

NUCLEAR MONITOR

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ANGELA'S NIGHTS WITH THE NUCLEAR INDUSTRY

When the Christian Democrat party (Christlich Demokratische Union, CDU) and the Liberals (Freie Demokratische Partei, FDP) formed their coalition Government under Chancellor Angela Merkel (CDU) in September 2009, one of the projects they put into their coalition contract was the extension of the operation licenses of Germany's nuclear power plants.

(716.6084) Bernd Frieboese - Now almost a year has passed and the four big nuclear electricity corporations were getting nervous. The electricity production contingents according to the phase-out plan fixed in the 2002 nuclear energy law are running short for at least three of Germany's 17 reactors, and the operators are probably losing lots of money stretching their contingents by running reactors at minimum power or keeping them offline for extensive revisions and repairs. And of course, the minister of finances insisted on the introduction of the planned nuclear fuel tax!

So the government, under pressure to come forward with a plan, decided to hide behind science and commissioned a number of scenario studies from a group of research institutes. The scenarios included the development of the country's electricity supply in case of nuclear license extensions by between 4 and 28 years. Opposition parties and NGOs were astonished that there was no "business-as-usual" scenario with no license extensions, and outraged when they found out that one of the research institutes is partially financed by RWE, one of the four nuclear utilities.

The studies were delivered to the government on Friday, August 27, and the ministries claimed the right to read

them before publishing them. Finally, in the first week of September, it turned out that even though the study scenarios were deliberately biased in favor of nuclear energy, for example by assuming very low future investments into nuclear safety and unrealistically low growth rates for renewable electricity, and by ignoring non-financial aspects of radioactivity, the results gave no good reason for license extensions.

Around this time, the federal ministry for environment, nature protection and reactor safety (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, BMU), which is officially in charge of all issues around nuclear energy, played a relatively modest tune. Minister Dr. Norbert Roettgen (CDU) criticized the scenarios and demanded substantial safety upgrades as a condition for possible license extensions. According to him, a combined investment of EUR 6.2 billion was necessary to run each of the 17 reactors for 4 extra years, EUR 20.3 billion for 12 years, 36.2 billion for 20 years and 49.8 billion for 28 years.

And he kept reminding us and the other members of the government of a legal problem that any attempt to extend operation licenses will have to face: An amendment of the Nuclear Energy Law will have to be passed by both the

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Bundestag (the lower house of the German parliamentary system, representing the citizens of the Federation) and the Bundesrat (the upper house, representing the federal states). No problem in the Bundestag, as the two parties of the coalition hold a secure majority there. The Bundesrat, however, is dominated by anti-nuclear states governed by coalitions involving either the Social Democrats (Sozialdemokratische Partei Deutschlands, SPD) or the ecologist Green party (Buendnis90/Die Gruenen).

So Merkel's government declared that their amendment would be written very cleverly, denying the Bundesrat's participation in the process. The noisy arguments among legal experts are continuing, and any attempt by the coalition to bypass the Bundesrat will be challenged at the Constitutional Court (Bundesverfassungsgericht) by the non-nuclear states.

The next legal challenge for any license extension plan will be put to either German or European courts by the smaller and nuclear-free utilities, who will claim that any extension gives the four big nuclear corporations an unfair advantage in the electricity market. Now as Merkel was back from the summer break and being criticized because most of the big plans of her coalition so far had failed, she decided to speed up this nuclear plan and invite some ministers and the four nuclear utility managers to a meeting in the chancellor's office at noon on Sunday, September 5. The public was not invited and refrained to a demonstration with a large Merkel puppet and a lot of balloons outside the gate – and of course, we were told to be patient and wait for the results of the meeting to be revealed at a press conference on Monday morning.

The 40-page document “Energiekonzept” released on Monday, September 6 contains lots of friendly and unfriendly words about the future

of the energy supply and climate politics until 2050. Like the need to reduce heat loss by improving thermal insulation of Germany's houses (the government has just reduced the subsidy program to almost nothing) and the importance of developing renewable sources of electricity (the government has just passed an amendment that will reduce the feed-in tariffs for new PV arrays to nothing within a few years) with an extremely unambitious timetable.

Many thousands participate in anti nuclear actions.

Many thousands participate in anti nuclear actions. On Saturday 18 September, some 100,000 people marched through the streets of Berlin to protest against nuclear power and to voice their anger over the government's decision to keep nuclear reactors in use beyond a deadline set by the previous government. The demonstration was organized by various environmental and anti-nuclear groups, with high-ranking politicians from opposition parties also taking part.

Now the preparations for actions against the Castor waste transport early November from La Hague in France to the interim storage facility in Gorleben really started. Several concepts are being put forward by activists: a big large blockade of the storage facility and a call to get onto the train tracks on the day the train is supposed to run there and to make the tracks unusable, to en masse remove the stones from under the tracks, i.e. to undermine them and to make them impassable in creative ways.

On November 6, a demonstration will be held, which is expected to be larger than ever before in the decade long history of the Gorleben fight.

In the short nuclear chapter of the Energiekonzept we learn that the government wants to extend the operation licenses by 8 years for the 7 oldest reactors and by 14 years for the 10 newer ones. Of course, these years would once again be converted into electricity production contingents, which would be transferable from older to newer reactors. And if the share of renewable electricity in the German grid keeps growing, resulting in a shrinking demand for nuclear electricity, these production contingents might be stretched well into the 2040es. And the nuclear operators would be forced to pay at least 50 percent of their additional income to the new nuclear fuel tax and a new fund for the

development of renewable energies.

And that was only the official part of what we learned on Monday, September 6. Later that day, in another press conference, a Greenpeace spokesman asked whether we could be sure that the nuclear corporations would indeed pay their contributions to the fuel tax and the renewables fund? The surprising answer from one of the nuclear managers was that they had signed an agreement with the government. It turned out that around midnight on Sunday, when the meeting in the chancellor's office was closed, not everybody had gone home. The four nuclear managers had proceeded to the ministry of finances, where they sat down to write what they called a “Termsheet” which was countersigned by a secretary of the ministry of finances around 4:30 Monday morning.

After a lot of public uproar, the government published the contents of this 10-page agreement, denying that they had ever intended to keep it secret. It contains a few interesting clauses, like a 500 million Euro cap on safety investments for each reactor and a kind of money-back guarantee to the corporations in case a future government would try to withdraw some of the new privileges.

In any case, if everything develops according to Merkel's plan and these agreements are turned into an amendment that can somehow be maneuvered past the Bundesrat and all the legal challenges it faces, the nuclear corporations have made quite a good deal. The Oeko-Institut estimates that their additional income, before taxes, may amount to EUR 150 billion, in a scenario expecting a moderate rise of electricity consumer prices over the next decades.

Through the years 2011 to 2016 they will pay a nuclear fuel tax: EUR 145 per gram of fuel, not EUR 220 per gram as had been suggested earlier this year. And from 2017 onwards, they will

contribute to the “voluntary” renewable energy fund. Both the fuel tax and the fund will be tax-deductible, meaning that these payments will reduce the annual tax payments to states and counties. In total, Oeko-Institut estimates that a mere 37% of the additional cash flow to the corporations will be diverted to taxes or the new fund.

But then, Merkel's plan to turn these ideas into an amendment that can become law by the start of next year looks quite ambitious. The number of parties she will have to deal with keeps growing, with unlikely opponents like the pro-nuclear states – governed by her own party – demanding a share of the fuel tax and the government of neighboring Austria complaining about the increasing risk of nuclear accidents.

By the way, latest statistics from 'Arbeitsgemeinschaft Energiebilanzen' found that in the first 6 months of 2010, 23% of Germany's electricity came from nuclear power plants, and 19% came from renewable sources.

Source and contact: Bernd Frieboese

US: GEORGIA POWER INCREASES RISKS FOR RATEPAYERS

In 2009, U.S. utility Georgia Power convinced the State legislature to pass Senate Bill 31, which approves the utility to let power customers pay for new generation facilities before the plants produce power. SB 31 was one of the most intensely lobbied measures in years. Opponents say SB 31 shifted risk to ratepayers and forced some consumers to pay for plants they will never use. Company lobbyists and the bill's sponsors all used the US\$1.30 per month initial increase figure to sell the fee. But now that figure has changed and opponents said the public was tricked.

(716.6085) WISE Amsterdam - The nuclear power expansion fee that will show up on Georgia Power bills in January will be bigger than the utility indicated when lobbying for the levy, according to plans filed on September 3

legislators it would be one thing, but when ratepayers get their bill, it's something else."

Under state law and utility regulatory policy, power customers don't typically

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Georgia Power said the initial fee will add US\$3.73 to the typical monthly residential bill in 2011 - more than double the US\$1.30 figure the company and its supporters used when it convinced the state legislature to allow the fee. In the Public Service Commission (PSC) filing, Georgia Power also said the fee will ratchet up to US\$9 over the following four years, rather than six as it had suggested last year.

However, the total amount collected through the fee to help pay for two new reactors will remain unchanged, Georgia Power said. It's the initial amount and pace of the increases that differs from the company's previous indications according to the utility.

But opponents said the public was tricked. "It's the old bait and switch," said Angela Speir, executive director of Georgia Watch and a former PSC member. "Georgia Power told

pay for new generation facilities until the plants produce power. But in 2009, Georgia Power convinced the legislature to pass Senate Bill 31, which changed that for nuclear reactors. SB 31 was one

Florida

On 7 September, Florida's Public Service Commission voted 3-2 to increase Florida Power & Light customers' bills by US\$31 million starting in January to pay for development of the company's nuclear projects. The decision came after nearly three weeks of wrangling between the company and the commission over whether to conduct a full hearing on the issue after testimony revealed that FPL supplied the commission with inaccurate data last year regarding its nuclear projects. By law, the commission must determine if what FPL is allowed to charge customers for planning and development of its nuclear projects is reasonable and prudent. The increase will mean that customer bills will increase 33 cents per 1,000-kilowatt hour to pay for nuclear projects, and the commission will decide sometime next year whether those costs are reasonable. FPL is moving ahead with its plans to build two new nuclear power plants at Turkey Point. The examiner, 10 September 2010.

Georgia Power's nuclear fee is intended to pay about US\$1.6 billion in financing costs for constructing two Westinghouse Advanced Passive 1000 (AP1000) pressurized-water reactors (PWRs) designated as Vogtle, Units 3 and 4, near Augusta. They are scheduled to be complete in 2016 and 2017. The reactors will cost an estimated US\$14 billion total.

Preliminary site work has already started for the two units. The NRC granted an Early Site Permit (ESP) as well as permission for limited safety-related construction in August 2009. However, actual construction of the new plant cannot begin until

Southern receives a combined construction and operating licence (COL) from the NRC not expected before mid 2011.

The Vogtle 3 and 4 reactors could become the first licensed nuclear reactors in the US since the 1970's. But that doesn't come cheap. Besides the fee for the construction costs (and putting the risk with the customers, Georgia Power was the recipient of the US\$8.3 billion in federal loan guarantee from the Department of Energy announced by President Obama on February 16, 2010.

The new fees will come on top of whatever basic rate increase Georgia Power wins from state utility regulators later this year. Because, amid the worst recession since the Great Depression

and state unemployment still topping 10 percent, Georgia Power filed a rate increase request before the Public Service Commission (PSC) of more than US\$1 billion. The new billion-dollar proposal would be phased in over the next three years. By February 2013, typical household bill would shoot up US\$18 per month.

In August this year, PSC approved an amendment to the construction contract between Georgia Power and Westinghouse-Shaw, the group building the two new units. Though many details of the contract dispute are still unknown, the PSC decision allows

Georgia Power to shift the cost of the dispute – estimated at US\$108 million – directly to customers. It comes without the slightest effort by Georgia Power to explain why its shareholders shouldn't be the ones to shoulder those costs.

Sources: <http://www.nrc.gov/reactors/new-reactors/col/vogtle.html> / World Nuclear News, 8 September 2010 / Nuclearfissionary.com, 23 March 2010 / The Atlanta Journal-Constitution, 3 September 2010 / website of consumers advocacy organization Georgiawatch.org

Contact: NIRS

AREVA WORKERS IN TROUBLE, IN NIGER

An al Qaeda claim of responsibility for the kidnapping of five French nationals in Niger has surfaced on Islamist websites. Five French nuclear experts who work for Areva, are kidnapped by 'Al Qaeda in Mahgreb', the al Qaeda terror movement's affiliate in North Africa.

(716.6086) WISE Amsterdam -

"Despite the high military preparations in the area and the security belt around it, those lions of Islam were able to break in and kidnap five nuclear experts who work for Areva," the message said. "...we claim our responsibility to this blessed operation and we tell the French government that our fighters will deliver their lawful demands to them." The message noted that the Niger region "is one of the world's most important uranium producing areas" and that France has stolen the "strategic resource for decades." "We want to remind our Muslim brothers and public opinion that the uranium thieves caused the killing of thousands of poor Muslims in the area and abusing them in those mines and exposing them to dangerous radiation from radon gas while denying them any protection or health care," the message said. "The crusaders' companies who steal our resources and abuse our sons should know that the fighters' goals are lawful and they must leave".

It's the first time that a kidnapping has been claimed by 'Al Qaeda in Mahgreb'. In past events (see NM # 663, November 29, 2007: "China's emerging antinuclear movement" and NM 658, July 13 2007: "Nomadic rebels in Niger attacked uranium mining firms") kidnaps were always claimed by rebel nomadic

Touareg groups, demanding more financial revenues from the uranium mining industry.

Although we think kidnapping people is not the best solution it is at least very understandable that there is much anger about the activities of Areva and uranium mining in Niger in general. An interview with a local leader in Arlit, Niger, in a report for Greenpeace International, perfectly illustrates why it's not very surprising that staff members of French uranium company Areva have been targeted in Niger. In one of the poorest countries in the world, ranking last in the Human Development Index of the United Nations Development Program (UNDP), where more than 40% of children are underweight for their age, water and access to improved water sources is scarce and almost three quarters of the population are illiterate, the French nuclear giant Areva extracts precious –and deadly– natural resources, earning billions for its Fortune 500 corporation, and leaving little behind but centuries of environmental pollution and health risks for the citizens of Niger.

Local leaders like Alhacen feel that the problems caused by Areva only compound the existing ills in Niger. Although Areva claims the production of uranium fights the 'curse of poverty',

Alhacen says the opposite is true.

"What we are seeing for 40 years is that this problem has only increased! In the belt around Arlit, people are very poor: neither water nor electricity... The risk is that the same could happen at Imouraren (the new to be opened uranium mine in Niger). It is therefore necessary that the public be more vigilant so that there is less pollution and more benefits from the uranium."

One of the ironies of Areva's rush for uranium in order to provide electricity to the world is that many Nigeriens don't even have electricity. He makes the argument that instead of driving out poverty, they have inherited enduring pollution.

"I must tell you that in Arlit, they use oil lamps in the suburbs! In Arlit, some have no water...The little Nigerien lights a kerosene lamp to read his lessons... Many homes are without electricity. We regret it! We are neither pro-nuclear or anti-nuclear. 90% of Nigeriens do not even know that we produce uranium today in Niger. 100% of Nigeriens do not know what radioactivity is! 100% of Nigeriens do not know that uranium is used to make electricity! The problem of Niger is the following: uranium must contribute in the reduction of poverty. It is evident that if it does not contribute, so it is not worth it."

Fears about AREVA expansion and the creation of the third mine, Imouraren, are many. Alhacen says the effects from the mining will affect the ecosystem, as well as the Touareg and other nomadic populations. "They will first run out of places for pasture, which will be altered. Areva needs 40 km of radius for operation. Then come all the impacts that we know: the detonations and the light will disturb the entire ecosystem. Animals do not like the light at night.

The noise of the engines... They will also burn a lot of wood. All this of course before the radioactivity and the draining of the groundwater."

According to research by the NGO 'FUSAD' the country has hardly benefited from the uranium mining: "After 40 years of operation and Areva's presence in Niger, us Nigeriens, we feel we have not had our fair share. We evaluate this in terms of what benefits

the state of Niger has received -a little more than 10% -since more than 2500 billion CFA francs (1 CFA franc is about 0,0015 euro) went to Areva, of which an estimated 292 billion have returned to the state of Niger."

Source: "Left in the dust, Areva's radioactive legacy in the desert towns of Niger", Greenpeace International, April 2010, CNN website, September 23, 2010

TWO YEAR DELAY FOR ROKKASHO PLANT

The annual announcement of further delay in the start-up of the Rokkasho reprocessing plant might become a biannual announcement from now on. On November 18, 2005 Japan Nuclear Fuel Ltd. (JNFL) announced that start-up of Rokkasho would be pushed back to July 2007. Just before that date, in May 2007, JNFL suspended the receipt of spent fuel at the plant after it was revealed that incorrect data had been used to calculate design standards for some shearing and fuel handling equipment in the event of an earthquake. In November 2008 a delay was announced as it was in September 2009.

716.6087) CNIC - On September 10, this year Japan Nuclear Fuel Ltd (JNFL) announced that the commencement of commercial operations of the Rokkasho Reprocessing Plant would be delayed by two years from October this year to October 2012. This is the eighteenth time the start date has been delayed. The reason for the delay is a series of problems and accidents during testing of the process of vitrifying high-level radioactive liquid waste. All the other tests have been completed, but unless the two vitrification furnaces can achieve a production capacity of 1,000 glass canisters per year, the plant cannot begin commercial operations.

JNFL says that the first 18 months of the extension period will be spent on activities including fitting thermometers to the vitrification furnaces and comparing operational data from a mock up facility (KMOC) in Tokai Village which is conducting experiments vitrifying an imitation of the radioactive liquid waste produced at the Rokkasho plant. So far all the vitrification tests at Rokkasho have used Vitrification Furnace A, but glass and other material have become stuck in the furnace. JNFL now wants to begin testing

Vitrification Furnace B and conduct "hot tests" (using real high-level liquid waste) in both furnaces from April 2012.

However, it is completely unclear when it will be possible to resume testing of the Vitrification Facility. No matter how well comparison of the KMOC data

Rokkasho plant came to a standstill are bound to fail. They only go to show that the development of the vitrification furnaces was a total failure in the first place. JNFL needs to reconsider the fundamental design and development of the vitrification furnaces.

1982: Rokkasho finished in 1991.

One of the first articles in the Laka archive-file on the Rokkasho reprocessing plant is a Mainichi Daily News clipping of January 8, 1982. Although a site was not definitive chosen, the plans to construct a reprocessing plant, and related facilities (a plutonium-conversion plant, a fission products vitrification plant, spent fuel storage, a "specialized ship designed to carry used nuclear fuel" a pier and other port facilities) were announced. The company, Japan Nuclear Fuel Services, plans to complete the reprocessing plant and related facilities "by the end of fiscal year1 1990 (March 31, 1991) at an estimated cost of 690 billion Yen in 19979 terms (which works out to about US\$ 3.15 billion at present rates)."

Mainichi Daily News, 8 January 1982.

goes, since KMOC is not using the strong heat and radiation generating highly radioactive liquid waste produced at the Rokkasho Reprocessing Plant, the problems involved are not the same. JNFL's attempts to gather new data from KMOC since testing of the

Testing of the vitrification furnaces has been a vicious circle in which one problem has led to another. Due to its lack of technical ability, JNFL has only been able to respond to problems in a haphazard fashion. To deal with the sedimentation of platinum group elements at the bottom of the vitrification furnace it inserted a stirring rod, but the stirring rod bent and in the ensuing confusion a brick was dislodged from the ceiling of the furnace. As attempts were being made to overcome the problem, about 150 liters of highly radioactive liquid waste leaked and evaporated within the cell. No doubt there will be more

problems in future and JNFL will end up chasing its tail as it tries to respond to them, while the real tests are pushed further and further into the future.

It is hard to read any technical logic into the two-year period of the delay. Rather,

it seems to have more to do with the fact that the spent fuel pools at Japan's nuclear power plants can just manage to get by without sending spent fuel to Rokkasho for a period of two years. Rokkasho's spent fuel storage pools are almost full. As at September, 2,776 tons of spent fuel was already stored in the pools, which have a total capacity of 3,000 tons.

The two-year delay will have a severe impact on the finances of Rokkasho Village. Rokkasho Village expects to receive about 2 billion yen (US\$ 23 million or 17.5 million euro) in fixed assets taxes in the first year the plant begins commercial operations. The figure will gradually decrease thereafter. It is four and a half years since active testing of the Rokkasho Reprocessing Plant began on March 31, 2006 and almost three years have passed since testing of the Vitrification Facility began on November 5, 2007. Now completion of the tests has been pushed back another two years. This small village

made all sorts of plans on the assumption that it would receive huge taxation income from the reprocessing plant, but now it is forced to reconsider its finances.

At the same time as announcing the delay, JNFL announced that it was making third-party allocations of new stocks worth a total of 400 billion yen (US\$ 4.68 billion or 3.5 billion euro). The thirteen recipients are the nine electric power companies that operate nuclear power plants, plus Japan Atomic Power Company, Hitachi, Toshiba and Mitsubishi Heavy Industries. A September 14 article published on the English web site of *The Denki Shimbun* (*The Electric Daily News*) made the following comment:

"As of March 31 this year, JNFL's equity ratio was about 7.5%. Its financial position was weak for an enterprise executing the nuclear fuel cycle as a matter of national policy, and was viewed with concern by the electric

power companies and other shareholders. Once the new third-party allocations are made, JNFL's equity ratio will top 20%...."

The stock issue shows that JNFL is experiencing financial difficulties, but a question that remains unanswered is the impact that this and previous delays will have on the total cost of the Rokkasho Reprocessing Plant. After so many delays, it is inconceivable that construction costs will not exceed the official figure of 2.14 trillion yen (US\$ 25 billion or 19 billion euro).

Sources: Nuke Info Tokyo 138, Sept/Oct 2010 / NucNet, 3 December 2008
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U.S.A.: TRITIUM LEAK AT PILGRIM

Safety and PR officials at Entergy, the Louisiana-based owner of the Pilgrim nuke plant at Plymouth, Mass., are scrambling to find the source of a radioactive tritium leak that, after new monitoring wells were dug in May, flared to unacceptable during levels July and continues to show evidence of a leak.

(716.6088) WISE Amsterdam -

Published reports and sources tapped by Northampton Media reveal that state public health officials are holding urgent meetings to deal with the Pilgrim's tritium leak, and that Pilgrim plant officials meet first thing every morning to deal with the issue.

While the Pilgrim leak, documented in late spring, amounts to far less of the radioactive material than was found at Vermont Yankee last year, the fact that the reactor is located next to Cape Cod Bay and is less than 40 miles from Boston, and 20 miles as the seagull flies from Provincetown, is cause for concern.

The radioactive element tritium is a byproduct of nuclear plants, and is measured in picocuries per liter. The U.S. Environmental Protection Agency's "acceptable level" for tritium in drinking

water is 20,000 picocuries per liter, many times higher than the level considered safe by some states (including California, which uses 400 picocuries) and some countries (Canada's standard is 540 picocuries).

Pilgrim's radiation leak comes at an awkward time for Entergy, since the Pilgrim plant is nearing the end of a 20-year relicensing application for the 38-year-old nuclear power plant especially after what happened at the Entergy's other nuclear plant in the region, Vermont Yankee. Vermont Yankee's operating license expires in a year and a half, but in February the Vermont Senate voted 26-4 against allowing the Public Service Board to issue a Certificate of Public Good, required for Entergy to operate the plant for an additional 20 years past March 2012 (see Nuclear Monitor 705, 12 March 2010: *Vermont Senate shocks*

industry with 26-4 vote to close Vermont Yankee)

That turn of events came after dangerous tritium levels were found in groundwater last fall. Leaky underground pipes, like those suspected at Pilgrim, were blamed for tritium levels that were many times higher than federal limits. Although Entergy has said it has found, fixed and remediated the Vermont Yankee's radioactive leak, relicensing is no sure thing.

In a report issued early September, the Vermont Department of Health detailed its investigation so far into the tritium leaks, and estimates that about 245,000 gallons of "tritium-contaminated groundwater" has been pumped from the plant site (1 U.S. gallon is 3.785 liter). The agency says the water contains tritium concentrations in the

range of about 76,000 picocuries per liter. The report, however, documents that some monitoring wells there are detecting tritium levels as high as 370,000 picocuries.

At Pilgrim this May, a new groundwater monitoring well on the ocean side of the plant immediately began showing tritium levels 5-10 times higher than the other 11 test wells. And after that initial reading of 5,810 picocuries per liter, the well – dubbed MW-205 – continued to reveal rising tritium levels. On July 7, the numbers at MW-205 peaked at 25,552 picocuries, higher than even the EPA's suspect standard of 20,000. By August 9, the state Department of Public Health's latest published readings, tritium levels had dropped to a still-alarming level of over 12,000 picocuries.

Amazingly, groundwater monitoring at the Pilgrim plant was done voluntarily, and only started in 2007 when six test wells were dug; testing, though, was sketchy at best until April 2008. Critics of the plant's monitoring, including the citizens group Pilgrim Watch, have called for the installation of many more wells to monitor ground water.

Samples taken by Entergy are separately analyzed by the company and by the Massachusetts Environmental Radiation Laboratory.

The Pilgrim plant is located on the edge of Cape Cod Bay, south of Boston it was built by the Bechtel Corporation, opened in 1972, and was originally run by Boston Edison. Its maximum operating power capacity is about 688 megawatts. Over 100,000 people live within the ten-mile Emergency Planning Zone (EPZ) radius. The area is the fastest growing in the state - over 600,000 live on Cape Cod, directly South of Pilgrim. New Orleans-based Entergy bought Pilgrim in November 1999. Entergy Corporation, 2004, is the second-largest nuclear generator in the United States with annual revenues of over \$9 billion and approximately 14,000 employees. In 1999, Entergy paid US\$80 million for Pilgrim, buying it from Boston Edison. Only US\$13 million of the price was for the facility and the 1,600-acre plant site. The remainder of the price was for the nuclear fuel.

After high levels of tritium were discovered at Pilgrim, the Nuclear Regulatory Commission was notified. The federal agency issued an incident report, which caught the attention of some journalists in Plymouth and Boston, but the news stories were generally ignored by other media sources in the region. Curiously, even the NRC's own "Event Notification Report," dated July 21, 2010, failed to document the peak levels of 25,000 picocuries, citing instead a level of 11,072 picocuries sampled a month earlier. No other incident reports could be found on a recent search of the NRC web site.

Some news stories gave brief, one-time reports citing much lower tritium-level readings and quoting only plant spokesman David Tarantino, who said public health and safety were not impacted "in any way." There was no follow-up. The *Boston Globe* ran a few stories which, while not exactly hard-hitting, did reveal some startling items. One, in a July 14 *Globe* story, was a statement by plant flack Tarantino, who claimed the high tritium levels were due to "washout" from water vapor returning to the ground as rain. The same article quoted Ralph Anderson, a top official for The Nuclear Energy Institute, trade-group organization for the nuclear industry, as saying the discovery of tritium showed the safety systems in place worked just fine.

Dissatisfied with the official oversight of Pilgrim, Pilgrim Watch has stepped into the breach on a number of fronts. While continuing its opposition to Pilgrim's relicensing, the group filed a petition in August asking the NRC to order Entergy to immediately perform an updated hydrological assessment of the area under and around the Pilgrim plant. "This is necessary," the Pilgrim Watch petition reads, "to provide reasonable assurance that the leaks are not occurring so that piping and other buried components are able to perform their intended safety function (and) for Entergy to [be] in compliance with the Industry Ground Water Protection Initiative at Pilgrim Station that they agreed to follow. . . ."

The petition includes testimony on groundwater monitoring by Dr. David Ahlfeld, a University of Massachusetts-Amherst engineering professor who heads the university's Groundwater Management Group and is also an expert working with Pilgrim Watch. Pilgrim Watch Director Mary Lampert cites Ahlfeld's analysis that Pilgrim's 12 monitoring wells may have been dug in the wrong spots. The monitoring-well placement, she writes, were fixed using a 1967 hydrology study, conducted long before the power plant was built. "No subsurface investigations have been performed for over 40 years, as they clearly should have been," Lampert concluded.

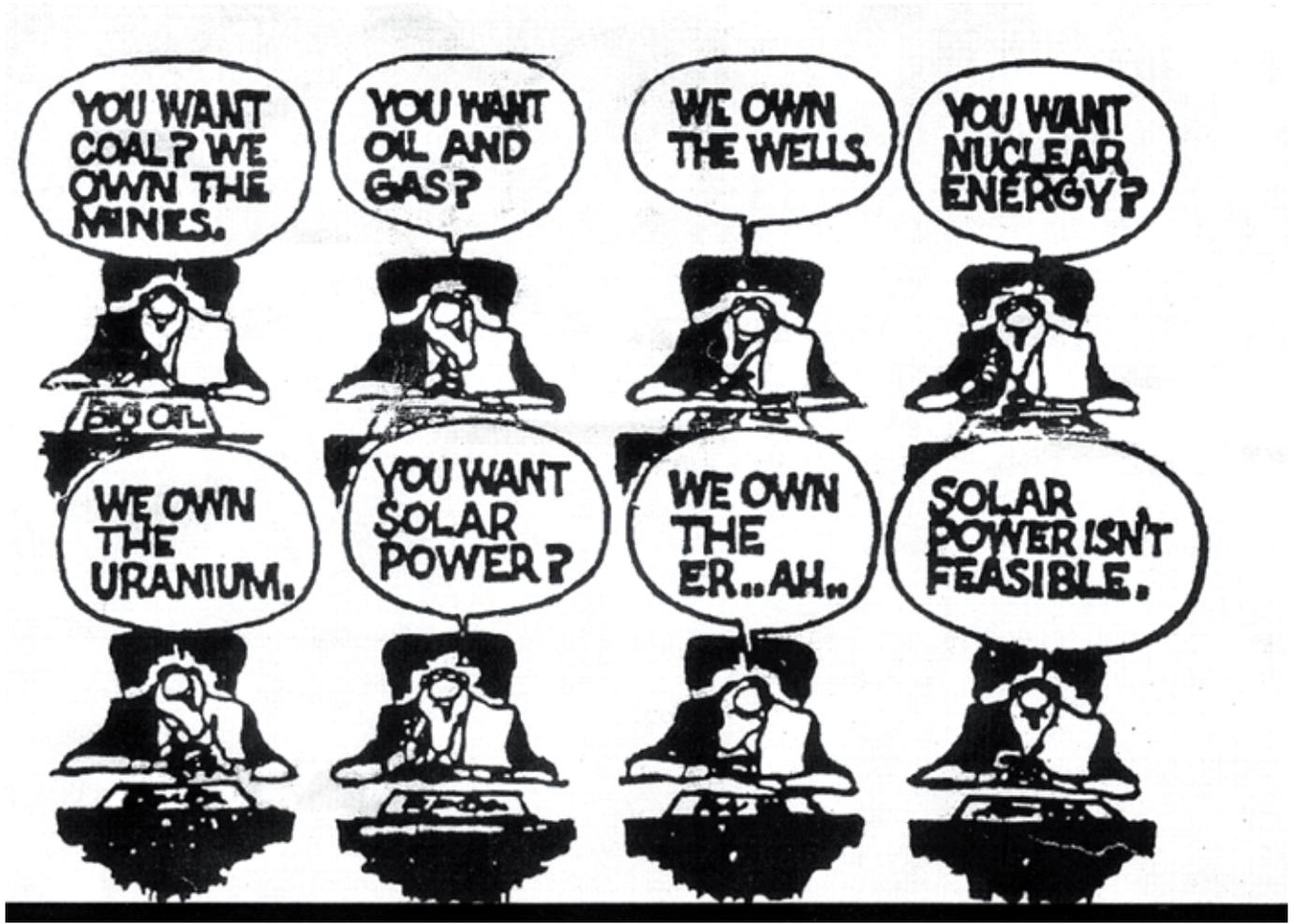
Massachusetts' Governor Deval Patrick and U.S. Rep. Edward J. Markey have also gotten into the act this year, asking the NRC to get tough on radioactive leaks; Patrick called for the NRC to suspend relicensing of both Vermont Yankee and Pilgrim until the leak issues are resolved. In Patrick's Feb. 9, 2010 letter to the NRC Chairman and other commissioners, he asked the NRC to order "extensive testing for leaks of tritium and other radioactive substances at both Vermont Yankee and Pilgrim" and to halt "any further consideration of the relicensing of both plants until the leak issues are resolved."

In his position as chairman of the U.S. House Energy and Commerce Committee's Energy and The Environment Subcommittee, Markey wrote NRC Chairman Jaczko on July 15 this year, after reading a *Globe* report on Pilgrim's tritium leak. "Sadly, this appears to be just another in a long line of failures of buried piping systems and our nation's nuclear plants," Markey wrote. "This lack of a serious and comprehensive (NRC) inspection regime for buried piping systems has long been a concern of mine. . . . The current inspection regime for buried pipes – physical inspections conducted only in those rare instances when pipes are dug out for other purposes – is incapable of ensuring the integrity of decades-old piping systems. . . . "Other industries have figured out how to inspect their buried pipes in a proactive and comprehensive fashion," Markey concluded. "How many more failures

does the nuclear industry and the NRC need before they admit that aging buried systems need additional attention?"

Sources: 'Pilgrim we have a problem', 6 September 2010 at <http://northamptonmedia.com> / www.Pilgrimwatch.com

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IN BRIEF

Opposition mounting against refitting Gentilly-2. More than 250 Quebec municipalities and regional municipal governments have banded together to demand the province shut the door on nuclear energy by mothballing Hydro-Quebec's Gentilly-2 nuclear reactor instead of rebuilding it. Copies of a resolution thus far adopted by 255 municipal bodies were presented to three opposition members of the Quebec legislature on September 10 by Mayor Gaetan Ruest of Amqui, Que., who has been spearheading a campaign launched in 2009. The thick stack of identically worded resolutions will be introduced in the full legislature after the assembly reconvenes Sept. 21. Public opinion polls show almost two-thirds of Quebecers are opposed to a plan by Hydro-Quebec to rebuild Gentilly-2.

Ottawa Citizen, 11 September 2010

China: people largely distrustful of the nuclear industry. It is not any longer a European and North-American problem: now there is a shortage in nuclear professionals for their rapid expansion of nuclear power in China too. According to senior government officials, China's nuclear power industry is demanding more professionals than the country can produce, a potential threat to safety. China has six leading universities that train nuclear specialists. Neither Zhang or Li gave specific figures for the shortage, but an official with the China Nuclear Society estimated the country would need 5,000 to 6,000 professionals annually in the next decade or so, versus a yearly supply now of about 2,000. Li also stressed that "public education was critical because people were largely distrustful of the industry." A lack of professionals has often been identified as a reason that a rapid expansion of nuclear power is unrealistic.

Reuters, 20 September 2010

Urani? Naamik. An amendment has been made by the Greenland government to the standard terms for exploration licences under the country's Mineral Resources Act of 2009. The amendment allows the Bureau of Minerals and Petroleum (BMP) to approve that comprehensive feasibility studies can be undertaken on mineral projects that include radioactive elements as exploitable minerals. Within this framework, projects are considered on a case-by-case basis at the government's discretion. Australian-based Greenland Minerals and Energy has lodged an application under these new regulations that has been approved by the BMP. The company says that it is now in a position to commit to commence definitive feasibility studies in 2011 as planned. The studies, it said, will generate the necessary information to determine development parameters for the Kvanefjeld deposit. The Greenland government has stressed that although radioactive elements may now be surveyed, their extraction is still not permitted.

The Kvanefjeld deposit is eight kilometres inland from the coastal town of Narsaq, near the southern tip of the country. It has a deep water port. Uranium comprises about 20% of the value of minerals able to be produced from Kvanefjeld.

World Nuclear News, 13 September 2010



India: Further delay Kudankulam. The commissioning of the first unit of the Kudankulam nuclear power project has been put off by a further three months from the previously revised scheduled date of completion. According to Nuclear Power Corporation of India, the first unit is expected to be commissioned in March 2011. Previously, it had mentioned December 2010 as the expected date of commercial operation. The 2,000 MW, two units of 1,000 MW each, nuclear project that is coming up at Kudankulam, southern Tamil Nadu with Russian technology, reactors and fuel, has suffered a huge delay in commissioning. The first of the two units was originally supposed to begin commercial operations in December 2007 which means, the project

has already slipped by three years and three months. The second unit, initially scheduled to start commercial operations in December 2008, is now expected to go on stream in December 2011.

www.Steelguru.com, 5 September 2010

Spain: blockades after rumors decision waste storage. Spain delays the decision on nuclear storage site after news that the temporary dry-storage facility for high-level radioactive waste would be built in Valencia region revived long term opposition to the plan. According to a spokeswoman for the Valencia autonomous government, Spain's industry ministry announced on September 17 that the facility would be located in Zarra, a municipality in region. But the government was later forced to say it was not a final decision because of strong public opposition, according o statements to the Europe's environmental news and information service ENDS. The industry ministry rejects this interpretation, saying it only informed the regional government that Zarra was "well placed" to house the facility and that the decision would be "discussed" at the September 17 meeting of Spain's council of ministers. A spokesman said the government "hopes to have a decision soon".

Local residents and environmentalists responded to the news by blocking the Valencia-Madrid motorway on Sunday. The Spanish government has been trying to find a site since years. The search has become increasingly urgent since existing localized storage capacity is insufficient for the high-level waste produced in the country.

ENDS, 20 September 2010

U.A.E.: Raising debt to finance nuclear project. Abu Dhabi is expected to raise debt to finance more than half the cost of its initial US\$20 billion nuclear project, defying a warning by the International Atomic Energy Agency (IAEA) that lenders could shy away from nuclear development. Yukiya Amano, the IAEA director general, said international lenders were "reluctant to support nuclear power projects", amid a surge of interest in nuclear development by new countries. Credit Suisse Group AG has been appointed as financial adviser for the United Arab Emirates' nuclear power program, Emirates Nuclear Energy Corp. announced. So far no other banks have been appointed as advisers for the project, according to a report in Bloomberg. HSBC Holdings Plc may also be selected to advise state-run Emirates Nuclear Energy, although the bank is yet to be formally appointed for the role, which includes securing debt commitments for the project, Meed.com ('Middle East bussines intelligence since 1957') reported on its website September 15.

No firm plan for the financing exists yet but Abu Dhabi has already accessed debt markets to pay for energy infrastructure such as power plants and pipelines. But the Abu Dhabi financing could be raised by a combination of export credit, syndicated loans and government bonds, depending on the appetite of global investors after the global recession. Credit Suisse will help develop a financing structure advantageous to Abu Dhabi.

Another way to subsidize nuclear power are export credit agencies. Those agencies from countries supplying the materials and parts are also expected to shoulder part of the financing. This would ease the pressure on Abu Dhabi's government financing, which is already being funnelled into civic and industrial diversification projects, with a budget deficit forecast this year.

Government guarantees on the loans, by contrast, can be a crucial ingredient to a 'successful financing'.

The Nation (UAE), 21 September 2010 / Bloomberg and Meed.com, 15 September 2010

U.K.: The end of the towel controversy. Sellafield's towels controversy is over after a change of heart by management over plans to stop issuing and washing towels used by workers in the 'active' areas of the nuclear site. There had been protests by the site unions who feared contamination could be left on clothing and carried off the site. Sellafield Ltd wanted workers to help cut costs by bringing in their own towels and taking them back home for washing. Towels amount to more than half the site laundry wash load. Management still thinks too many towels are being used but is ready to talk to the unions about other cost-cutting options.

Whitehaven News, 8 September 2010

Bulgaria: beach contaminated by uranium mining. The sand from the Bulgarian Black coast bay "Vromos" is radioactive and "harmful for beach goers", according to experts from the Environment and Health Ministries. A letter, send to the Governor of the Region of Burgas, Konstantin Grebenarov, asks local authorities to make people aware of the results and place signs warning visitors to not use the beach. The radiation level is twice as high than the norm for the southern Black Sea coast, but the danger is not in the air, rather in the sand which contains uranium and radium. The contamination is coming from the now-closed nearby mine which deposited large amounts of radioactive waste in the bay between 1954 and 1977. The increase of radiation levels in the area over the last three years is attributed to some radioactive waste that has not been completely removed.

In the beginning of August, Grebenarov, already issued an order banning the use of the beach located between the municipalities of the city of Burgas and the town of Sozopol, near the town of Chernomorets. At the time Grebenarov said he made the decision after consulting with experts from the Health Ministry and the Environmental Agency.

The order triggered large-scale protests among hotel and land owners around the bay, saying the order serves business interests and aims at lowering property prices in the area. The Governor says the warning signs, placed at "Vromos," and removed by local owners, but will be mounted again.

During a visit early August to Sozopol, Finance Minister, Simeon Djankov, promised the owners to make sure there would be a second measurement, and if it proves the radiation is within the norm, the ban would be lifted. But now it turns out that a separate measurement, done by the Executive Environmental Agency in mid-August, had the same results.

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). 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.

Receiving the WISE/NIRS Nuclear Monitor

US and Canada based readers should contact NIRS for details of how to receive the Nuclear Monitor (address see page 11). Others receive the Nuclear Monitor through WISE Amsterdam.

For individuals and NGOs we ask a minimum annual donation of 100 Euros (50 Euros for the email version). Institutions and industry should contact us for details of subscription prices.

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