulgaria, Lithuania and Slovakia: Achievements and Future Challenges". Available at: <http://eca.europa.eu/portal/pls/portal/docs/1/12036727.PDF>

## PROSPECTS FOR NUCLEAR POWER IN 2012

**A surprisingly pessimistic view about the prospects of nuclear energy has been published by Platts, traditionally very close to the nuclear industry, with magazines like Nuclear Fuel and Nucleonics Week. Platts concludes episodic nuclear disasters, like Fukushima, aren't the only challenges to the nuclear industry's future: The industry faces a number of hurdles including financing and new safe-technology construction.**

### **(742.6231) Platts Energy Economist**

- Even before the Fukushima disaster, the long-awaited nuclear renaissance in the West seemed to be running out of steam. There were two main factors behind this failure; the new Generation III+ reactors produced to take account of the lessons of Chernobyl that would spearhead the revival were not living up to their promises, and, more importantly, banks were proving unwilling to provide finance.

The key markets for the renaissance were the US and the UK. As pioneers of nuclear power, potentially large markets and countries that seemed to have abandoned plans for new nuclear plants, a successful revival in these countries would have been a powerful endorsement for these new technologies. Following on, the expected reversal of nuclear phase-outs in Germany and Italy would have provided two more large, high-prestige markets.

These follow-on markets are now clearly off the agenda. However, the US and UK governments seem oblivious to the idea that Fukushima might have any implications for new build plants. The incentives in terms of loan guarantees in the US and long-term Power Purchase Agreements at non-market prices in the UK are still in place. Government commitment appears undiminished.

Yet turning a blind eye to Fukushima is clearly not sustainable. The hope that the disaster can be written off as having relevance only to earthquake and tsunami prone countries with Mark 1 Boiling Water Reactors is no more credible than the hope that Chernobyl would have relevance only to a par-

ticular Soviet design operated in an inexplicable way.

### **Gen III+ claims**

The nuclear industry would probably like to forget the claims it made for Generation III+ designs. In short, Gen III+ reactors would achieve the dream combination of being both safer and simpler, making them cheaper and easier to build. The expected overnight (excluding finance charges) construction cost was forecast to be no more than \$1,000/kW so that a typical 1,500 MW nuclear power plant would cost \$1.5 billion. This was much less than the few plants completed in the 1990s and, not by coincidence, a figure that meant power from new nuclear reactors would be competitive with power from gas-fired plants.

However, the \$1,000/kW promise quickly began to unravel when the first order for a Gen III+ design, Olkiluoto in Finland, was priced in 2004 at more than double that level. Construction of the European Pressurized Reactor supplied by French company Areva and its only successor so far in the West, Flamanville in France, has descended into farce. Both plants are now five years over their expected construction time and the latest cost estimates are about double the level forecast at construction start. Most recent serious cost estimates and bids in the past few years for Gen III+ designs have been of the order of \$6,000/kW.

However, finance is only partly about build cost. The main issue is risk and comes from the poor record of nuclear plants being built to time and cost, a reputation only worsened by Olkiluoto

and Flamanville. The banks have signalled that they are unwilling to bear this risk, leaving three sets of interests that might be able to take it on: the utilities, the vendor or the consumer in some form via the state.

In the past, nuclear power plants have been built with the assumption that consumers would bear the risk because electricity tariffs would recover whatever costs were incurred. When US regulators became unwilling to pass on all these costs in the late 1970s, under pressure from the financial community, ordering there came to an abrupt halt and many plants already ordered and under construction were abandoned. A decade later, as competitive electricity markets began to replace monopolies in Western Europe, nuclear mainly ceased to be a financeable option there too. Although Finland is part of a competitive electricity market, Olkiluoto was fully insulated from it by PPAs lasting the life-time of the plant priced at whatever costs were incurred. Similarly, while France is theoretically an open electricity market, EDF, the builder of Flamanville, remains a de facto monopoly supplier.

The attempted US revival dating back to 2002 was based on shifting the risk from the banks to taxpayers by granting loan guarantees for nuclear projects. Even in today's economic situation, sovereign debt is good enough to convince most banks to lend, allowing borrowing at not much more than base rate. However, there are other problems with loan guarantees in addition to the likely reluctance of vendor countries to add to their debts.

First, according to international agreements, there should be a premium on the loan cost, either a fee or a higher interest rate that reflects this risk. If the size of this premium accurately reflects the risk, logically, the cost of this premium should be the same as if the private sector was taking the risk. So if loan guarantees are economically priced, they may offer no financial advantage. Second, if the project does go wrong and costs escalate, the utility will have to go to the market to borrow more money to support a failing project, a situation unlikely to impress shareholders. The possibility that the plant vendor will shoulder the risk no longer exists following Olkiluoto.

When the project started to go badly wrong, Areva quickly refused to honor its 'turnkey' contract and the issue of who will pay the extra billions of euro costs will be settled in a court of arbitration. No vendor is now likely to offer a turnkey contract and, even if they did, banks are unlikely to place any value on such a contract.

This brings the issue of shifting the risk from the banks back to convincing consumers that they must bear the risk. The most likely project in the US to go ahead, the Vogtle project for two AP1000 reactors supplied by Toshiba/Westinghouse is in a state (Georgia) where the regulator is already allowing cost recovery even before the start of serious construction. The other project with a reasonable chance of success, the Summer project, also for two AP1000s, is also in a state (South Carolina) with a compliant regulator. It is unlikely there will be many more states with regulators willing and able to commit consumers to repay all the costs, especially if things go wrong at these sites. The two US projects that were in states with competitive electricity markets were quickly abandoned.

In the UK, despite the political rhetoric that a new nuclear program would receive no public subsidies, what is now likely to be on offer are Feed-in-Tariffs and longterm Contracts for Differences. These effectively ensure that all power from nuclear plants is guaranteed to be sold at a predictable price set outside the market.

EDF is the most likely developer in the UK. Whether it will go ahead with an EPR in the UK is likely to depend on whether the design can survive the problems at Olkiluoto and Flamanville and on how fully the CfDs are guaran-

teed to cover costs. Since the terms of these contracts will be regarded as commercially sensitive, the public will never know what it has signed up to. But, if construction goes ahead, it can be assumed strong cost-recovery guarantees are in place. How the European Commission will view such contracts, which are blatantly unfair state aid and therefore presumably illegal, remains to be seen.

#### **BRICs + South Korea**

China has dominated new nuclear plant orders in the past few years, accounting for 25 out of the 38 reactors on which construction started worldwide between 2008-2010. Six of these units were for Gen III+ designs, four AP1000s and two EPRs. Almost all the others used a design imported from France in the 1980s, which in turn had been licensed from Westinghouse in the early 1970s. This design, the CPR1000, is showing its age and there was an expectation, even before Fukushima, that the AP1000 would replace it. This would have been a huge boost to the AP1000, giving it the volume of orders that might have allowed costs to come down and for teething problems to be solved. The EPR, by contrast, appears to have no prospect of further orders in China.

However, there were signs that the strain of the rapid pace of construction was beginning to show. In 2011, no new starts were made, compared with ten in 2010. Fukushima explains this to a degree, but some might have been expected in the first three months of 2011 before disaster struck. The reason behind the slowdown is the high cost of the AP1000. The large Chinese utilities appear to be looking at other options.

There is now talk of pursuing indigenous advanced designs developed from the CPR1000 as well as Small Modular Reactors. China has always been adept at convincing nuclear suppliers that there was a great future for their particular technology in China. It is unclear whether talk of SMRs and new advanced designs will go any further. China is looking much less committed to nuclear power than it was a year ago.

There is also speculation that China may enter the export market on the entirely unsupported assumptions that its reactors will be cheap and that it can successfully build them away from home soil. South Africa is particularly enthusiastic about Chinese designs, but whether this enthusiasm can be turned into orders remains to be seen.

The reality is that China needs nuclear power much less than the nuclear industry needs China. For its part, Russia did not order any reactors for its home market for more than two decades after Chernobyl. Six plants, started before Chernobyl, remained under construction for well into the 21st century. All except one (the only one using the Chernobyl design) are now finally on-line. The last was commissioned in 2011 after 25 years under construction.

In 2008, Russia began ordering again with a new design, which it claimed was Gen III+. In 2008-10, the government started construction on two reactors per year. It also reported export orders to Turkey, Vietnam, India and Bulgaria, although serious work has not started on any of these projects as yet. It also brought on line the reactor in Iran started in 1975, a curious mixture that appears to be a Russian reactor inside a Siemens containment.

Whether the new Russian design would satisfy Western regulators is not known, but the Russian vendor, Rosatom, does seem willing to do deals no other vendor would, and not just in Iran. For Turkey, it is contracted to build and operate four reactors, selling much of the power in a fixed price range, reported to be about euro 100-120/MWh (\$126.87-152.32/MWh).

For India, it has nearly completed two reactors at Kudankulam and is reported to have agreed to supply ten more, despite Indian law allowing some limited liability for vendors in the case of an accident, a liability that is proscribed by international treaty elsewhere. The question marks against Russia are whether it can penetrate the larger developed country markets, whether it can continue to offer the sort of deals it has recently signed up to, and whether the technology would stand up to Western regulatory scrutiny

India, meanwhile, has always been a country where there would be a huge nuclear market tomorrow. In part, orders have not materialized because of the proliferation issues raised by the country's 1975 nuclear weapons test and New Delhi's refusal to sign the Nuclear Non-proliferation Treaty. However, there are also problems of finance and the country's record on construction time and cost. India's nuclear plants probably have the worst reliability record of any nation in the world. Nearly all the country's existing plants are based on

the Canadian CANDU design imported before India's nuclear test explosion in 1975.

The deal in 2007 to get round NPT restrictions has opened the way for a flood of reported orders with Areva (EPRs), Toshiba/Westinghouse (AP1000s) and GE-Hitachi (ABWRs). Each has claimed orders for six reactors on top of the ten reactors ordered from Rosatom. India also plans to build six more of its CANDU design. However, none of these deals looks secure and problems of vendor liability as well as finance - vendors are asking for very strong support from sovereign loan guarantees - may mean few will actually go ahead.

South Korea has established a good reputation for building nuclear plants to cost and time, as well as operating them reliably. However, it was not until 2009 that it entered the international market, selling four reactors to the UAE, undercutting bids by Areva and Toshiba by more than 20%. This caused much soul searching in France and Japan, where the nuclear industry was mortified at being beaten so comprehensively by what they would see as their technological inferiors. The design South Korea offered is based on a US one, the Combustion Engineering System 80+, which was given safety approval in the US in 1997, but which would now require significant upgrades to be licensable in Europe and the US. Work has yet to start in the UAE and it remains to be seen whether South Korea's bid was realistic, or whether it was seriously under-priced, failing to taking into account the issues of building away from home soil. If things go wrong, Korea's entry to the nuclear export market could be short-lived.

#### **Lifetime extensions**

Before Fukushima, there was a strong trend to obtain lifetime extensions for existing plants. Particularly in the US and France, there was an expectation that plant life would be extended from 40 to 60 years (and perhaps 80 years). In France, this has worsened Areva's problems because France already has more than enough nuclear capacity.

#### **Lifetime-extension**

To emphasise the importance of life-time extension of existing nuclear reactors for the nuclear industry to survive, now new build is not even close to projected numbers, a new research program headed by the US Department of Energy will begin to investigate the case for reactor lifespans of greater than 60 years.

#### **United States**

The US system sees reactors originally licensed for a period of 40 years, with the possibility of a one-off 20 year licence renewal. The majority of operating US reactors have already received this and the remainder are expected to eventually apply. The Light Water Reactor Sustainability (LWRS) program will look to clarify "risks by investigating technical foundations for ensuring the safe and economic operation of reactors in any second life extension period." In an 'integrated program plan' released on 1 February, four distinct research and development pathways were outlined, including materials aging and degradation, advanced light water reactor nuclear fuels, advanced instrumentation, and information and control systems technologies.

The oldest of the 104 operating power reactors in the USA passed the 40 year mark in 2009 and have renewed licences due to expire in 2029. The program report notes that "without further extending reactor lifespans and adding new reactors", nuclear generation in the US will begin to fall off rapidly after 2030 and possibly much sooner.

#### **France**

France "has no option but to extend the lifespan of its nuclear power plants as any investments to renew its nuclear capacity or to increase its reliance on other forms of energy would be too costly and come too late", the French Court of Audit said in a report published 31 January 2012. "...In the absence of investment decisions an implicit decision has already been made which commits France either to prolong the reactors' lifespan beyond 40 years or to quickly change the energy mix, which implies more investments," said the report on the costs of the French nuclear power sector.

The Court recommended that the choice of the future of the energy mix should not be made in an implicit manner but that a strategy should be explicitly elaborated, debated and adopted. The report, commissioned by Prime Minister Francois Fillon in May 2011, comes as France's reliance on nuclear power has become, for the first time ever, part of the country's presidential campaign in the aftermath of Fukushima. While the ruling UMP party plans to maintain the country's nuclear share of 75 percent in the electricity mix, the highest in the world, socialist candidate Francois Hollande said he would bring down that share to 50 percent by 2025.

(Written by WISE Amsterdam)

**Sources: World Nuclear News, 3 February 2012 / Reuters, 31 January 2012**

Extending existing plants' life to 60 years would mean that the first replacements would not be needed till nearly 2040, leaving Areva dependent on exports in the meantime.

Nevertheless, if the renaissance is indeed still-born, life extensions would mean vendors would continue to have a strong, safe business for a further 20-30 years, providing services, replacement equipment and fuel. That is how the world nuclear industry has survived the past two decades.

However, while life extensions in the US do not seem to have been affected by Fukushima, very surprisingly, in France, they have. EU-mandated 'stress test' at nuclear plants were widely seen as not being likely to uncover much. Essentially it seemed that safety authorities were being asked to assess whether the reactors they had licensed were indeed safe.

Yet it was the French authorities, not known for their aggressive handling of EDF, that have provided the most significant criticisms of existing plants. In its initial review in September 2011, France's nuclear regulator seemed to be following up on the issues of subcontracting it had identified as causing problems at Flamanville. In January 2012, the regulator signalled that life-extension was not going to be the license to print money it is often seen as. In short, life-extension would cost about euro 1 billion per plant, about the cost projected originally for a brand new plant.

#### **Technological cul-de-sac**

If plant life extensions can be achieved in France and the US and Gen III+ does prove a blind alley, it raises the question of what options are open to the nuclear sector. Ten years ago, the industry answer would have been Generation IV designs. Unlike Gen III+, which evolved from existing Pressurised and Boiling Water Reactors, these would be based on radical new technologies. Six technologies were selected by the major nuclear countries as the most promising.

However, ten years on, they seem no closer to commercial deployment. These designs were a mix of designs already pursued, such as sodium cooled fast reactors and helium/graphite high temperature reactors and totally untested options such as a lead-cooled fast reactors. The more familiar reactors have a very poor record so far, despite all major nuclear nations trying to develop them over the past 50 years. Demonstration fast reactors like Superphenix, Monju and Dounreay and high temperature reactors like THTR-300 and Fort St Vrain had highly problematic, often short lives.

How the nuclear industry is going to solve problems it has failed to solve over the past 50 years is not clear. The radical new designs require major technological development and progress and it is hard to see who will fund that.

Small Modular Reactors, the latest 'rabbit out the nuclear hat' are generally based on scaled down BWR or PWR technology and illustrate the nuclear industry's schizophrenic attitude to reactor size. This is well illustrated by the history of the AP1000 and the Pebble Bed Modular Reactor. Around 1990, Westinghouse claimed that they had looked for the scale economies of building ever bigger reactors and found they were not there. They therefore developed the AP600 design, half the size of the reactors they had previously been offering. This received regulatory approval from the US authorities in 1997.

However, by then, it was clear that the AP600 was hopelessly uneconomic, so Westinghouse nearly doubled its output in the AP1000, which received final regulatory approval in December 2011. The AP1000 is still proving far too expensive and China is now examining the possibility of scaling it up to 1800 MW to reduce cost.

The PBMR was meant to be a small modular reactor that would fit more easily into small electricity systems. The capacity of sites could be expanded in small steps. The idea was that it could also be upgraded by increasing the coolant temperature from about 850° C to more than 1000° C making it one of the Gen IV designs, the Very High Temperature Reactor. If such temperatures could have been achieved, efficient production of hydrogen from water using a catalytic process would have been feasible.

South Africa licensed pebble bed technology from Germany in 1998, the 80 MW Modul 80 design, and immediately updated it to 110 MW. What happened over the next decade is not well reported by the South Africans, but after a decade, the project was running about 25 years behind its original schedule, the estimated cost of a demonstration plant had increased 30-fold and a design fit to submit to the regulator had still not been completed. It appears economics were a serious problem because the design was successively updated from 110 MW to 125 MW, then 137 MW and finally 165 MW. In 2010, the South Africans belatedly admitted defeat. SMRs may turn out to be the latest in a long line of nuclear designs that looked good on paper, but could not make the transition to commercial technology.

#### **Nuclear prospects**

Despite attempts by some governments and the nuclear industry to pretend that the Fukushima disaster is not relevant to future investments, it will be decades before the full impact of Fukushima is understood. Chernobyl was a nuclear power plant of dubious design, operated in an inexplicable way in a decaying Soviet Republic, yet 25 years later, no design that was produced to take

account of Chernobyl's lessons has entered service.

Fukushima's technology is much closer to the designs that dominate existing capacity and Gen III+ designs. It was also installed in probably the most technologically sophisticated country in the world and the country that taught the world quality control.

The reality the nuclear industry may have to face is the one that has been around since Three Mile Island, that designing a PWR or BWR that can survive a loss of coolant and loss of site power and still be economic is simply not feasible. Fukushima may therefore mark the effective end of the nuclear renaissance in the West.

Nevertheless, the UK and the US will probably build some new units proving only that if enough public money is thrown at nuclear power, new reactors can be built, but the scale of support needed will limit the number to no more than a handful and, as the lessons from Fukushima emerge, the designs available now may need significant and expensive modification. The prospects are somewhat better in the rest of the world, led by the BRICs, but even there, the question marks over costs and technology may mean that nuclear optimism in those countries proves short-lived.

**Source:** February 2012 issue of Platts Energy Economist. Platts is a leading global provider of energy, metals and petrochemicals information. <http://platts.com>

## IN BRIEF

**Germany exporting electricity to France.** Germany has shut down many nuclear power plants after Fukushima. France, in contrast, has still a very large nuclear capacity. So one might expect (and that was highlighted by nuclear proponents in Germany and elsewhere many times) that Germany needs "to pull some power from the reliable French nuclear plants" to make up for the fact that German solar power is not contributing anything in this season. But that's not exactly what happened during the cold winter days in western-Europe early February. Though the day is short, PV power production is still peaking at an impressive level during the current cold spell in Germany.

Because France has so much nuclear power, the country has an inordinate number of electric heating systems (but what is cause and effect?). And because France has not added on enough additional capacity over the past decade, the country's current nuclear plants are starting to have trouble meeting demand, especially when it gets very cold in the winter. With each drop of 1 degree in the temperature, the demand for electricity rises with 2,300 MW. In the French Brittany, citizens were asked by EDF to reduce their consumption.

As a result, power exports from Germany to France reached 4 to 5 gigawatts – the equivalent of around four nuclear power plants

– early February according to German journalist Bernward Janzing in a Taz article. And it was not exactly a time of low consumption in Germany either at 70 gigawatts around noon on February 3, but Janzing nonetheless reports that the grid operators said everything was under control, and the country's emergency reserves were not being tapped. On the contrary, he reports that a spokesperson for transit grid operator Amprion told him that "photovoltaics in southern Germany is currently helping us a lot."

**die tageszeitung, 3 February 2012**

**UK: the powers that be.** Newly appointed Energy Secretary Ed Davey performed a spectacular U-turn on nuclear power, February 5, as he declared he would not block plans for a new generation of nuclear reactors. Liberal Democrat Davey was appointed to the Cabinet post on February 3, after Chris Huhne resigned to fight criminal charges. In the past, Davey has condemned nuclear power as dangerous and expensive. As Lib Dem trade and industry spokesman in 2006 Mr Davey was the architect of the party's anti-nuclear policy. He launched the policy with a press release entitled "Say no to nuclear", which warned a new generation of nuclear power stations would cost taxpayers tens of billions of pounds. What's that with being in power and changing positions?

Ed Davey used his first day as Energy Secretary to send a warning to more than 100 Conservative MPs that he is not prepared to back down over the issue of onshore wind farms. He insisted he was a 'lifelong supporter' of wind power.

**Daily Mail, 6 February 2012 / The Times, 7 February 2012**

**Australia: Ferguson's Dumping Ground Fights Back.** The Gillard Government is pushing ahead with plans to host a nuclear waste dump at Muckaty in the Northern Territory (NT), despite local opposition. Traditional Owners have vowed to fight on, according to Natalie Wasley. In February 2010, Resources Minister Martin Ferguson introduced the National Radioactive Waste Management Bill into the House of Representatives, saying it represented "a responsible and long overdue approach for an issue that impacts on all Australian communities". The legislation names Muckaty, 120 kilometers north of Tennant Creek in the Northern Territory, as the only site to remain under active consideration for a national nuclear waste dump. The proposal is highly contested by the NT Government and is also being challenged in the Federal Court by Traditional Owners. Despite this, the Bill is currently being debated in the Senate — and will likely pass.

Ferguson's law is a crude cut and paste of the Howard government's Commonwealth Radioactive Waste Management Act that it purports to replace. It limits the application of federal environmental protection legislation and it curtails appeal rights. The draft legislation overrides the Aboriginal Heritage Protection Act and it sidesteps the Aboriginal Land Rights Act. It allows for the imposition of a dump on Aboriginal land with no consultation with or consent from Traditional Owners. In fact, the Minister can now override any state or territory law that gets in the way of the dump plan.

Before it won government, Labor promised to address radioactive waste management issues in a manner that would "ensure full community consultation in radioactive waste decision-making processes", and to adopt a "consensual process of site selection". Yet despite many invitations, Martin Ferguson refuses to meet with Traditional Owners opposed the dump.

Medical professionals have called for federal politicians to stop using nuclear medicine as justification for the Muckaty proposal.

Nuclear radiologist Dr Peter Karamoskos wrote in the NT News:

"...the contention that is most in error is that the radioactive waste to be disposed of there is largely nuclear medicine waste.

Nearly all such waste is actually short-lived and decays in local storage and is subsequently disposed of safely in the normal waste systems without need for a repository. The vast bulk of the waste... is Lucas Heights nuclear reactor operational waste, and contaminated soil (10 thousand drums) from CSIRO research on ore processing in the 1950s and 1960s."

**Natalie Wasley in NewMatilda.com, 13 February 2012**

**US: Watts Bar 2 schedule pushed back.** The Tennessee Valley Authority (TVA) has said that it is 'experiencing challenges' with the cost and schedule for completion of its Watts Bar 2 nuclear power plant. The revised completion date for the plant may extend beyond 2013 and the costs are expected to 'significantly exceed' TVA's previous estimate of US\$2.5 billion. TVA, which operates three nuclear power plants: Browns Ferry, Sequoyah and Watts Bar, decided to restart construction at Watts Bar 2 in 2007. It originally planned to finish the plant, which was 55% complete, within a five year window. Now, the completion date has been put back to 2013 and TVA says it is performing a root cause analysis to better understand the factors contributing to the project's extended schedule and cost. According to TVA the delays to the completion of Watts Bar unit 2 may also affect the timing of the Bellefonte 1 completion. Construction is set to resume at Bellefonte 1 after initial fuel loading at Watts Bar 2. (More in Nuclear Monitor 732, 9 September 2011).

**Nuclear Engineering International, 7 February 2012**

**Russia: Fire at nuclear sub at Murmansk**

Russia's deputy prime minister in charge of the defense industry Dmitry Rogozin has indirectly admitted that the Yekaterinburg – one of the Northern Fleet's strategic nuclear submarines – which caught fire on December 29 while in dry dock for repairs near Murmansk had "armaments" on board when the 20-hour-long blaze broke out, injuring 9. The deputy prime minister had previously vociferously denied this in both Russian and international media – even though evidence discovered by Bellona at the time suggested otherwise. Evidence that has emerged since the fire, however, suggests that the burning vessel was loaded not only with nuclear missiles but torpedoes as well.

The Yekaterinburg Delta IV class submarine – capable of carrying 16 intercontinental ballistic missiles with up to ten nuclear warheads apiece and 12 torpedoes – caught fire in Roslyakovo when welding works reportedly went awry, though the real cause of the fire remains unknown. The fire was concentrated in the bow area of the vessel.

Had Russia's Emergency Services Ministry –which was primarily responsible for handling the crisis– not extinguished the flames in time, the torpedoes in the front chamber of the submarine would have detonated first. Many Russian fire and rescue workers would have been killed and the blaze's intensity would have increased. The fire would have spread to the missile compartment, which also would have detonated as a result of the high temperatures. An explosion would have then damaged the

Yekaterinburg's two nuclear reactors, resulting in a release of radiation into the atmosphere. Murmansk (300,000-strong population, just 6 kilometers away) should have been evacuated along with other towns in the surrounding area. The fire occurred just prior to Russia's New Year's holidays, and an evacuation would have caused panic and chaos. Yet had things gone as they very possibly could have, even more explosions releasing more radioactivity could have resulted, making – as shown in Fukushima – efforts to extinguish the fire even more arduous, as radioactivity continued to spread.  
**Bellona, Charles Digges, 14 February 2012**

**No More 'hot' waste in WIPP.** On January 31, the New Mexico Environment Department denied a federal Department of Energy's request for permission to use new lead-lined drums for some of the more highly radioactive waste being shipped to the Waste Isolation Pilot Plant (WIPP) (see Nuclear Monitor 739, 23 December 2011). DOE applied to the New Mexico Environment Department for a modification of the hazardous waste permit in order to dispose of "shielded containers" of remote-handled (RH) waste. The shielded containers, which have never been used before, are lead-lined in order to contain the high gamma emissions from the RH waste. DOE was proposing to bring more "remote-handled" plutonium-contaminated waste to WIPP than will fit in the remaining designated space. It is another attempt by DOE to expand the mission of WIPP beyond its original purpose. But the NMED denied the request. The denial does not close the door on the possibility, but the Environment Department said a more detailed review, likely including the possibility of public hearings, would be required before any change is permitted.  
**ABQ Journal, 31 January 2012, / Nuclear Monitor 739, 23 December 2011**

**UK report: "A corruption of Governance?".** Parliament was kept in the dark and fed false information that boosted the case for nuclear power, campaigners claimed in a newly released report "A Corruption of Governance?" on February 3, 2012. MPs were handed a dossier which suggests that evidence given to ministers and Parliament promoting the use of nuclear power was "a false summary" of the analysis carried out by governmental departments. Specifically the report claims that on the basis of the government's own evidence there is no need for the controversial new generation of nuclear power stations if Britain is to achieve 80 per cent reductions in carbon dioxide by 2050. The report also alleges that government statements claiming that electricity supply will need to double or even triple in order to achieve a low-carbon economy are disproved by its own evidence. Katy Attwater, Stop Hinkley Point's spokesperson, said: "This scrupulously researched report shows that two of the National Policy Statements, EN-1 and EN-62, approved by Parliament, are based on false information and the public has no alternative but to deem them invalid. MPs have, likewise, no alternative but to consider them fraudulent, re-open the debate and bring those responsible for this corruption to account."  
**Press release Stop Hinkley Point, 6 February 2012**

**The EPR nuclear reactor: A dangerous waste of time and money.** The French EPR (European Pressurised Reactor, sometimes marketed as an 'Evolutionary Power Reactor') is a nuclear reactor design that is aggressively marketed by the French companies Areva and EDF. Despite the companies' marketing spin, not only is the reactor hazardous, it is also more costly and takes longer to build than renewable-energy alternatives. While no EPR is currently operating anywhere in the world, four reactors are under construction in Finland (Olkiluoto 3, construction started in 2005), France (Flamanville 3, 2007) and China (Taishan 1 and 2, 2009-10). The projects have failed to meet nuclear safety standards in design and construction, with recurring construction defects and subsequent cover-ups, as well as ballooning costs and timelines that have already slipped significantly. 'The EPR nuclear reactor: A dangerous waste of time and money' is an update of the 2008 Greenpeace International briefing on this reactor. Added are some of the many new design and construction errors and the economic setbacks the EPR has run into. Greenpeace included more information on the tremendous gains in the cost performance of renewable energy and the increase level of investment.  
The report is available at: [www.laka.org/temp/2012gp-epr-report.pdf](http://www.laka.org/temp/2012gp-epr-report.pdf)

**Austrian NGOs: Ban on import nuclear electricity!** At a February 3, meeting with German, Czech and Austrian anti-nuclear activists in Passau, Germany, including members of The Left Party (Die Linke) faction in the German Bundestag and from the Ecological Democratic Party (ÖDP), support for an Austrian import ban on nuclear electricity was clearly signalled. Spokeswoman for the Left Party Eva Bulling-Schröter: "It is absurd that Austria, which for very good reasons abandoned nuclear energy, is exporting clean hydropower to Germany for instance and then imports nuclear power for its own use. The planned and very controversial new Czech Temelin reactors would lose important customers if Austria and Germany would ban the import and not buy its electricity. The campaign of the Austrian antinuclear groups is welcome and could be a model for a similar campaign in Germany."  
"It is a ridiculous idea of the federal government when it says that Austria could not do without nuclear power before 2015", says Roland Egger of Atomstopp upper-Austria.  
**Press release atomstopp\_oberoesterreich, (stop nuclear, upper-austria), 9 December 2011 & 3 February 2012**

## WISE/NIRS NUCLEAR MONITOR

The Nuclear Information & Resource Service was founded in 1978 and is based in Washington, US. The World Information Service on Energy was set up in the same year and houses in Amsterdam, Netherlands. NIRS and WISE Amsterdam joined forces in 2000, creating a worldwide network of information and resource centers for citizens and environmental organizations concerned about nuclear power, radioactive waste, radiation, and sustainable energy issues.

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

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