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NUCLEAR REGULATORY COMMISSION NEWS CLIPS

THURSDAY, MARCH 24, 2011 7:00 AM EDT

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NRC NEWS:

NRC Chairman Takes Center Stage As US Eyes Reactor Security (GWIRE)

By Hannah Northey

Greenwire, March 24, 2011

The March 11 earthquake and tsunami in Japan that triggered widespread fears over nuclear security have thrust an unfamiliar face into the national spotlight: Gregory Jaczko, head of the US Nuclear Regulatory Commission.

And the chairman will only grow in prominence as he leads a nationwide security check on the country's 104 nuclear reactors at the behest of President Obama.

Before the Japanese crisis, Jaczko had been unknown to most of the American public -- and his name had been unfamiliar even in Washington circles. At an energy event in the capital last month, he was introduced as the government official with the most mispronounced name. And the chairman himself has joked about the trend, telling the Regulatory Information Conference

shortly after he joined the commission in 2005 that he had an important issue to address: "For the record, it is pronounced 'Yatsko.'"

Recent weeks have changed all that, with the Obama administration relying on the chairman to take a lead role in calming a jittery public and addressing the world's worst nuclear crisis in 25 years.

Obama appointed Jaczko in May 2009 to be NRC chairman for a four-year term. While he holds a doctorate in physics from the University of Wisconsin, Madison, Jaczko has not worked as a nuclear engineer or industry official but spent years as a staffer on Capitol Hill – leading some to question whether his political background has influenced his decisions as chairman.

Jaczko gained a foothold into the regulatory scene after working for Senate Majority Leader Harry Reid (D-Nev.), said Robert Alvarez, a senior scholar at the Institute for Policy Studies and a former Energy Department employee.

Alvarez said the nuclear industry has to give a "thumbs up or a thumbs down" to members of NRC, and Jaczko had the extra boost of having served as a staffer for Reid.

Jaczko served as Reid's science policy adviser from 2001 to 2005, focusing on science, energy, technology and the use of Yucca Mountain as a permanent nuclear waste repository, according to the senator's office.

A native of Pennsylvania who grew up near Albany, N.Y., Jaczko also worked as a congressional science fellow in the office of Rep. Ed Markey (D-Mass.) and has been an adjunct professor at Georgetown University teaching science and policy.

The Nuclear Energy Institute applauded Obama's appointment of Jaczko in 2009, and the industry group says it looks forward to continue working with the chairman.

"The NRC has always been respected globally as a competent and effective regulator," Marvin Fertel, the group's president and CEO, said in an e-mail. "With the focus on the accident in Japan and concern about safety, leadership from the five commissioners and clear communication by the chairman is essential to demonstrate their credibility and provide confidence to the public and policymakers."

But lawmakers have questioned the chairman's political past in current decisionmaking, namely in controversial decisions surrounding the development of Yucca Mountain as a national nuclear waste dump in Nevada.

Jaczko's former boss, Reid, has been a vocal opponent of the federal government developing the site to serve as a repository, pointing to the project's "partial designs and countless safety and environmental issues unresolved," according to the senator's website.

The Energy Department moved last year to abandon its request to develop the site and pull its application that was submitted to NRC. After a panel within NRC ruled the department cannot abandon the project, the decision is once again before Jaczko and the other four commissioners for a final vote (Greenwire, March 22).

In the meantime, Jaczko used his position as chairman to halt the commission's safety review of the site, prompting many Republicans to question his legal authority to do so – most recently, Rep. John Shimkus (R-Ill.) at a congressional hearing last week (E&E Daily, March 18).

In the minority?

At NRC, Jaczko has often focused on safety issues and open communication with the public. David Lochbaum, director of nuclear safety projects for the Union of Concerned Scientists, said the chairman has always tried to form a consensus and even successfully pushed for new reactor designs to be able to withstand an aircraft crash.

But Jaczko has oftentimes been on the minority voting side of the five-member NRC, Lochbaum said, joining the "short side" of many 4-1 and 3-2 votes.

"He votes for improved safety and restored safety, but all too often gets out-voted," Lochbaum said in an email, noting that he has known the chairman since he was a science fellow working for Markey. Lochbaum believes the chairman is not "seeking to inflate his ego or status or trying to leave behind some legacy that will cause people to erect statues in his honor."

Diane Curran, a partner with the Washington, D.C.-based law firm Harmon Curran Spielberg & Eisenberg LLP, echoed those sentiments. Curran represented a California group that challenged an environmental assessment of Pacific Gas and Electric Co.'s application for a spent fuel storage facility at the Diablo Canyon plant near San Luis Obispo, Calif.

The commission voted 3-2 to deny the group's request for a more extensive environmental review of the project, with Jaczko dissenting. He said the agency should have given the request more consideration, including providing the group with an opportunity to review classified decision documents in a closed hearing. A federal appeals court dismissed the group's challenge in February.

"It was his dissent that gave us heart to pursue that claim in court," Curran said. "We are disappointed that the court did not rule for us because we fear the NRC's unusually high level of secrecy is hiding a lack of regulatory resolve and capitulation to the industry."

Alvarez said major changes are needed to increase the oversight of US nuclear reactors. NRC, he said, has taken a softer stance on regulating plants in recent years, after cracking down in the wake of the 1979 Three Mile Island partial nuclear meltdown in Pennsylvania.

"Congress is going to have to re-establish its oversight capability, which disappeared about 15 years ago," Alvarez told reporters last week during a briefing on the nuclear crisis in Japan.

"I think that what this accident also, in my mind raises, is the need for the Nuclear Regulatory Commission to establish a much greater arms-length relationship with the licensees to sort of move back towards the era of the post-TMI reforms and to greatly reduce its dependence on industry's self-reporting of problems," he said.

The question Jaczko and his staff now must answer is whether US reactors are sufficiently prepared to handle a "one-two" punch like the magnitude 9.0 earthquake and tsunami that crippled the Fukushima Daiichi nuclear complex in northern Japan.

Federal officials say radioactive material emitted from the complex poses no danger to US shores and insist the American fleet of reactors has been sufficiently tested and analyzed for natural disasters, including tornadoes, floods, tsunamis and earthquakes.

But images of explosions, rising smoke and fears over radiation from Japanese reactors have piqued concern over what US reactors can withstand, the amount of backup power the facilities have and how nuclear waste is stored in the absence of a national permanent nuclear waste repository. And Jaczko will play a major role in shaping the industry's future as it works to answer those questions.

Japan Nuclear Crisis Revives Long US Fight On Spent Fuel (NYT)

By Matthew L. Wald

New York Times, March 24, 2011

WASHINGTON — The threat of the release of highly radioactive spent fuel at a Japanese nuclear plant has revived a debate in the United States about how to manage such waste and has led to new recriminations over a derailed plan for a national repository in Nevada.

Pools holding spent fuel at nuclear plants in the United States are even more heavily loaded than those at the Japanese reactors, experts say, and are more vulnerable to some threats than the ones in Japan. However, utility companies have taken steps since the 9/11 terrorist attacks to make them safer.

Adding to those concerns, no plan to move the waste has emerged to replace a proposed repository at Yucca Mountain in the Nevada desert. President Obama promised to cancel the project during his 2008 campaign, and last year he told the Department of Energy to withdraw an application that it had submitted to the Nuclear Regulatory Commission for a construction license.

Frustration in Congress is growing. "You have an unholy mess on your hands," Representative John D. Dingell, Democrat of Michigan, told the chairman of the Nuclear Regulatory Commission, Gregory B. Jaczko, at a House subcommittee hearing last week. "The stuff keeps piling up, and you've doubled the amount that you can store in a single pool, but that's running out. Is there a long-term plan anywhere in government?"

Congress selected Yucca Mountain as its first choice for a waste site in 1987, pending engineering studies. Many lawmakers said the Obama administration lacked the authority to stop the project and should revive it so that waste can be removed from their states.

Support for the Yucca Mountain project is strong among both Republicans and Democrats in the House. But the Senate majority leader, Harry Reid of Nevada, has promised supporters back home that it is dead.

Even if a national consensus were to emerge to revive the Yucca Mountain plan, it could not receive nuclear waste for at least 10 years, proponents acknowledge.

Before President Obama pulled the plug on Yucca Mountain, officials estimated that it would take five years to authorize construction and six years after that before the site was ready to accept fuel, said Brian O'Connell, a nuclear waste specialist at the National Association of Regulatory Utility Commissioners.

For the site to begin accepting fuel within 10 years, "everything would have to be green lights," he said. "And you could anticipate the instinct will be to go more slowly because of what happened in Japan."

Scientists and engineers suggest an interim fix is to store more spent fuel in dry casks, already a practice at many plants, although moving them to a remote central site would be better. Some of the casks are at retired or torn down reactor sites and require a high level of security.

South Carolina and Washington State, meanwhile, have sued the federal government, arguing that it has an obligation to accept the waste, some of which comes from the manufacture of nuclear weapons. On Tuesday, the United States Court of Appeals for the District of Columbia heard oral arguments in one case.

The not-in-my-backyard politics of nuclear waste have changed in recent decades. Congress chose Yucca Mountain over sites in Texas and Washington in 1987, when those two states were ascendant in the Capitol. The House speaker, Jim Wright, was a Texan, and so was the vice president, George Bush. The House majority leader, Thomas S. Foley, was from Washington State. Mr. Reid was a mere freshman senator.

Beyond the objections of Mr. Reid's constituents to opening Yucca Mountain, it is not clear that it is a good place to bury nuclear waste. One problem is that the courts have interpreted federal law as requiring the Energy Department to show that the waste can be safely stored in canisters there for one million years. So far, the department has established only that it can contain the material for 10,000 years.

Examination of the mountain has also shown that if the fuel canisters degrade in millenniums to come, water would spread the waste faster than initially thought. Formed from volcanic material, the mountain's rock was assumed to be barely permeable, but it has cracks through which water travels rapidly. In addition, the United States has about 72,000 tons of spent fuel from civilian sites and many tons of military waste — more than Yucca could hold under current laws.

In moving to withdraw the license application for the site last year, President Obama appointed a special panel to explore nuclear waste disposal, and a preliminary report is due in a few weeks.

The panel's members have not been asked to propose a specific site. Instead, they are examining issues like whether the spent fuel should be chemically recycled to recover plutonium produced in uranium-powered reactors for reuse, as it is in France and Japan. Another option is to develop a new class of reactors that would transmute nuclear waste into less troublesome materials.

It is also debating what procedure the United States should use in selecting a repository, which would be needed in any case. So far, the political wisdom has been that Congress should choose a community rather than bargain with localities, although that has been successfully done in some Scandinavian counties. In the United States, the selection process has led to gridlock and the scattering of the waste in numerous locations.

Even the federal government's decision to drop Yucca became a political thicket. When the Energy Department said in June that it wanted to withdraw its application, a panel of three administrative law judges said there was no provision in the law to do that, and it rejected the idea.

That ruling was automatically appealed to the full five-member Nuclear Regulatory Commission. One commission member recused himself because of previous work on the Yucca Mountain issue, and the others seem to be deadlocked on whether the application can be withdrawn. A 2-to-2 vote would fail to override the three-judge panel, and its ruling would stand.

But Mr. Jaczko, the commission chairman and a former member of Senator Reid's staff, has refused to bring the matter to a final vote, leaving it unsettled.

At the House Energy and Commerce Committee hearing at which Mr. Dingell spoke last week, Representative John Shimkus, Republican of Illinois, asked Mr. Jaczko why he had suspended the commission's work on judging the technical merits of the repository.

"There's no legal authority to close Yucca Mountain," Mr. Shimkus said, adding that federal law required the commission to judge the license application.

Mr. Jaczko replied that he had acted within his authority as chairman. Mr. Shimkus countered, "You better be double-checking your facts, because we're not through with this debate on legal authority, and I hope you're well prepared."

Utility companies have complained about the Yucca decision, too — but not too loudly because they do not want the lack of a long-term policy to interfere with the potential construction of new reactors or their ability to operate the 104 that are now running. The Nuclear Regulatory Commission recently ruled that it was confident that waste could be stored for decades in dry casks, a policy shift that could help advance the construction of new reactors.

For now, the only national consensus about nuclear waste — that utilities should pay one-tenth of a cent for every kilowatt-hour that their reactors generate into a federal waste fund — is also threatened. The National Association of Regulatory Utility Commissioners is suing to end the fee, arguing that it is not needed to support the waste program because Yucca Mountains has been shelved.

Even if the repository were to open, said Robert Alvarez, a former Energy Department official, the challenge would be to move spent fuel faster than it is produced. "Even if they had the ribbon-cutting ceremony today, it will take decades to move the current inventory into a repository," he said. "By that time, we'll have a comparable amount sitting in pools."

He and others support expanding the use of dry casks. Workers lower a steel box into the spent fuel pool, place the fuel inside it, drain the box of liquid and then pump it full of an inert gas to prevent rust. The box is then placed in a concrete-and-steel sleeve on a concrete pad surrounded by concertina wire and closed-circuit cameras, resembling a basketball court at a maximum-security prison.

The dry casks require no mechanical cooling because the fuel placed inside them has cooled enough so that the simple circulation of air outside of the steel box will keep the temperature well below the fuel's melting point.

Critics have said that the boxes could become terrorist targets. The nuclear industry maintains that even if a cask were breached, the worst case would be the scattering of some dry radioactive ceramic pellets.

Yet so far the industry has resisted expanded use of dry casks despite a National Academy of Sciences study recommending their use. And even if that resistance disappeared, some fuel has to stay in the pool for several years after it is taken from the reactor, until the heat generation is so small that the fuel will not melt inside a dry cask.

Japan Nuclear Meltdown: Time For A Fix For Indian Point's Spent Fuel Rods (DAYBEST)

The Daily Beast, March 24, 2011

Forget closing nuclear plants in the wake of the Japan disaster. That won't solve the biggest problem—spent fuel rods, which caused the most damage at Fukushima. Jonathan Alter on the dry casking technology that might help at a reactor outside New York City.

The nuclear crisis at the Fukushima reactors has set off calls to close nuclear power plants around the world. But closing reactors alone would do nothing to address what caused the real damage in Japan—the spent fuel rods that are supposed to be cooling in pools. When three of the seven pools were damaged, and in one case entirely drained, by the tsunami, the spent rods began emitting high levels of radiation.

The United States has about 100 such spent fuel pools. I visited one a few years ago at the Indian Point nuclear power plant, which sits up the Hudson River in Buchanan, New York. Indian Point is back in the news because it operates a mere 35 miles outside New York City. More than 20 million people live within a 50-mile radius of the plant. Getting out in the case of a disaster would be a nightmare.

Getting in wasn't easy either. But after taking a course called "radiation training," undergoing a "dose assessment" (to be measured against my readings afterward, which showed less exposure than to an X-ray) and passing a written test on how to handle myself in a confined space, I was finally allowed to enter the facility. Clad in the jumpsuit, helmet, goggles, and booties made famous by Homer Simpson, I expected to be transfixed by the fully operating core of the reactor just a few feet in front of me.

Instead it was the 38-foot-deep pools, with the spent rods lying at the bottom, that scared me. Unlike the reactor, the pools aren't "hardened targets" protected from earthquakes or terrorists by a concrete containment dome. At least at Indian Point, the pools lie in bedrock. In the Fukushima facility, and at many American plants, they are above ground, with roofs not much thicker than those at your local swim meet.

I learned that day of a process called "dry cask storage" that seems to offer a safer alternative. In dry casking, a technology that dates to the 1980s but has only been adopted in recent years, the rods are housed outdoors in storage pads 3 feet thick and 100 feet by 200 feet wide. While this sounds promising, it turns out dry casking at Indian Point and other American nuclear power plants is a supplement to the pools, not an alternative. Only in Germany have they moved to replace the exposed pools altogether.

Dry casking at Indian Point and other American nuclear power plants is a supplement to the pools, not an alternative. Only in Germany have they moved to replace the exposed pools altogether.

At Indian Point, authorities only began dry casking in 2008 because the pools were so crowded that there wasn't room for newly spent rods coming out of the reactor. According to Entergy, the company that owns the Indian Point plant, "reconfiguration of the spent fuel pool is not part of the dry cask storage project." In other words, the pools won't be drained any time soon, at least not intentionally.

And don't imagine that Yucca Mountain, Nevada, the designated site for burying at least some spent fuel, will be housing Indian Point's spent fuel rods in the near future. The rods have to stay in the pools or dry casks for decades before they can be safely transported anywhere.

Because nuclear power is clean, it has undergone a revival lately. President Obama and progressives concerned about climate change have endorsed building new plants. There are two reasons we shouldn't. First, as the legendary venture capitalist Vinod Khosla told me, the government subsidy required to make nuclear power competitive is virtually identical to that of solar

and other alternative sources. It's just that the nuclear subsidy is hidden in the form of insurance guarantees enacted by Congress in the 1950s and other backdoor help.

For the second reason, look no further than Fukushima. The "design basis earthquake" model used to test the dry cask storage at Indian Point was 6 on the Richter scale. Japan's quake? 8.9.

Jonathan Alter is a national correspondent for Newsweek and a columnist for The Daily Beast. His bestselling book, *The Promise: President Obama, Year One*, is out in paperback with a new epilogue covering 2010.

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Review Of 104 US Nuclear Power Sites Approved (AP)

By Matthew Daly, Associated Press

Associated Press, March 24, 2011

WASHINGTON – The Nuclear Regulatory Commission has launched a two-step review of US nuclear power plants in the wake of the nuclear crisis in Japan.

The commission voted Wednesday to set up a task force, made up of senior staff and former NRC experts, that will conduct short-term and long-term analyses of lessons learned from Japan. The reports also will address how lessons can be applied to the 104 US nuclear reactors.

NRC Chairman Gregory Jaczko said it was important to examine the crisis caused by the March 11 earthquake and tsunami to determine whether policy changes are needed in the US

The short-term review is to be completed within three months, with updates after 30 days and 60 days. The longer review should be completed by the end of the year.

On Deadline: Blog: NRC To Review Safety At US Nuclear Plants (USAT)

By Michael Winter

USA Today, March 23, 2011

Federal regulators voted today to review safety measures at US nuclear power plants.

The Nuclear Regulatory Commission said in a news release that it will set up a task force to conduct short- and long-term analysis of "the lessons that can be learned from the situation in Japan." The task force is to deliver updates on the short-term effort in 30, 60 and 90 days.

"Examining all the available information from Japan is essential to understanding the event's implications for the United States," chairman Gregory Jaczko said. "We will perform a systematic and methodical review to see if there are changes that should be made to our programs and regulations to ensure protection of public health and safety."

Nationwide there are 104 commercial nuclear power plants: 69 pressurized-water reactors and 35 boiling-water reactors like those at the crippled Fukushima Dai-ichi plant in Japan.

US Launches Review Of Nuclear Plant Safety (AFP)

AFP, March 24, 2011

WASHINGTON (AFP) – The Nuclear Regulatory Commission said Wednesday it was launching a two-pronged review of US nuclear power plant safety amid the crisis at a Japanese complex hit by an earthquake and tsunami.

The US regulator called for an agency task force to be set up to conduct "both short- and long-term analysis of the lessons that can be learned from the situation in Japan," the NRC said in a statement.

"Our focus is always on ensuring the health and safety of the American people through our licensing and oversight of plants and radioactive materials in this country," NRC chairman Gregory Jaczko said.

"Examining all the available information from Japan is essential to understanding the event's implications for the United States."

Tokyo has declared an exclusion zone with a radius of 20 kilometers (12 miles) around the northeastern Fukushima power station and evacuated tens of thousands of people, after it was crippled by the March 11 quake and tsunami.

Engineers hope to restart the cooling systems of all six reactors that were knocked out by the 14-meter (46-foot) tsunami, and they have already reconnected the wider facility to the national power grid.

But the crippled plant northeast of Tokyo has been leaking radiation and has suffered a series of explosions and fires since the country's worst natural disaster in nearly a century.

US President Barack Obama last week ordered a "comprehensive review" of US nuclear safety and vowed to learn lessons from Japan's nuclear crisis.

The NRC said the task force would provide updates on its work in 30, 60 and 90 days, and a full report with its recommendations would be published in six months.

"We will perform a systematic and methodical review to see if there are changes that should be made to our programs and regulations to ensure protection of public health and safety," Jaczko said.

The review will include information from NRC inspectors who are posted at every US nuclear power plant, the regulator said.

"This work will help determine if any additional NRC responses, such as orders requiring immediate action by US plants, are called for," said NRC executive director for operations Bill Borchardt.

Meanwhile, the NRC said its staff "reiterated their conclusions that the United States and its territories will avoid any harmful radiation levels as a result of the ongoing events at the Fukushima Daiichi plant."

US Nuclear Agency Forms Plant Safety Task Force (CNN)

CNN, March 24, 2011

Washington (CNN) – The US Nuclear Regulatory Commission has voted to begin a review of plant safety in the United States following the earthquake-induced crisis at Japan's Fukushima Daiichi nuclear power plant, the agency said in a statement Wednesday.

The commission voted to create a task force of senior managers and former agency experts to conduct what the NRC said would be "both short- and long-term analysis of the lessons that can be learned from the situation in Japan." NRC inspectors stationed at each US power plant will also participate, according to the commission.

The work will be made public, the agency said.

Last week, President Barack Obama said he had asked the independent agency for a "comprehensive review of the safety of our domestic nuclear plants in light of the natural disaster that unfolded in Japan."

The review will supplement existing programs to ensure plant safety, Commission Chairman Greg Jaczko said.

"We will perform a systematic and methodical review to see if there are changes that should be made to our programs and regulations to ensure protection of public health and safety," he said.

The first formal update on the task force's work to address any short-term concerns is expected in 30 days, the commission said. An examination of any long-term changes to nuclear regulatory policy should begin within 90 days, with a final report due six months after that, the agency said.

A March 11 earthquake off the coast of Japan and the ensuing tsunami caused serious damage to the Japanese nuclear plant, resulting in explosions, repeated releases of radiation and concerns about the food and water supply in the region surrounding the plant.

Dramatic images of smoke and steam furling from the plant's damaged reactor buildings and concern about radioactive materials spreading beyond Japan have touched off worldwide concern about the safety of nuclear power.

US Nuclear Agency Plans Safety Review Of Reactors (REU)

By Ayesha Rascoe And Roberta Rampton

Reuters, March 24, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

Two-Way Blog: US Nuclear Regulator Will Conduct Safety Review Of Reactors (NPR)

By Eyder Peralta

NPR, March 24, 2011

In the wake of the Japanese earthquake and subsequent nuclear crisis at the Fukushima Nuclear Power Plant, the United States' nuclear regulator said they will conduct safety reviews of US nuclear reactors.

Reuters reports:

The Nuclear Regulatory Commission created a special agency task force that will provide regular updates on the status of US nuclear reactors and advise whether any immediate corrective action is needed at the plants.

In a statement, the commission said its planning for a short-term and long-term review. In the short-term, the commission will provide formal updates in 30, 60 and 90 days and will provide guidance on things that need "immediate action." The long-term focus will be taking lessons about what went wrong in Japan.

US NRC To Check Seismic Risk Of 27 Nuke Units; Indian Point First (PLATTS)

Platts.com, March 24, 2011

The US Nuclear Regulatory Commission will conduct a seismic risk assessment of Entergy's Indian Point plant in New York next year, the first of 27 reviews of nuclear power units at 17 plants, agency spokeswoman Beth Hayden said Tuesday. Separately, NRC Chairman Gregory Jaczko "has personally committed to inspect Indian Point," located about 35 miles north of New York City, although "no date has not been determined" for the visit, Hayden said. The NRC reported these nuclear units will receive the seismic review next year: Indian Point 2, Indian Point 3, Limerick 1, Limerick 2, Peach Bottom 2, Peach Bottom 3, Seabrook, Crystal River 3, Farley 1, Farley 2, North Anna 1, North Anna 2, Oconee 1, Oconee 2, Oconee 3, St. Lucie 1, St. Lucie 2, Sequoyah 1, Sequoyah 2, Summer, Watts Bar 1, Dresden 2, Dresden 3, Duane Arnold, Perry 1, River Bend and Wolf Creek.

The earthquake risk review is part of a new assessment NRC conducted based on 2008 revised US Survey data of seismic activity in the eastern and central US, said Scott Burnell, an NRC spokesman. The review pre-dated the earthquake and tsunami that wreaked havoc this month on the Fukushima nuclear stations. Burnell categorized the findings as a "very broad bush indicator" that is not sufficient to determine the odds for earthquakes at a given nuclear reactor site.

The NRC is planning to send letters to plant operators late this year. "The expectation is this analysis would show where plants could improve what already is an acceptable response to seismic events," Burnell said. The 27 units selected for review showed the largest increase in seismic risk from a 1980s-era USGS study, he said.

The Indian Point site was selected as the first to be inspected by NRC next year because the revised seismic data showed the largest increase in seismic risk increase from the previous study, Hayden said. Senator Barbara Boxer, chairman of the Senate Environment and Public Works Committee and Senator Dianne Feinstein, both Democrats, on March 16 wrote to Jaczko asking that NRC inspect both the Diablo Canyon and San Onofre nuclear units, saying they are concerned that the plants "are near earthquake faults." New York Governor Andrew Cuomo, a Democrat, urged NRC to shut Indian Point during the past decade when he was the state's attorney general. Cuomo raised concerns about the two-unit plant's proximity to the Ramapo fault and its discharge of heated water into the Hudson River.

"It is essential that the NRC move quickly to answer the significant and long-standing safety questions surrounding Indian Point," Cuomo said in a statement Tuesday. Entergy said in a statement Tuesday: "All citizens of New York need to have access to the pertinent facts regarding Indian Point. We strongly believe that knowing the facts will answer the public's questions and will also clearly demonstrate that this facility is safe – designed with a margin of safety beyond the strongest earthquake anticipated in the area. Accordingly, Entergy welcomes Governor Cuomo's call for a review of Indian Point by the federal Nuclear Regulatory Commission and stands ready to assist." –Jim Ostroff, james_ostroff@platts.com Similar stories appear in Inside NRC. See more information at <http://bit.ly/InsideNRC>

The US Nuclear Regulatory Commission will conduct a seismic risk assessment of Entergy's Indian Point plant in New York next year, the first of 27 reviews of nuclear power units at 17 plants, agency spokeswoman Beth Hayden said Tuesday.

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–Jim Ostroff, james_ostroff@platts.com

Similar stories appear in Inside NRC. See more information at <http://bit.ly/InsideNRC>

"Nuclear Regulatory Commission, Wake UP" Say Demonstrators In Front Of USGS : Indymbay (BAINDY)

By Mei Bo Chan

[Bay Area Indymedia](#), March 24, 2011

Demonstrators chose the Menlo Park, CA US Geological Survey site for a choice protest spot in front of a federal facility today. They said they were not protesting the USGS and that they respect the scientific research produced by the scientists there. Their message was for the Nuclear Regulatory Commission. The Raging Grannies, an anti-war and environmental activist group, led the protest. They said that the NRC has been rubber-stamping licenses for nuclear reactors and granting extensions and exceptions to their owners without enough regard for the public's safety.

An industry news site says that the NRC will check the seismic risk of 27 nuclear units first. California's reactors are NOT on that list.

An employee of USGS, who asked not to be identified, said that the mainstream press has been getting their information from PG & E and re-reporting news from other news sources, rather than getting the facts straight. He stated that there is a big difference between the facts that USGS is giving the media in interviews, from peer reviewed studies, and what is appearing in the media. He gave the example of the Shoreline Fault, the fault near Diablo Canyon, a reactor only 170 miles from the site of today's protest. USGS scientist Jeanne Hardebeck, who discovered that fault, has spoken to media sources.

The man I interviewed on condition of anonymity works in the Geothermal division at USGS. He said that rather than quote scientists like Hardebeck, the media is repeating the 6.5 magnitude earthquake prediction for Shoreline Fault, which is PG & E's estimate, rather than the real estimate of 7.7.

Today, Platts.com, an industry news website, reports that the Nuclear Regulatory Commission will check the seismic risk of 27 nuclear units first. Neither of the California reactors is on that list.

US Officials Make NY Nuclear Site Top Priority (FT)

By Shannon Bond, New York

[Financial Times](#), March 24, 2011

Full-text stories from the Financial Times are available to FT subscribers by clicking the link.

Cuomo: Nuclear Safety 'Top Priority' Of Feds (POUGHJNL)

By Nick Reisman

[Poughkeepsie \(NY\) Journal](#), March 23, 2011

ALBANY — Federal officials plan to make safety at the Indian Point nuclear power plant the "top priority" after Lt. Gov. Robert Duffy and state officials traveled Tuesday to Washington to meet with members of the Nuclear Regulatory Commission.

Gov. Andrew Cuomo, a longtime critic of the plant based in Buchanan, Westchester County, said at a news conference that the facility's proximity to a fault line running makes it even more of a danger than he initially realized.

"The point of the meeting today was to gather the facts," Cuomo said. "It remains an emotional topic. We want to make sure that before we reach any decisions we have the facts and they are solid facts. Questions such as what are the seismic risks for that facility?"

Cuomo also said the susceptibility of the plant to an earthquake could be a possible factor in whether the facility, run by Entergy, could be relicensed by federal regulators in 2013.

The meeting with state and federal officials on the safety of the plant came as Japan continues to reel from a massive earthquake and subsequent tsunami that damaged reactors at a nuclear power plant, which continues to leak radiation.

Cuomo said he wanted to eventually replace the plant with an alternative form of energy, but he acknowledged that scenario was not feasible soon.

Duffy, who traveled to Washington with state Assistant Secretary of Energy Tom Congdon and state Operations Director Howard Glaser, said the meeting with commission members was productive.

"The NRC will share its data regarding seismic data regarding Indian Point," Duffy said, adding he spoke to commission Chairman Gregory Jaczko.

"And the NRC head has agreed to conduct a personal site inspection and visit of Indian Point with members of the governor's staff," he said.

In a statement, plant spokesman Jerry Napi said Indian Point welcomes a review of the facility.

"All citizens of New York need to have access to the pertinent facts regarding Indian Point," he said. "We strongly believe that knowing the facts will answer the public's questions and will also clearly demonstrate that this facility is safe-designed with a margin of safety beyond the strongest earthquake anticipated in the area."

New York has three other nuclear facilities, in Oswego — FitzPatrick and Nine Mile Point 1 and 2— and the Ginna nuclear plant near Rochester.

But it is Indian Point, being so close to New York City and in densely populated Westchester County, that has long concerned Cuomo.

Attorney General Eric Schneiderman, Cuomo's successor as attorney general, last week also asked the NRC to consider seismic risks when relicensing the plant.

New York AREA, a coalition of pro-nuclear business groups and labor unions, released a statement in response to Schneiderman, saying there are differences between Indian Point and the Fukushima plant in Japan.

"Indian Point is on a river, 24 miles from the coast, while Fukushima is on an ocean," said the group's executive director John Durso.

"Tsunamis are known to occur in Japan; there is no record of them in New York state, especially so well inland," he added.

The governor's reliance on the commission drew the ire of former Assemblyman Richard Brodsky, D-Greenburgh, Westchester County, who has criticized the NRC for allowing safety exemptions at nuclear plants, including Indian Point.

"The NRC is to Indian Point as the SEC (Security and Exchange Commission) was to Wall Street three years ago," Brodsky said.

But the New York Public Interest Research Group, a good-government organization, praised the governor's approach.

"It's crazy enough to build a nuclear reactor on top of an active fault line," said Laura Haight, NYPIRG's senior environmental associate. "Placing it less than 24 miles from New York City is insane. There's no way you could evacuate everyone living within the 50-mile radius of that plant."

Shut Aging Indian Point Nuclear Power Plant Down, Gov. Cuomo Reiterates (NYDN)

By Kenneth Lovett And Richard Sisk

New York Daily News, March 23, 2011

Federal watchdogs made Indian Point safety their "top priority" on Tuesday - but Gov. Cuomo said he still wants the aging nuclear power plant shut down.

"My position hasn't changed," Cuomo said after the Nuclear Regulatory Commission put Indian Point, 24 miles north of the city, atop the list of plants that will be inspected.

"The world has changed" since the earthquake and tsunami that wrecked Japan's Fukushima nuclear complex, Cuomo said.

"This is a new factor and a new situation aside from whether or not the facility should be relicensed," Cuomo said of Indian Point, whose two reactors are up for recertification in 2013 and 2015.

Cuomo spoke after Lt. Gov. Robert Duffy met with NRC officials to discuss Indian Point's ability to withstand an earthquake beyond its design limits.

Duffy said NRC Chairman Gregory Jaczko had agreed to make a personal inspection of Indian Point with Cuomo's staff "in the very near future."

"These are very good first steps," Duffy said. "We want to make sure New York has answers to these issues regarding Indian Point."

Top Priority In US Earthquake Study: Nuclear Power Plant Near New York City (CSM)

New York Gov. Andrew Cuomo calls the Indian Point nuclear power plant near New York City a 'catastrophe waiting to happen.' Federal nuclear power regulators promise to make Indian Point, which sits near a fault, a top priority in their review of seismic risk

By Ron Scherer

Christian Science Monitor, March 24, 2011

To New York Gov. Andrew Cuomo, the nuclear crisis in Japan is a warning bell for his own state.

Governor Cuomo has long been opposed to the Indian Point nuclear power plant, located on the Hudson River about 40 miles from New York City, calling it a "catastrophe waiting to happen."

Now, in light of the Japanese situation and with evidence of a previously unknown fault line running near the plant, the US Nuclear Regulatory Commission (NRC) has agreed to make Indian Point one of its first priorities in an ongoing study of seismic risk.

On Tuesday, a contingent of New York state officials met with the NRC to express Cuomo's concerns, especially with regard to the potential for an earthquake to damage the facility.

"When the data comes back in we want to make sure Indian Point is at or near the top of the list when we start looking at the data," says Neil Sheehan, a spokesman for the NRC in King of Prussia, Pa., the regional center responsible for New York.

In Cuomo's battle against Indian Point, however, he's likely to have opposition from New York City Mayor Michael Bloomberg who notes that nearly one-third of the city's power comes from the facility.

"The mayor wants to learn from Japan but realizes that we can't simply close a plant that generates 32% of NYC's power without thinking about what sources will replace it," writes Jason Post, a spokesman for Mayor Bloomberg, in an e-mail.

While nuclear power maybe an important source of energy in New York and beyond, it is also under review in the US, particularly the 35 nuclear power plants that use the same basic design as the Fukushima plant in Japan. And Cuomo is one of those keeping pressure on regulators.

As New York's attorney general, he asked federal regulators not to renew the license for Indian Point. Moreover, when Cuomo's father, Mario, was governor of New York, he opposed the Shoreham nuclear power plant on the grounds that it would be impossible to evacuate Long Island in case of a mishap. In 1989, the Long Island Lighting Co., which built the \$6 billion plant, agreed to decommission it even before it produced any significant amount of electricity.

This time, the argument is likely to revolve around geology.

In 2004, the environmental group Riverkeeper wrote the NRC asking that the seismic hazard analysis for Indian Point be updated. The group based part of its request on geological studies done by Columbia University's Lamont-Doherty Earth Observatory in Palisades, N.Y., which found evidence of two earthquakes of about 5.2 intensity in the area in 1737 and 1884.

The Lamont-Doherty study indicated quakes seemed to occur every 100 years, meaning another quake might be overdue. The NRC responded that it could find no evidence of this cycle, and since the quakes took place before modern instrumentation, it could not pinpoint the epicenter of the quakes.

Four years later, Lamont-Doherty published a new study that found another fault line that passes near Indian Point. Although that fault line may not indicate an earthquake is imminent, the last 300 years have indicated there has been some motion, says John Armbruster, one of the authors of the report and a seismologist.

"Since Indian Point was designed in the 1960s, our knowledge of earthquakes has improved and computers have completely revolutionized engineering," says Armbruster. "To do a restudy of the possible affects of earthquakes on Indian Point now will be very much different and very much improved compared to what could be done in the 1960s."

Jerry Nappi, a spokesman for Indian Point, says the area around Indian Point is not susceptible to the type of earthquake that occurred in Japan or a tsunami. In addition, he says Indian Point was built to withstand a 6.0 quake.

"Nevertheless, in the next 30 days, we along with other nuclear utilities will look at issues such as earthquakes, tsunamis, flooding, and other natural disasters to see how they could possibly affect us and make sure we meet the worst possible scenarios."

The future of nuclear

The brouhaha over Indian Point comes at a time when the construction of new nuclear power plants in the US has just about stopped, says Robert Bryce, a senior fellow at the Manhattan Institute and author of "Power Hungry."

"They have been pretty much priced out of the market by cheap natural gas prices," says Mr. Bryce. "In the wake of Fukushima, we will see the global expansion of nuclear energy slowed, but it will not stop because the physics of nuclear energy are so compelling the global demand for electricity is so strong."

Recently, the International Energy Agency estimated the global demand for energy will increase 80 percent by 2035.

"In my view that demand assures that in spite of what happened in Fukushima, it will be the go-to source," says Bryce.

Editorial: Risk Of Quake Near Indian Point Shakes Up Officials (WESTJN)

Westchester Journal News, March 22, 2011

Longtime critics of Indian Point continue to cite events at the deeply unstable Fukushima Daiichi nuclear plant in Japan in their calls to shut the nuclear reactors that reside along the Hudson in Buchanan. Those who have supported nuclear energy generation, including at Indian Point, say important lessons can be learned from Japan's nuclear disaster, but that it is extremely unlikely a powerful earthquake, let alone the tsunami that followed, would happen here.

Lower Hudson Valley residents are paying close attention. Rightfully so. The Nuclear Regulatory Commission in 2010 ranked Indian Point's Reactor 3 as the top risk for catastrophic core damage from an earthquake. IP's Reactor 2 ranks 25th out of the nation's 104 nuclear power plants for earthquake damage risk. NRC's "risk estimates" rely on a 2008 study by scientists at Columbia University's Lamont-Doherty Earth Observatory in Palisades.

'Least favorable' site

Lead author Lynn R. Sykes has called the risk of a large quake both infrequent and high for New York; although the region is less active than other earthquake-prone areas, its population density and infrastructure make it vulnerable to grave damage. Also key: the location of the faults. The Ramapo Seismic Zone passes within two miles of Indian Point and lesser-known faults also criss-cross the area. The Lamont-Doherty study also documented an active seismic zone running from Stamford to Peekskill.

The 2008 paper states: "Indian Point is situated at the intersection of the two most striking linear features marking the seismicity and also in the midst of a large population that is at risk in case of an accident ... This is clearly one of the least favorable sites in our study area from an earthquake hazard and risk perspective."

Indian Point "has been designed to withstand an earthquake 100 times the magnitude of the strongest earthquake that has occurred in the area," Entergy chairman and CEO J. Wayne Leonard wrote in a full-page advertisement that appeared Tuesday in The Journal News. Plant officials had previously said the facility could withstand a 6.1-magnitude temblor.

New York state Attorney General Eric Schneiderman last week pointed out that potential seismic threats are not part of the criteria the Nuclear Regulatory Commission employs when considering the relicensing determination.

The Nuclear Regulatory Commission is now weighing the two remaining Indian Point reactors' license renewals. Indian Point 2's operating license expires in 2013; Indian Point 3's is up in 2015. Indian Point 1 shut down in 1974. Gov. Andrew Cuomo, long a foe of the plants, has ordered a review. The Obama administration, which has supported nuclear power, has also pledged to review the plants' location in a metropolitan area. As the days pass, and problems at the Fukushima plant continue, such questions, studies and examinations are welcome.

The Empire: Blog: Indian Point Trick Play? Water Permits (WNYC)

By Caitlin Thompson

WNYC, March 23, 2011

While the controversy over Indian Point has thus far centered on the nuclear plant's vulnerability to earthquakes – prompting the NRC to rank it their "top priority in its review of the seismic risk at 27 nuclear plants throughout the country" – WNYC's Bob Hennelly says we're missing the bigger point:

The nuclear plant has been striking out for years in its attempt to get a state water quality permit for its discharge into the Hudson. Without the state water sign off, Indian Point cannot get its 20 year federal renewal.

Indian Point skeptic Andrew Cuomo stopped short of calling for the plant's closure yesterday, but as Attorney General he expressed deep concerns about the plant, and ran on a campaign that advocated shutting it down.

New York State does not have the power to shut down the plant. (Only the federal government can do that, as WNYC's Beth Fertig reports.) But it does have a trick up its sleeve – renewal of the water permit. Read more over at It's A Free Country.

It Could Happen Here (NYT)

By Frank N. Von Hippel
New York Times, March 24, 2011

It will be years before we know the full consequences of the disaster at the Fukushima Daiichi nuclear power plant in Japan. But the public attention raised by the problems there provides an opportunity to rethink nuclear-power policy in the United States and the rest of the world — and reduce the dangers of a similar disaster happening elsewhere.

From one perspective, nuclear power has been remarkably safe. The 1986 Chernobyl accident will ultimately kill about 10,000 people, mostly from cancer. Coal plants are much deadlier: the fine-particulate air pollution they produce kills about 10,000 people each year in the United States alone.

Of course, for most people this kind of accounting is beside the point. Their horror over even the possibility of a meltdown means that the nuclear-power industry needs constant and aggressive regulation for the public to allow it to stay in business.

Yet despite the 1979 accident at the Three Mile Island nuclear plant in Pennsylvania, the Nuclear Regulatory Commission has often been too timid in ensuring that America's 104 commercial reactors are operated safely. Nuclear power is a textbook example of the problem of "regulatory capture" — in which an industry gains control of an agency meant to regulate it. Regulatory capture can be countered only by vigorous public scrutiny and Congressional oversight, but in the 32 years since Three Mile Island, interest in nuclear regulation has declined precipitously.

In 2002, after the commission retreated from demanding an early inspection of a reactor, Davis-Besse in Ohio, that it suspected was operating in a dangerous condition, its own inspector general concluded that it "appears to have informally established an unreasonably high burden of requiring absolute proof of a safety problem, versus lack of a reasonable assurance of maintaining public health and safety."

Even before Three Mile Island, a group of nuclear engineers had proposed that filtered vents be attached to buildings around reactors, which are intended to contain the gases released from overheated fuel. If the pressure inside these containment buildings increased dangerously — as has happened repeatedly at Fukushima — the vents would release these gases after the filters greatly reduced their radioactivity.

France and Germany installed such filters in their plants, but the Nuclear Regulatory Commission declined to require them. Given the influence of America's example, had the commission demanded the addition of filtered vents, they would likely have been required worldwide, including in Japan.

More recently, independent analysts have argued, based on risk analyses done for the commission, it is dangerous for the United States to pack five times more spent fuel into reactor cooling pools than they were designed to hold, and that 80 percent of that spent fuel is cool enough to be stored safely elsewhere. It would also be more expensive, however, and the Nuclear Regulatory Commission followed the nuclear utilities' lead and rejected the proposal. The commission has even fought relentlessly for decades against proposals — and more recently a Congressional requirement — to distribute potassium iodide pills beyond the 10-mile emergency zones around American reactors, arguing that the probability of a large release of radioactivity was too low to justify the expense. And yet the American Embassy in Tokyo is handing out potassium iodide pills to Americans 140 miles from the Fukushima plant.

The commission's defenders often argue that it must be cautious because increased costs from safety requirements could kill the nuclear power industry. But the cost of generating electricity from existing plants is actually low: the construction expenses have been paid off and running them is relatively cheap. Requiring the operators of plants to install new safety systems would not result in them being shut down.

Therefore, perhaps the most important thing to do in light of the Fukushima disaster is to change the industry-regulator relationship. It has become customary for administrations not to nominate, and the Senate not to confirm, commissioners whom the industry regards as "anti-nuclear" — which includes anyone who has expressed any criticism whatsoever of industry practices. The commission has an excellent staff; what it needs is more aggressive political leadership.

Fukushima also shows why we need to develop reactors that are more inherently safe. Almost all the world's power reactors, including those at Fukushima, are descended from the much smaller reactors developed in the 1950s by the United States for submarines. As we saw in the Fukushima accident, they depend on pumps to keep them from catastrophic failure, a major weak point. New designs less dependent on pumps have been developed, but there has not yet been enough research to make certain that they would work effectively.

One promising design is the high-temperature gas-cooled graphite reactor; its fuel is in the form of small particles surrounded by layers of material that could contain their radioactivity if a cooling system fails. The United States built two such prototypes in the 1960s, and Germany built one in the 1980s. With the virtual end of new reactor orders in the United States and Western Europe, as well as their small generating capacity compared to current water-cooled reactors, they were not pursued further.

China, however, which accounted for over 60 percent of the world's nuclear power plant construction during the past five years, is now planning two prototypes and, if these work, 36 more. Such a demonstration could help determine the commercial viability of gas-cooled graphite reactors worldwide, and the Department of Energy should offer the expertise of its national laboratories to help China make this effort a success.

ANOTHER area that requires review is unrelated to the Fukushima accident, but would benefit from some of the attention generated by the crisis — namely, the need to strengthen the barriers to misuse of nuclear-energy technology to develop nuclear weapons.

The unintended effect of much of governmental research and development has been to make nuclear proliferation easier. Most notably, over the past 50 years the developed world has spent some \$100 billion in a failed effort to commercialize plutonium breeder reactors. Such reactors would use uranium more efficiently, but would also require the separation of plutonium, a key component in nuclear weapons.

Even though plutonium breeder reactors have yet to make it past the research and development phase into commercial production, enough plutonium has been separated from spent power-reactor fuel to make tens of thousands of nuclear weapons, creating an enormous security risk. The technology's spread raises the possibility that it could be diverted to military purposes. In fact, this has already happened: in 1974 India tested a nuclear weapon design using plutonium that had been separated out for its breeder reactor program.

Meanwhile, General Electric has applied for a license to build a plant that would use lasers to enrich uranium for commercial use, which could provide yet another way to produce weapons-grade material. A coalition led by the American Physical Society, a professional organization of physicists, has petitioned the Nuclear Regulatory Commission to assess the risk that this technology poses to non-proliferation efforts before it issues a license. The commission, predictably, has been reluctant to do so.

It is critical to find more effective ways to control such dangerous nuclear technologies. In 1946, the United States proposed that uranium enrichment and plutonium be put under international control, a proposal that failed because of the onset of the cold war.

More recently Mohamed ElBaradei, the former director general of the International Atomic Energy Agency, made the more modest proposal to place such dangerous activities under merely multinational control, which would make it more difficult for any one country to divert the material to military ends. In fact, Urenco, the West's most successful uranium enrichment enterprise, is already under the joint ownership of Germany, the Netherlands and Britain.

The United States should help shape this industrial model into an international one, in which all enrichment plants are under multinational control. Doing so would make it more difficult for countries like Iran to justify building national enrichment plants that could be used to produce nuclear weapons materials.

While new plants are unlikely to be built in the United States over the next 25 years, nuclear power provides 20 percent of our electrical power and is climate friendly. We therefore must make existing reactors safer, develop a new generation of safer designs and prevent nuclear power from facilitating nuclear proliferation. As tragic as the Fukushima disaster has been, it has provided a rare opportunity to advance those goals.

Frank N. von Hippel, a nuclear physicist, is a professor of public and international affairs at Princeton and co-chairman of the International Panel on Fissile Materials. From 1993 to 1994 he was responsible for national security issues in the White House Office of Science and Technology Policy.

Earthquake Science Advances - Does Nuclear Safety Keep Up? (MCT)

By Renee Schoof And Greg Gordon

McClatchy, March 24, 2011

WASHINGTON — The 104 nuclear reactors providing 20 percent of America's electric power were designed and built in the 1960s and '70s, an era when seismologists knew much less about earthquakes than they do today.

Now that Japan's 9.0 magnitude earthquake has focused world attention on desperate efforts to halt the release of deadly radiation and on warnings to parents not to give their young children radiation-tainted tap water in Tokyo, US regulators and nuclear industry advocates are scrambling to convince the public that America's reactors are safe.

To be sure, the Nuclear Regulatory Commission has been attentive to earthquake risk and has done regular assessments and upgrades as warranted over the 40 to 50 years since the reactors were first designed. In sum, the NRC says it's satisfied that all US plants, including those in California in the highest quake-risk zones, are built to withstand the biggest quake that can reasonably be expected, plus an extra margin of safety.

But the increased seismic activity in Japan, New Zealand, Chile, Haiti and elsewhere is raising new questions.

"As we learned in Japan, we believe the strongest we have seen in the past is probably not the strongest we can see in the future," said John E. Ebel, a seismologist and professor at Boston College. "So that's the easy call. The hard call for the seismologist is how much stronger."

One nuclear safety expert, Najmedin Meshkati of the University of Southern California, described the crisis at the four side-by-side reactors in Japan as "a rude awakening" to regulators and the nuclear industry that it isn't enough to offer a pat expression of confidence that "it couldn't happen here."

Therein lies the conundrum for regulators and the industry.

If the estimate of potential earthquake magnitude goes up too much — especially with no concrete evidence of large quakes in an area — engineers will warn about spending too much money to design nuclear plants.

So earlier this week, the NRC announced immediate and long-term reviews of the nation's atomic plants. The agency wants to gauge the plants' ability to survive power blackouts, as occurred after the earthquake and tsunami hit Japan's northeast coast, or equipment failures and other problems that would hamper the ability to keep the radioactive fuel cool.

The Japan temblor was stronger than anything seen off its eastern coast for a century or more.

Nicholas Sitar, a professor in the civil and environmental engineering department at the University of California, Berkeley, said that seismologists and earthquake engineers have learned an enormous amount in the past 40-plus years about ground motions generated by different types of faults and how the energy from an earthquake is transmitted into structures.

"So it would not be accurate to assume that the older-generation nuclear power plants have not been reanalyzed since they were built," Sitar said.

Scientists today know more about what triggers earthquakes and how the combination of an earthquake's source and site conditions determine damage. New faults have been discovered. In addition, the earth's geology reveals information about big quakes that took place before recorded history.

The only part of the United States where a 9.0-scale earthquake is expected again (geologists discovered that one occurred there on Jan. 26, 1700) is the 750-mile-long Cascadia subduction zone off the coasts of Washington, Oregon and northern California. A subduction zone — a place where faults in the Earth's crust are wide enough for plates of rock to "slip" past each other — also produced the March 11 Tohoku earthquake in Japan.

Robert Yeats, a geology professor at Oregon State University, was one of the first to suggest in the 1980s that the Pacific Northwest might be vulnerable to a 9.0 subduction zone earthquake.

Today, there are tsunami-warning signs on the coast and a better understanding of earthquake risks in the region affected by the zone, but there are no nuclear power plants there. The only commercial nuclear plant in the Northwest, the Columbia Generating Station near Richland, Wash., is 225 miles from the affected area.

The San Onofre Nuclear Generating Station north of San Diego was built to withstand a 7.0 earthquake centered within five miles of the plant. Southern California Edison, the plant owner, says there hasn't been "significant seismic activities" in the area in 120,000 years.

The San Onofre plant is located within five miles of two faults. Southern California Edison has a seismic program that evaluated the site when the plant's two reactors were built in the 1980s, updated the work in 1995, and re-evaluated it recently, said spokesman Charles Coleman. The company concluded that the plant has the "engineering features, processes and procedures" needed to protect the public if the plant were hit by a 7.0 quake.

In 2008, federal scientists discovered a new earthquake fault a half mile offshore from California's other nuclear power plant, Diablo Canyon in San Luis Obispo.

Republican state Sen. Sam Blakeslee, a former geophysicist, said this week that detailed studies are needed on the characteristics of that fault and its relationship with another one nearby. Blakeslee accused PG&E, the owner of the Diablo Canyon plant, of tolerating a "culture of disregarding risk" for not suspending the plant's license renewal activities until better earthquake studies are completed.

PG&E president Chris Johns on March 18 told The Tribune newspaper in San Luis Obispo that the three- to five-year license renewal process allows enough time to incorporate safety information from earthquake studies and from the Japan disaster.

More than 7 million people live within 50 miles of San Onofre, and 424,000 live within that range of Diablo Canyon, California Sens. Barbara Boxer and Dianne Feinstein said in a letter to NRC chairman Gregory Jaczko last week, asking for a thorough inspection to answer questions about the plants ability to withstand an earthquake and tsunami.

Greg Beroza, an earthquake expert who is chairman of Stanford University's Department of Geophysics, said that scientists still are evaluating the shaking power of earthquakes, but now have supercomputers that can simulate their seismic impact and "begin to explore the range of worst-case scenarios."

That, he said, should help the nuclear industry design future reactors with safety margins.

California's earthquakes are famous, but the east and central parts of the country, where most of the nuclear power plants are, have active seismic zones, too.

The NRC reported last year that seismic experts had determined that, in some parts of the region, there's a greater probability than previously thought that reactors will be rocked by a stronger earthquake than they were designed to withstand.

The commission in 2005 began a review of the seismic durability of 29 reactors at 17 plant sites in the eastern and central US, based on USGS data.

The NRC reported that that the increased risk is small, and within the extra margin of safety built into the plants. For now, regulators say, no additional steps are needed to strengthen any nuclear plants to survive an earthquake.

The USGS and the Electric Power Research Institute, which is funded by the utility industry, plan to finish a more detailed model late this year.

"The expectation is that a more detailed analysis will help plants spot tweaks to their design that would improve their ability to deal with what can be expected at the site," said NRC spokesman Scott Burnell.

New York House Democrats Call For Hearings On Nuclear Relicensing (HILL)

By Andrew Restuccia

The Hill, March 24, 2011

Two New York House Democrats are calling for congressional hearings to investigate the Nuclear Regulatory Commission's (NRC) relicensing process for aging US nuclear power plants.

Reps. Eliot Engel (D-N.Y.) and Nita Lowey (D-N.Y.) raised concerns that decades-old US nuclear power plants might not be able to withstand a terrorist attack or a major natural disaster like the one that hobbled nuclear reactors in Japan.

The lawmakers called on House Energy and Commerce Committee Chairman Fred Upton (R-Mich.) to hold hearings on the issue. Upton, who has previously called for streamlining the NRC regulatory process, has said he will hold hearings on the Japan nuclear crisis. But the lawmaker has stood behind his support for nuclear power.

A meltdown in a plant that is close to a major population center would have catastrophic results, the lawmakers said. And they raised particular concern about the Indian Point plant in Buchanan, N.Y.

The plant, which is less than 50 miles from New York City, has been a cause of great concern among many in New York as workers continue to get control of the Fukushima Daiichi nuclear plant in Japan. New York Gov. Andrew Cuomo (D) has called for the plant to be shut down.

"It is time for the NRC to realize that natural disasters and terrorism are all too real," Engel said in a statement. "The terrorists flew over Indian Point on 9/11 going to the World Trade Center. Because of its location, it is too inviting a target. In addition, because it is located near two seismic faults, it is also vulnerable to earthquakes."

The NRC recommended that Americans within 50 miles of the stricken reactors evacuate. But NRC emergency plans are developed based on a 10-mile evacuation radius.

"In the event of a terrorist event, earthquake or other natural disaster affecting Indian Point, the entire population of New York City and its suburbs would need to be evacuated," Lowey said in the statement. "New Yorkers deserve to know relicensing decisions are made taking these basic factors into account."

Engel and Lowey will reintroduce legislation next week that sets stringent new standards for the NRC's relicensing process. The standards include requiring wider evacuation plans and considering major population centers.

The NRC currently requires that reactors be able to withstand major natural disasters and terrorist attacks. But liberal lawmakers have revived longstanding concerns about nuclear power in light of the crisis in Japan.

Nuke Plants In Calif. Face Seismic Hazards (GVUNION)

Grass Valley (CA) Union, March 24, 2011

Two California nuclear plants are the only ones in the nation in areas of the highest seismic risk.

A new report from the US Nuclear Regulatory Commission based its assessment of the plants on "the level of seismic activity and the potential for large-magnitude earthquakes."

"New information about the severe seismic risk at the San Onofre Nuclear Generating Station and the Diablo Canyon Power Plant make clear that these two plants require immediate attention in light of the catastrophic events in Japan," said Sen. Barbara Boxer, D-Calif. Boxer is chairwoman of the Environment and Public Works Committee and had asked for the risk assessment.

Boxer and Sen. Diane Feinstein, D-Calif., sent a letter to the NRC asking detailed questions about the two California nuclear plants' design and operation, type of reactors and preparedness to withstand an earthquake or tsunami.

"Given this new information, the questions raised in the letter to the NRC deserve immediate attention," Boxer said.

To read their letter, see below.

March 16, 2011

The Honorable Gregory Jaczko

Chairman

U. S. Nuclear Regulatory Commission

Washington, DC 20555-0001

Dear Chairman Jaczko:

The unfolding nuclear disaster in Japan has raised questions about the safety of nuclear power plants here in the US. As Senators from California, we are particularly interested in the safety of San Onofre Nuclear Generating Station, located in San Clemente, and the Diablo Canyon Nuclear Power Plant near San Luis Obispo, both of which are near earthquake faults.

Roughly 424,000 live within 50 miles of the Diablo Canyon and 7.4 million live within 50 miles of San Onofre Nuclear Generating Station. Although many safety measures have been taken to address potential hazards associated with these facilities, we need to ensure that the risk is fully evaluated.

For example, a 2008 California Energy Commission report presented very clear warnings of potential threats at both of these plants. This report found that the San Onofre plant could experience "larger and more frequent earthquakes" than the maximum 7.0 magnitude earthquake predicted when the plant was designed. It is our understanding that the NRC has not taken action to address these warnings in the report. It is also our understanding that the 2008 report found that there is an additional fault near the Diablo Canyon plant that should be taken into consideration as part of NRC's relicensing process. We want to know if the NRC will address all of the threats, including seismic threats, described in the 2008 report at these facilities.

Therefore we ask that the Nuclear Regulatory Commission (NRC) perform a thorough inspection at these two plants to evaluate their safety and emergency preparedness plans.

In addition, we ask the NRC to answer the questions below regarding plant design and operations, type of reactor, and preparedness to withstand an earthquake or tsunami and other potential threats.

Plant Design and Operations

1. What changes to the design or operation of these facilities have improved safety at the plants since they began operating in the mid-1980s?

2. What emergency notification systems have been installed at California nuclear power plants? Has there ever been a lapse of these systems during previous earthquakes or emergencies?

3. What safety measures are in place to ensure continued power to California reactors in the event of an extended power failure?

Type of Reactor

1. What are the differences and similarities between the reactors being used in California (pressurized water reactors) and those in Japan (boiling water reactors), as well as the facilities used to house the reactors, including the standards to which they were built and their ability to withstand natural and manmade disasters?

Earthquakes and Tsunamis

1. We have been told that both Diablo Canyon and San Onofre Nuclear Generating Station are designed to withstand the maximum credible threat at both plants, which we understand to be much less than the 9.0 earthquake that hit Japan. What assumptions have you made about the ability of both plants to withstand an earthquake or tsunami? Given the disaster in Japan, what are our options to provide these plants with a greater margin for safety?

2. Have new faults been discovered near Diablo Canyon or San Onofre Nuclear Generating Station since those plants began operations? If so, how have the plants been modified to account for the increased risk of an earthquake? How will the NRC consider information on ways to address risks posed by faults near these plants that is produced pursuant to state law or recommendations by state agencies during the NRC relicensing process?

3. What are the evacuation plans for both plants in the event of an emergency? We understand that Highway 1 is the main route out of San Luis Obispo, what is the plan for evacuation of the nearby population if an earthquake takes out portions of the highway and a nuclear emergency occurs simultaneously?

4. What is the NRC's role in monitoring radiation in the event of a nuclear accident both here and abroad? What is the role of EPA and other federal agencies?

5. What monitoring systems currently are in place to track potential impacts on the US, including California, associated with the events in Japan?

6. Which federal agency is leading the monitoring effort and which agencies have responsibility for assessing human health impacts? What impacts have occurred to date on the health or environment of the US or are currently projected or modeled in connection with the events in Japan?

7. What contingency plans are in place to ensure that the American public is notified in the event that hazardous materials associated with the events in Japan pose an imminent threat to the US?

The NRC was created in the mid-1970s specifically to ensure the protection of public health and safety with regard to civilian nuclear power. The Commission plays an essential role ensuring that we learn from nuclear accidents and near misses. We hope you agree that we must identify whatever lessons are to be learned from the disaster in Japan in order to make facilities in the United States as safe as possible.

We look forward to working with you to ensure the safety of our nation's nuclear power plants and to make the changes necessary to ensure a nuclear tragedy does not occur in this country.

Sincerely,

Senator Barbara Boxer

Chairman, Environment and Public Works Committee

Senator Dianne Feinstein

Chairman, Appropriations Subcommittee on Interior, Environment and Related Agencies

Feinstein: Repository For Nuclear Waste Needed (SDUT)

By Christopher Cadelago

San Diego Union-Tribune, March 24, 2011

A day after visiting the state's two nuclear plants, Sen. Dianne Feinstein said Wednesday that she now supports a national repository for nuclear waste.

"I had always thought we didn't need one," she said following an address to the Lawyers Club of San Diego. "Yesterday, candidly, changed my mind."

On Tuesday, she joined federal regulators and scientists on tours of Diablo Canyon and San Onofre. The companies that run the plants, Pacific Gas and Electric and Southern California Edison, have said they were designed to handle earthquakes and tsunamis.

But the crisis unfolding at the Fukushima Daiichi nuclear plant in Japan has sent a ripple of renewed attention across the world.

"I didn't ever realize what happened to the fuel rods," Feinstein said. "When people talk about waste, you have to define what waste is. In this case, they're the hot plutonium rods that stay hot for nobody knows how long."

Regional fuel repositories would eliminate the need for 105 facilities nationwide handling their own waste. Yucca Mountain, the Nevada site the government has considered for long-term storage, may or may not be the right place, Feinstein said.

Spent fuel rods and the design basis for nuclear facilities will both be on the Wednesday agenda of the Senate Appropriations Committee's Subcommittee on Energy and Water Development, chaired by Feinstein.

Speaking at the Hilton San Diego Resort and Spa, Feinstein also touched on the federal budget and Libya. She said entitlements, which account for 58 percent of projected spending, must be in play. When to remove Col. Gadhafi also must be decided quickly, she added.

"The president has said 'No boots on the ground,'" she said. "In my judgment, there's only a certain amount that air power could achieve."

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Manteca Bulletin - Diablo Canyon & PG&E: Just How Safe Is It? (MANTB)

By Wyatt

Manteca (CA) Bulletin, March 24, 2011

Rancho Seco twin towers soar 55 stories above the ground in Herald some 40 miles north of Manteca.

They stand in mute testimony to the general public's lack of appetite for nuclear power.

The plant in 2009 was, for all practical purposes, no longer in existence as the Nuclear Regulatory Commission released most of the 2,100-acre site for unrestricted use except for 11 acres where a storage building for low-level radioactive waste still stands and a dry-cask spent fuel storage facility are still under NRC license.

Today massive solar farms and a natural gas fired generating plant now stand on some of the land that is owned by the Sacramento Municipal Utility District.

The plant first started producing power in April 1975. Three years later a power supply failed leading to a steam generator dry out. The seriousness of the incident was downplayed. Four years later Rancho Seco's kissing cousin - the Three Mile Island nuclear plant in Pennsylvania - experienced a partial core nuclear meltdown. Ten years later in 1989 SMUD voters qualified a measure for the ballot to shut down Rancho Seco. Some 53.4 percent of SMUD voters said close it. The SMUD board adhered to its promise to go with the will of the people and started shutting down Rancho Seco 12 hours after the polls closed. The plant was shut down with just 39 percent of its useful life spent.

In 2005, the NRC's ongoing review of data and new understanding of how nuclear plants operated concluded the Rancho Seco incident was the third most serious nuclear incident in the United States behind Three Mile Island and a cable tray fire at Brown's Ferry.

The United States today has 104 nuclear reactors including those at two California power plants including PG&E's Diablo Canyon.

Voters, of course, cannot force PG&E to shut down Diablo Canyon as it is a for-profit nuclear power plant. Nothing is basically wrong with that although when a for-profit company operates something that could have massive radiation leaks they should be a bit more concerned about safety.

That is not to say PG&E hasn't followed NRC wishes at Diablo Canyon - at least so far. The discovery two years ago of an earthquake fault within a half mile of the nuclear reactors is promoting some government regulators as well as Republican State Senator Sam Blakeslee who has a background in seismology and represents the area, to push for operating and safety standards designed for the fault letting loose one day with a 7.5 Richter Scale quake. PG&E is trying to get it downgraded to about a 6.5 because obviously it would cost a lot less to comply with it.

PG&E of late has lost its mojo - so to speak - with the timing of many of its bold initiatives including their ill-fated attempt to get the voters to amend the state constitution to guarantee them of a monopoly.

The debate over Diablo Canyon's safety was one of those low-key, ho-hum things as Blakeslee started pushing in May to get PG&E to suspend its operating license extensions that are due to expire in 2044 and 2045. That is until the earthquake and tsunami hit Japan.

PG&E arguing against suggested government safety standards should make one wonder whether they should be given the benefit of doubt. After all, PG&E dismissed federal safety recommendations about pipeline safety values essentially contending they would be ineffective and not needed. Of course, there was also the nasty little detail about the price tag.

This is not an easy debate. California needs power. And nuclear power might indeed be the best alternative after everything is weighed.

Yet at the same time PG&E isn't exactly an angel.

For years, they blocked efforts to make large solar farms economically feasible by successfully lobbying the California Public Utility Commission and California Legislature to cap the amount of power such solar farms could generate at one megawatt. That cap has since been lifted.

Nevertheless, it underscores that PG&E is motivated first and foremost by profit.

Ratepayers can't vote to force a shutdown of Diablo Canyon as they did with Rancho Seco.

It prompts the question whether nuclear power plants should be operated by for-profit firms whose first responsibility is to corporate bonuses and then stockholders and not ratepayers or people who may be down wind.

And if nuclear power is so cost-effective and efficient why are PG&E rates with a nuclear plant on-line so much higher than SMUD that has had to foot the cost of decommissioning a plant and developing alternative power?

If you honestly believe the million dollar bonus babies that run PG&E invest in safety before corporate jets, just ask the people of San Bruno.

The odds are they wouldn't want PG&E operating a nuclear power plant in their neighborhood.

Graham Uses Tour To Push Nuke Power (TSSC)

By Sammy Fretwell

The State (SC), March 23, 2011

SENECA — US Sen. Lindsey Graham was home Tuesday, talking about one of his favorite subjects: nuclear energy and why it's the best way to power South Carolina and America.

Aware that events in Japan have increased concern about nuclear safety, Graham took the media on a tour of Duke Energy's Oconee atomic power station to show why he thinks nuclear energy needs to be expanded.

Graham said the visit reinforces his belief that a nuclear disaster like that in Japan could not happen at Duke's three reactors. Graham said the US will learn some lessons from Japan but should not slow the push to develop new reactors.

Nestled in the mountains five hours from the ocean, the Duke power plant couldn't be affected by a tsunami, he noted. The reactors also are of a different design that ensures they could continue to operate safely in the event of a disaster, he said. He conceded that a broken dam at Lake Jocassee could affect the plant, but said Duke Energy is working on a plan to address such a disaster.

"This nuclear plant, I live five miles away" from, said Graham, R-S.C. "I've lived in this area all of my life. A lot of the people I have grown up with and went to high school with work here. I have faith in the American nuclear power industry."

Graham said the plant "cannot explode like a nuclear bomb."

Oconee is one of just four sites in the country that received the lowest marks on one federal scale for safety performance, according to a March 8 news release from the NRC. The Oconee plant had problems last year with clogs in a line and what the NRC said was an unsatisfactory response by Duke Energy.

Graham said, however, that the NRC's findings show that the system of regulating atomic power plants works. Duke and NRC officials at Tuesday's media tour said the problems have been addressed.

"If you showed me a reactor site where there was never a safety concern, I'd be suspicious," Graham said. "The fact that we're identifying safety concerns independent from the company itself, and the company is getting on top of it, is reassuring."

The senator faced criticism Tuesday from anti-nuclear activist Tom Clements, who disputed that all of the problems were resolved. Clements also said the press event was little more than an attempt to advance an industry on which Graham relies for campaign funds.

Clements gave reporters data showing that Graham has received in the past two years about \$40,000 in campaign contributions from those sympathetic to the nuclear industry, such as major power companies. Clements, who is with Friends of the Earth, raised those questions during a press briefing after the tour.

"The reason people in the nuclear power industry support me is because I believe in what they do," Graham told Clements. "I don't get any money from your organization because I disagree with you."

Graham and a horde of reporters and photographers started the tour outside, viewing Oconee's three reactor containment buildings – the tall visible buildings with the round tops many people recognize. Later, Duke Energy officials took the media through the plant's turbine building, where steam drives the power that runs into major transmission lines outside the facility. A network of pipes, platforms and huge tanks ran the length of the building, about the size of a football field.

Graham also visited the control room, or nerve center, for two of the three reactors. The control room contains walls of blinking lights that keep track of the nuclear reaction process. Duke executives answered the senator's questions as members of the media looked on. Graham learned that the reactors could be shut down with the push of one button, which he said was enlightening. The tour did not take the media to the company's spent fuel pools, where deadly radioactive waste is held in huge vats of water to keep them from overheating – one of the major concerns about safety at a nuclear power plant.

The first of Duke's triple reactors went on line in 1973 – the same year Graham graduated from high school. The three supply much of the power Duke provides to customers in the Carolinas.

The pressurized water reactors are just a few miles north of Seneca, located in the middle of upscale communities along the shores of Lake Keowee, at the foot of the Appalachians. The Oconee nuclear station is one of four sites in South Carolina that supply atomic power. Another site near Hartsville, like Oconee, has faced more intense NRC scrutiny recently because of questions about how the plant was operated.

Sen. Lindsey Graham Shows Faith In Nuclear Power At Oconee Nuclear Station In Lake Keowee (SPHERJO)

By Stephen Largen

Spartanburg Herald Journal, March 24, 2011

LAKE KEOWEE - US Sen. Lindsey Graham, R-S.C., renewed his support for the construction of new nuclear power plants in the US after visiting Duke Energy's Oconee Nuclear Station here Tuesday afternoon.

Graham, who lives five miles from the plant, toured the facility with journalists as part of a rare look inside its operations.

"My takeaway from today is that America needs as much safe, abundant, affordable power as possible to grow our economy in the 21st century," the senator said.

The company's invitation to Graham and reporters came as Duke Energy and other companies interested in building new nuclear power plants in South Carolina and across the US try to reassure the country that it's safe to proceed after the serious

problems at a Japanese nuclear facility in the aftermath of a powerful earthquake and tsunami that hit the country earlier this month.

Many have said plans for new plants in the US should not move forward until the problems with the Japanese plant can be carefully analyzed.

Graham said the US nuclear power industry needs to move forward with plans for new reactors while learning from the Japanese disaster.

"I have faith in the nuclear power industry," he said. "I believe it's imperative that we move forward. This plant has design characteristics that would prevent what happened in Japan from happening here."

Graham said he was confident in the security measures in place at the Oconee station and all nuclear power stations across the US

The containment vessel at the Oconee plant, like at many plants across the country, was reinforced after the Sept. 11 terrorist attacks, Graham and company officials pointed out.

There are also four inspectors from the US Nuclear Regulatory Commission who work on the Oconee site and monitor its safety.

Graham said he hopes companies who have been planning new nuclear plants will not be deterred by an "illogical reaction" to the crisis in Japan.

The Republican senator praised the Obama administration's backing of the American nuclear power industry with loan guarantees for companies hoping to build new plants in the president's proposed executive budget.

But Graham said the administration's decision to abandon plans to create a nuclear waste repository at Yucca Mountain in Nevada was a mistake, and he hopes the Japanese disaster will prompt the administration to propose a new central nuclear waste disposal site.

Duke Energy has no plans to postpone building a nuclear plant in Cherokee County in light of the problems at the Japanese facility, a company spokeswoman said last week.

The company said while it's too early to tell what impact the Japanese disaster will have on the industry, Duke Energy will continue with the US Nuclear Regulatory Commission's process for building the \$11 billion William S. Lee III plant. The licensing process will likely take two more years, and the plant would come online in 2020 or 2021, according to the company's plans.

Duke Energy's Oconee station, in operation since 1973, appeared in two recent national reports on the American nuclear energy industry.

A Union of Concerned Scientists report that examined nuclear safety in 2010 released last week said NRC inspectors averted a possible safety problem at the Oconee station by refusing to accept plant operators' rationale for allowing a component in reactors 2 and 3 to go untested after a similar component in reactor No. 1 had failed.

An NRC report released in November said of the 66 nuclear power plants in the US, the Oconee facility has the eighth-greatest risk of experiencing damage to one of its three nuclear reactor cores during an earthquake.

But the report said there's a less than 1-in-23,000 chance that such a scenario could happen, and Duke Energy says its nuclear plants in South Carolina are built to withstand the strongest earthquake on record in the state's history, the 7.6-magnitude Great Charleston Earthquake of 1886, and other natural disasters.

South Carolina has four other nuclear reactors in operation at plants in York, Hartsville and Jenkinsville.

US Rep. Joe Barton Visits Comanche Peak Nuclear Power Plant In Texas, Endorses Nuclear Power Safety (DMN)

By Jeffrey Weiss, jweiss@dallasnews.com

Dallas Morning News, March 24, 2011

US Rep. Joe Barton, R-Arlington, spent part of Wednesday showing his support for a local business — the Comanche Peak Nuclear Power Plant about 80 miles southwest of Dallas.

Energy Futures Holdings, the company that owns the plant, invited Barton for a tour during the congressional spring break.

Rafael Flores, the company's chief nuclear officer, set the stage for Barton before the congressman faced reporters.

"These are hard times in the industry, with all the events going on in Japan," he said. "But the nuclear industry here in the United States is keeping a very close eye on what is going on and there will be a lot of lessons learned."

Barton gave the local plant — and US nuclear power in general — his vote of confidence.

"Nuclear power is very safe," he said. "Its safety record is 100 percent. We had the incident at Three Mile Island in the '70s in which nobody was hurt and no radiation escaped."

He said he anticipated that several new nuclear plants would come on line over the next decade in the US

Asked whether the disaster in Japan should change plans for American nuclear power, Barton said the industry should expect to face new questions about safety.

"I think it's very fair for the public to ask some pretty tough questions about the safety of existing plants and the safety of any potential new plants," he said.

He said US plants have a "more robust design" than the Japanese plants wrecked by an earthquake and tsunami.

And then he put on a hard hat and radiation monitor and toured some of the innards of the Comanche Peak plant. He got a look at the enormous pool that holds 21 years of spent fuel from the reactor.

Before the tour, Barton said the government needs to find a central location to hold all the spent fuel now stored at 104 plants around the nation. But he said he had no doubts about the safety of anything at Comanche Peak.

"I have always said that, if there is an earthquake, I want to be in the control room at Comanche Peak," he said.

Barton Pleased With Safety Measures At Comanche Peak Nuclear Power Plant (FWST)

By Anna M. Tinsley

Fort Worth Star-Telegram, March 24, 2011

GLEN ROSE – Just weeks after an earthquake and tsunami rocked Japan, US Rep. Joe Barton wanted to know that the Comanche Peak nuclear power plant would be safe if a catastrophe hit North Texas.

Barton, who said he supports nuclear power, toured the more than 20-year-old facility Wednesday and received a briefing on safety and operating procedures.

"Our safety systems in the United States are much more robust than in Japan," said Barton, R-Arlington and former chairman of the House Energy and Commerce Committee. "If there's ever an earthquake, I want to be in the control room at Comanche Peak. ... It can withstand the largest earthquake we could have and then some."

But Barton said he'd like to convene a committee hearing in Congress so members can learn about safety plans in place at all US nuclear power plants.

He said he doesn't believe that support for these facilities will wane, despite Japan's problem, if Congress and plant operators "can continue to show these plants are safe, new designs are safe and safety regulations are being enforced."

Area residents and officials have said they are not worried about the safety of Comanche Peak, which is operated by Luminant in Somervell County, about 40 miles southwest of Fort Worth.

Comanche Peak and local responders practice responses to earthquakes, tornadoes and other disasters several times a year. Response plans include everything from evacuations to the distribution of iodide pills, which can help protect people from radiation.

"The nuclear industry in the states is taking a lot of actions, keeping a close eye on what's going on in Japan," said Rafael Flores, senior vice president and chief nuclear officer at the plant. "There will be a lot of lessons learned from it."

Flores pointed out differences between Japan's plants and Comanche Peak. In Japan, fuel oil is stored above ground, boiling-water reactors produce steam and spent fuel pools are above ground. At Comanche Peak, he said, diesel is stored underground, pressurized-water capacitors avoid the use of steam and spent fuel pools are in a separate building, at ground level.

"We believe we have a large margin of safety," he said. "But we are always looking to make it larger."

Barton and a group of news reporters and photographers wore safety equipment – hard hats, safety glasses, radiation dosimeters, gloves and ear plugs – to tour part of the plant Wednesday afternoon.

The first stop on the tour was the building where two cooling pools store spent fuel rods.

Officials talked about precautions and backup systems that would come online during a disaster.

They cited additional water sources, for instance, that would be pumped into the pools to cool the spent fuel rods if the water in the pools was drained. And they talked about backup diesel generators – and backup supplies of diesel – that would come online to protect the power source of the plant.

The tour included a stop in the room that houses four large diesel generators. Just one, officials said, could power the plant.

In the control room, lights on electronic boards show whether pumps are stopped, whether valves are open and whether there are any problems with the generator turbines outside.

Barton noted that storage of used fuel rods at nuclear power plants is an issue.

"It's a fault of the government," he said. "They shouldn't have to store spent fuel rods on-site."

He said plants should be able to instead transfer the used rods to a planned repository at Yucca Mountain in Nevada. Reports show that federal funding for the site has not been included in President Barack Obama's last two proposed budgets.

"It's one of the things we need to address again," Barton said.

Anna M. Tinsley, 817-390-7610
Looking for comments?

House Energy Committee Chair And US Representative Joe Barton Visits North Texas Nuclear Plant Comanche Peak (KTVT)

KTVT-TV Dallas/Fort Worth, March 24, 2011

GLEN ROSE (CBSDFW.COM) - Not only are American nuclear power generators keenly aware of the problems with Japan's smoldering nuclear reactors, they're learning from them.

"One thing in the nuclear industry is that we share all the information, its almost like a family," said Rafael Flores, Chief Nuclear Officer for the Comanche Peak Nuclear Power Plant. "We stick together. We learn from each other and we improve so from my stand point we'll look at some things that happened there."

Comanche Peak, 80 miles southwest of Dallas, operates two nuclear units. Japan's problems come at a crucial time as Comanche Peak's operator, Luminant, is seeking federal licenses for two more units.

"It brings it to the public's attention," said US Representative Joe Barton, (R – Ennis) who visited Comanche Peak Wednesday. "I think its very fair for the public to ask some tough questions about the safety of existing plants and the safety of any potential new plants."

Which is why Barton's visit was so important. Barton is the chairman of the House Energy and Commerce Committee, a key committee for steering national nuclear power policy in coming years.

Luminant wants to build two next-generation reactors with the help of Mitsubishi Heavy Industries, Ltd., or MHI, which already builds the reactors in Japan.

In light of the crisis in Japan, the debate now is whether there are enough protections in the new design to continue the lengthy permitting process. Barton says there are.

"Our safety systems in the United States are much more robust than the systems in Japan," Barton said. "Both our older systems and the new systems that are beginning to be approved by the Nuclear Regulatory Commission."

The designs and permits proposed by Luminant and MHI are currently under federal review. Luminant hopes to have a license by 2013 and the two new power units online by 2021 or 2022.

Barton: "Nuclear Power Is Very Safe" (NBCDFW)

Rep. Barton Reaffirms Commitment to Nuclear Power

By Lindsay Wilcox

KXAS-TV Dallas-Fort Worth, TX, March 24, 2011

As he toured the Comanche Peak Nuclear Power Plant, North Texas Congressman Joe Barton could not have been clearer about his feeling regarding nuclear power.

"Nuclear power is very safe," says Barton.

On Wednesday, Barton and the chief nuclear officer at Comanche Peak pointed out the differences between the reactors in Glen Rose and the rubble that remains in Japan.

"The systems in Japan relied on interaction, human interaction," says Barton.

"Our new safety systems are passive in the sense that if the worst case happens, they don't require human intervention," says Barton.

Plans Move Forward for Nuclear Power Plant in Glen Rose

WATCH

Plans Move Forward for Nuclear Power Plant in Glen Rose

In Japan, diesel fuel for back-up generators was stored above ground where it was washed away by the tsunami. At Comanche Peak, it's buried underground, seemingly protected from natural disasters.

Another major difference is the construction of the containment buildings. The exterior walls at Comanche Peak are four and a half feet thick, constructed with concrete and rebar.

The reactor vessel is lined with an eight inch wall of carbon steel.

Luminant has proposals to build two new reactors in Glen Rose over the next decade. In the aftermath of the Japanese crisis, some question the wisdom of four reactors in one location.

"I think the first few are being done at existing sites for expediency purposes," says Barton.

"In a perfect world, you probably don't want them clustered, and I think over time in the United States you'll see that," says Barton.

Barton sits on the House Energy and Commerce Committee which oversees much of the US energy policies. Today, he said if the nuclear industry wants to expand it will have to prove it's financial viability when compared with natural gas. First Published: Mar 23, 2011 5:19 PM CDT

Vt. Officials Frustrated With Yankee Water Testing Delays (WCAX)

WCAX-TV Burlington, VT, March 23, 2011

Three state departments are demanding answers from Vermont Yankee about a contaminated drinking water well.

The well at the nuclear plant tested positive for tritium last fall but has not been retested. The Health Department was expecting those new test results in February.

Officials with the Health Department, the Public Safety Department and the Department of Environmental Conservation have now sent Entergy Nuclear officials a joint letter asking the Vernon plant's owners to conduct new tests.

Entergy officials have not offered a time line or reason for the delay.

NRC Makes Vermont Yankee License Renewal Official (VTD)

By Anne Galloway

VTDigger, March 24, 2011

On Monday, the Nuclear Regulatory Commission officially granted Entergy Corp.'s license to continue operation of the Vermont Yankee Nuclear Power Station for 20 years beyond its scheduled shutdown date of March 2012.

The commission issued the license 10 days after partial meltdowns of reactors at the Fukushima-Daiichi nuclear plant in Japan triggered hydrogen gas explosions in the wake of a devastating 9.0 magnitude earthquake and subsequent tsunami.

A few days after the catastrophe in Japan unfolded, The New York Times published a report about flaws in the design of the aging reactors used at the plant. The Fukushima facility's six reactors, two of which have partially melted down, are nearly identical to the Vermont Yankee boiling water reactor. The Mark 1 model, manufactured by General Electric, was discontinued in 1972, the year Vermont Yankee was built and one year after the Fukushima plant was constructed.

In 1972, a nuclear scientist with the Atomic Energy Commission, forerunner of the Nuclear Regulatory Commission, raised concerns about the containment system's capacity to forestall a nuclear meltdown in the event of an extended power blackout and problems with backup generators, according to the New York Times. Electricity keeps pumps constantly flushing cool water over the fuel rods in the reactor and the spent fuel pool. If the pumps stop working, as they did in Japan, the fuel can overheat and cause hydrogen buildup in the reactor to explode and a fire to erupt in the spent fuel pool area, releasing highly radioactive material into the atmosphere.

Last week, President Barack Obama called for a review of nuclear power plants in the United States. Sen. Bernie Sanders, I-Vt., wrote to the president on Friday, requesting a moratorium on license renewals by the Nuclear Regulatory Commission.

That request was ignored by the NRC, which issued the 20-year license extension to Louisiana-based Entergy Corp. without taking time to consider the implications of the nuclear accident in Japan. Though the commission plans to review plants in the next few months, it's not clear the flaws of the Mark 1 model will be part of its evaluation.

Sanders, who is chair of the Senate Environment and Public Works Committee, asked NRC Chair Gregory Jaczko in a hearing last week to re-evaluate the decision (made on March 10, the day before the earthquake in Japan) to grant a license to Vermont Yankee. Sanders was flabbergasted by the NRC's response. "The idea of keeping Vermont Yankee running until it is 60 years old defies comprehension," the senator said. It is an "especially questionable" decision by the NRC "at a time when a reactor with a similar design is in near meltdown."

Neil Sheehan, communications director for the NRC's Region 1 District, said the agency approved the license because of what he characterized as a thoroughgoing examination of the plant. The analysis, he said, began five years ago and included a hearing process, complete staff reviews of the plant and an environmental assessment.

In response to the nuclear meltdowns in Japan, Sheehan said: "We're going to do a few things," including a "quick-look" analysis over the course of the next 90 days at reactors around the country. The NRC will review redundancy systems for loss of off-site power, seismic "resistance" and hydrogen releases, Sheehan said.

"There will be significant attention paid to all US reactors in light of events in Japan," Sheehan said.

Max Breiteneicher/The Commons Vermont Yankee Communications Director Larry Smith says some people think the decommissioning process will require the plant to retain a significant workforce, a concept he refers to as a "myth."

Larry Smith, communications director for Vermont Yankee, said in a statement that Entergy is pleased with the NRC's decision to extend Vermont Yankee's operating license through March 21, 2032.

"Today's action comes after five years of careful and extensive review and confirms that Vermont Yankee is a safe, reliable source of electricity and capable of operating for another 20 years," Smith wrote.

Vermont Yankee is also subject to a state statute that requires Entergy to obtain a certificate of public good from the Vermont Public Service Board to operate beyond the March 2012 shutdown deadline. A year ago, the Vermont Senate denied the corporation the right to seek that approval.

Vermont is the only state in the country to require that a nuclear operator obtain state permission for license renewal.

Gov. Peter Shumlin, who as president pro tem spearheaded the state Senate decision, called the NRC's decision to relicense the plant "puzzling."

"Fortunately, Vermont has taken steps to close down the aging Yankee plant, and I have urged other states with older nuclear facilities to follow our example and take control of the lifespan of their plants," Shumlin said in a statement.

Vermont's congressional delegation urged the NRC to respect the state's right to impose a shutdown of the plant. In a joint statement, Sanders, an independent, and Democrats Sen. Patrick Leahy and Rep. Peter Welch wrote: "We believe that Entergy should respect and abide by Vermont's laws and the MOU (memorandum of understanding) signed with the state in 2002, which require approval by the Vermont Legislature, and then the Vermont Public Service Board, for the plant to continue to operate beyond 2012."

The New York Times reported that a month ago, Tokyo Electric Power Company granted a 10-year license extension to the oldest of the six reactors at Fukushima, which was built in 1971.

According to the Times, Tepco "admitted that it had failed to inspect 33 pieces of equipment related to the cooling systems, including water pumps and diesel generators, at the power station's six reactors, according to findings published on the agency's Web site shortly before the earthquake."

Arnie Gundersen, a nuclear expert with Fairewinds Associates based in Burlington, said: "We always knew NRC would approve because that's what NRC does. It's appalling. The smoke literally hasn't cleared over Fukushima, and they're greenlighting VY."

NRC's "rubber stamp"

Anti-nuclear activists in Vermont weren't surprised by the NRC's decision. The agency has renewed licenses for 62 plants around the country; it has never denied a relicensure application.

As Bob Stannard, a lobbyist with Citizens Action Network, put it: "They're as predictable as deer walking the same trail every day."

"Frankly, for many people out there who have concerns and suspicions about the NRC rubber stamping licenses for the industry, that's confirmation," Stannard said.

In Germany and China, nuclear plants have been shut down or put on hold. Stannard accused the Nuclear Regulatory Commission of assisting Entergy at all cost.

"This is about losing face for them, as opposed to losing people," Stannard said. "They've raised the middle finger at the congressional delegation and the state of Vermont."

James Moore, VPIRG's clean energy program director, said: "I think if anyone wasn't sure the NRC was a rubber stamp machine for the nuclear industry, this should make that really clear. With what is going on with this very same design in Japan, for the NRC to not even pause and reconsider giving this old reactor

a license past the 20-year expiration date is almost unconscionable."

Moore said the NRC can't seem to accept the idea that aging nuclear plants are prone to break down.

"They'll spend 90 days looking at the paperwork so we can convince ourselves we did the right thing," Moore said. "They're supposed to be looking out for the public not the industry and that's what it smells like in this case."

Rep. Tony Klein, D-East Montpelier, chair of the House Natural Resources and Energy Committee, feigned surprise: "God, I'm shocked."

"It's like getting a certificate of wonderfulness from the local trade association," Klein said. "It just shows you how numb people are and how they refuse to look at the world any differently. Because whatever you think could happen, could happen, and we're not prepared."

Could a Fukushima-Daiichi accident happen in Vermont?

Vermont is half a world away from the Pacific Rim's ring of fire, but we, too, have seismic shifts, floods and hurricanes.

State geologist Larry Becker says the seismic resistance design for nuclear plants should be revisited because earthquakes are getting stronger, even in the Northeast. Plants like Vermont Yankee were designed in the 1960s for 500-year earthquakes. "These days we look at longer return periods," Becker said.

Vermont Yankee is designed to withstand a 6.2-magnitude quake; the last big quake, which hit the 5.8 mark was in Lake Ossipee, N.H., in 1940 according to the US Geological Survey.

Moore, of VPIRG, said Vermont Yankee doesn't pass modern seismic criteria. "You wouldn't be allowed to build VY today because it's not a safe enough design, yet somehow we think it's safe for it to keep going 20 years past expiration. The only prudent thing for NRC to do is to halt any licensing procedures and possibly consider pulling the plug at all plants that are the same make and model until proven safe.

Arnie Gundersen, a Burlington-based nuclear expert and now a national TV commentator on nuclear issues (he is now a regular on CNN), said an earthquake threat at Vermont Yankee is unlikely. The more likely worst case scenario would involve a 1,000 year flood of the Connecticut River, which could knock out the service water that cools the plant.

Vermont Yankee, he said, has more than one "point of vulnerability," or hole in the plant's protective armor.

"Entergy is trying to turn the Fukushima argument into earthquakes and giant waves at Vermont Yankee," Gundersen said. "It's not about earthquakes or tsunamis. It's about 'single points of vulnerability.'"

In his view, a Connecticut River flood or a terrorist attack could be as devastating as the earthquake and tsunami in Japan.

"If a tsunami had not knocked out the diesels at Fukushima, it also knocked out the service water that cooled the plant, so the net result is the same," Gundersen said.

Another point of vulnerability is Vermont Yankee's BWR Mark 1 "Net Positive Suction Head," or reactor pressure suppression containment system, according to Gundersen. It's not clear that this was the cause of the explosions that occurred in Japan, he said.

"The NRC staff makes VY's Net Positive Suction Head issue (and others) disappear because it has told the Advisory Committee Reactor Safeguards in October 2010 that the probability of a containment failure is "zero," Gundersen wrote in an email. "The NRC's way to avoid VY's Net Positive Suction Head accident is to assume it can't occur."

Another problem at VY is related to power outages. The backup batteries for the VY's electrical control panels last eight hours of a station blackout in which there is no offsite or onsite power.

The biggest potential hazard, however, could be the spent fuel pool where used fuel rods are kept cool under water in a vat 40 feet deep. The rods stay hot for five years after they've been used.

The pool is on a 50 foot dais, which makes it more vulnerable to quakes, according to Gundersen. It's also covered with a tin roof, and in the event of a terrorist attack, is a potential source of high level radioactive contamination.

Smith, the spokesman for Entergy, said the pool was designed to be open at the top. The only protection it has from the elements is a sheet metal roof with "blow away panels if you have to relieve pressure."

Smith said the corporation will soon be removing fuel rods in the pool and putting them in longterm storage in dry fuel casks on the VY site.

Correction: Vermont Yankee-License (AP)

Associated Press, March 24, 2011

MONTPELIER, Vt. — In a March 21 story on the Vermont Yankee nuclear plant being granted a 20-year license extension by the Nuclear Regulatory Commission, The Associated Press erroneously reported the expiration year of the plant's state permit. It expires in 2012; it did not expire in 2010.

The Angle: Vermont's Unique Nuclear-power Veto (BOS)

By Alan Wirzbicki

Boston Globe, March 24, 2011

Who has the final word on regulating nuclear power plants?

In 49 states, it's the federal government, acting through the Nuclear Regulatory Commission.

At the moment, Vermont is the lone exception. As the result of a deal in 2002 and subsequent legislation in 2006, the state Legislature has the authority to block the Vermont Yankee plant from staying in operation past 2012, when its license runs out. The controversial plant supplies about a third of the state's electricity.

The question is especially relevant now, amid growing concerns about nuclear power following the Japanese nuclear crisis and after the NRC granted Vermont Yankee a license extension on Monday, giving the plant the federal government's blessing to operate another 20 years. The Vermont legislature, after a series of leaks at the plant, has already voted against allowing it to remain open.

Letting each state have a veto over energy policy seems potentially fraught with problems — but Peter E. Shumlin, Vermont's governor, is an unabashed fan and believes more states should follow Vermont's lead.

"It puzzles me that more states don't take control into their own hands about aging plants," Shumlin said in a telephone interview yesterday. "You all have the same rights we have in Vermont."

Shumlin said he was once a supporter of Vermont Yankee, but now believed it should close after 40 years, the timespan it was originally licensed for.

"We seem to have what I call irrational exuberance about the ability to run those plants beyond their designed life," he said. "It will come back and haunt us. It's just a question of where. I am so grateful to be the governor of a state that has taken control of our own future."

TVA Says Its Plants Are More Robust Than Japan's Crippled Nuclear Reactors (CHTNGA)

Chattanooga Times Free Press, March 24, 2011

TVA says its plants are more robust than Japan's crippled nuclear reactors

The nuclear power plants operated the Tennessee Valley Authority are better able to withstand the loss of outside power than was the crippled Fukushima nuclear plant following the recent earthquake and tsunami in Japan, TVA's top power official said today.

The nuclear power plants operated by the Tennessee Valley Authority are better able to withstand the loss of outside power than was the crippled Fukushima nuclear plant following the recent earthquake and tsunami in Japan, TVA's top power official said today.

"It's important to understand that the designs of the Japanese plants are somewhat different and there are features built into our plants that make them more robust in terms of being able to deal with these sorts of natural disasters," TVA Chief Operating Officer Bill McCollum Jr. said.

TVA's oldest nuclear plant -- the three-reactor Browns Ferry Nuclear Plant in Alabama -- is a similar General Electric boiling water reactor design to the plant that exploded and leaked radiation in Japan.

But McCollum told reporters during a media briefing that the federal utility has installed hardened vents to prevent the type of hydrogen gas explosions that have damaged four of the six reactors at the Fukushima plant over the past 12 days. TVA also has put in more backup power and steam-generated pumps than what the Japanese plant has to allow for water circulation to continue even if power is cutoff to the plant following a natural disaster.

McCollum said the risks of a major earthquake or sudden flooding in the Tennessee Valley is far less than in Japan.

"But our plants are designed, built and operated to be safe under all of those conditions," he said.

For details read Friday's Times Free Press.

TVA Says Their Nuclear Plants Are Safe (WTVF)

WTVF-TV Nashville (TN), March 24, 2011

TVA Says Their Nuclear Plants Are Safe

TVA officials held an informational session on Wednesday to reassure the public that Tennessee's nuclear power plants are safe.

The meeting was held in response to the crisis in Japan, where several nuclear reactors sustained major damage in recent earthquake and tsunami.

On Wednesday, TVA's Chief Nuclear officer Preston Swafford declared the state's three nuclear plants to be in good condition.

He said facilities like the Brown's Ferry Plant in Athens, Alabama have several safety mechanisms in case of emergency. Unlike the Japanese plants, the Brown's Ferry facility has hardened vents and pipes to prevent explosions.

It also has a tornado proof building that would more effectively keep floodwaters out.

"We've spent a great deal of time to make sure if something like this were to happen that we would have the procedures, the mechanisms, the equipment to mitigate that," Swafford said.

Officials said sirens are tested frequently to make sure residents would be quickly notified in case of a disaster.

TVA Defends Safety Of Nuclear Reactors (WPLN)

WPLN-AM Nashville (TN), March 24, 2011

The Tennessee Valley Authority is trying to put the public at ease about the safety of its three nuclear reactor sites, particularly in Browns Ferry, Alabama. The plant has a similar design to the one at risk of meltdown in Japan.

The Browns Ferry plant is only rated to withstand earthquakes up to magnitude 6.0. The quake in Japan rated a 9.0. But it was the tsunami that did most of the damage. So TVA is running as many scenarios as it can think of to see if its backup generators that cool the reactors would stay out of the flood waters.

Preston Swafford is TVA's Chief Nuclear Officer and says even in the most unlikely of natural disasters, the diesel generators should stay high and dry.

"If part of a mountain were to slide into the river and cause a catastrophic tidal wave event for a river, still isn't anywhere near this bounding event of this probable max flood scenario."

If somehow the cooling capability was disabled, Swafford says there'd be no need for heroic efforts to dump water in the spent fuel pools. They have built-in fire hoses aimed directly at them.

TVA has been completing a second nuclear reactor at its Watts Bar facility south of Crossville. Swafford says the design has already been approved by the Nuclear Regulatory Commission, so he doesn't expect the disaster in Japan to stop work on Watts Bar Unit 2. Printable Version

Bellefonte Work Continues - The Daily Sentinel: News (SDS)

By Bonner

Scottsboro (AL) Daily Sentinel, March 24, 2011

That is the question being asked in the wake of a natural disaster in Japan that resulted in severe damage at the Fukushima Dai-ichi Nuclear Power Plant operated by Tokyo Electric Power Co.

"The simple answer to 'what happened?' is that the Japanese plants were overwhelmed by a combination of events well beyond anything they were designed to withstand," Bill McCollum chief operating officer of the Tennessee Valley Authority said. "Complete answers will come when we have more facts...and that may be some time yet."

TVA's chief nuclear officer Preston Swafford told The Daily Sentinel late Tuesday that the utility's units would have survived the effects of an earthquake and tsunami that crippled the Tokyo Electric Power Co. reactors.

"The Japanese reactors handled an earthquake 10 times bigger than they were designed for," Swafford said during a meeting with reporters in Huntsville. "The plant was doing a normal shutdown until the tsunami struck. Then the emergency diesel generators and switch gear failed."

Construction is near completion on a second reactor at TVA's Watts Bar Nuclear Plant near Spring City, Tennessee. The utility anticipates that fuel for the unit will be loaded in approximately 300 days.

Design and engineering work continue on one unit at the Bellefonte Nuclear Power Plant near Scottsboro though no decision has yet been made to complete the facility.

"It will be up to our board to make a determination on Bellefonte," TVA senior manager of communications Ray Golden said. "If they don't take any action there will be an August meeting where they may consider it. Right now we're thinking this unit, if we go forward with it, will be (ready) in the 2018 range."

Opponents of nuclear power have come out against not only the construction of any new nuclear plants but also the continued operation of the energy source in the US in the wake of the accident at Fukushima Dai-ichi.

"In the light of the unfolding tragedy in Japan, the United States must revisit all nuclear issues... the United States should question all its assumptions about nuclear technology," a spokesperson for the Blue Ridge Environmental Defense organization said on March 19.

"It's important to recognize that our nuclear plants were not built in areas prone to large, damaging earthquakes, McCollum said. "But they were constructed with earthquakes in mind and are designed to withstand ground acceleration much worse than any experienced in recorded history where they are located."

Three reactors at TVA's Browns Ferry Nuclear Power Plant near Athens are boiling water reactors like those at Fukushima Dai-ichi. Its facilities at Sequoyah and Watts Bar utilize pressurized water reactors. The proposed reactor at Bellefonte will be a PWR.

Garry Morgan a member of BREDL and of the Bellefonte Efficiency and Sustainability Team said he has concerns about TVA's continued use of nuclear power and has questions about the utility's emergency plans in case of a catastrophic failure. BREDL and BEST are environmental groups that promote the use of alternative energy, conservation and efficiency as a means of providing power for the future.

"Continuing TVA's nuclear programs will only result in increased health risk to citizens and higher costs to ratepayers," Morgan said. "New nuclear power is not needed and TVA should be decommissioning its aging nuclear reactors."

Of the 104 nuclear plants operating in the US today 79 utilize PWR technology while the remainder are boiling water reactors.

"PWR reactors power submarines and aircraft carriers," Golden said. "PWR reactors don't allow water to boil in the reactor."

The biggest difference in the reactor types comes down to how steam is produced and handled. The primary coolant flows through a series of tubes in a PWR. It absorbs heat from the core to heat a secondary pool of water and generate steam to power turbines that produce electricity.

In a BWR cool water is introduced directly into the core where it heats up and boils. The steam that is radioactive, unlike in a PWR, powers the turbines to produce electricity.

"We are hearing many people both in and out of the nuclear industry say, 'Oh, it can't happen here,' but that's what they said in Japan the day before it happened," Bill Reynolds, a member of the Bellefonte Efficiency and Sustainability Team, said.

Energy companies in the US have learned lessons from disasters at Chernobyl in the former Soviet Union and at Three-Mile Island. Federal agencies such as the Nuclear Regulatory Commission and the Institute for Nuclear Power have helped establish guidelines after both major and minor incidents. The result has been improved efficiency and a redundancy in safety features to handle a "worst case" scenario, according to Swafford.

"Nuclear energy is a complex subject. It is very difficult for most people to equate," Swafford said. "But, it's a well-understood technology that is proximity safe."

"The people of TVA train, prepare, and work every day to ensure the safety of our plants. We are not and cannot ever be complacent or arrogant about our knowledge, preparation, or capabilities," said McCollum. "We will learn all that we can, assess our capabilities critically, and take action to improve."

TVA Works To Calm Concerns About Nuclear Plants (WKRN)

WKRN-TV Nashville, TN, March 24, 2011

The Tennessee Valley Authority is assuring Tennesseans that its three nuclear plants are built to withstand a natural disaster or terrorist attack.

"We are susceptible to some of the things we have seen on TV," Executive Vice President and Chief Nuclear Officer Preston Swafford said.

He continued, "There are some unique differences that we put in place since [Three Mile Island in] 1979 as well as since [September 11,] 2001 that's harden our systems substantially."

The TVA has three nuclear plants that provide electricity to around three million homes in the Tennessee Valley.

Browns Ferry is located near Athens, Alabama, Sequoyah is in Soddy-Daisy and Watts Bar is near Spring City, Tennessee.

The TVA is working to calm concerns that its nuclear plants could leak radiation like the Fukushima Daiichi Nuclear Plant in Japan. The plant was damaged after an earthquake and tsunami struck the island nation earlier this month. The plant had an explosion following the tsunami when cooling equipment failed to cool the reactor core.

The Browns Ferry plant is similar to the plant in Japan. Both are boiling water reactors.

They use uranium to boil water. The steam created is then used to turn turbines that drive generators to create electricity.

"The probability of having an explosion on our refuel floor like was seen on TV is quite minimal," Swafford said.

Swafford said the Browns Ferry Plant is equipped to withstand a 6.0 earthquake and million year flooding levels. The New Madrid Fault line in Missouri is the closest fault line to the plant.

The plant also has back up diesel engines housed underground that would be used to cool the reactor if a natural disaster or terrorist attack forced the plant to shutdown.

He pointed out that in Japan the diesel engines were damaged by flood water and the material used to collect hydrogen was not as strong as pipes used in the TVA's plants.

Some groups have called for a moratorium on nuclear plant plans and want a full review of all nuclear plants.

"In light of the unfolding tragedy in Japan, the United States must re-visit all nuclear issues—power, waste and mining," The Blue Ridge Environmental Defense said in a release.

He continued, "This is the least we can do to honor the brave souls who are sacrificing their lives to control the disaster in Fukushima, and to commemorate the terrible loss of life among the innocent."

Swafford told Nashville's News 2 a moratorium is not necessary because nuclear power is already heavily regulated by the federal government and the industry itself.

"Our designs are robust, these are safe nuclear power plants we have been in this business a very long time," Swafford said, adding, "We will never let our guard down. We will treat every day with the seriousness we treated the day before."

In addition to safeguards at the nuclear plants, each plant must have an emergency preparedness plan in place and check it.

TVA has monthly tests of its emergency sirens.

There is also an evacuation plan in place for a 10 mile radius around each of the plants. Friday the TVA will continue its outreach by taking members of the media on a tour of the Browns Ferry Plant in Alabama. During the tour journalist will see the inner workings of the plant along with safety and security measure in place.

TVA Looks To Learn From Japan Disaster While Moving Forward (WDEF_TV)

WDEF News 12, March 24, 2011

TVA officials continue to assess the information coming in about what happened in the nuclear crisis in Japan.

They are going to continue moving ahead with their plans for new facilities, but say lessened learned will be incorporated.

WDEF News 12's Mandy Odom tells us what they've done so far in continuing coverage.

TVA officials say their plants are different from the one in Japan.

Chief Operating Officer Bill McCollum says, "We have plants that in the Tennessee Valley that are not situated on top of high earthquake activity zones, that are not in areas that are susceptible to tsunamis and that do have very robust defenses against natural events or other occurrences."

But the company still put together a response center to evaluate information coming from Japan and how to apply it to strengthen TVA's nuclear defenses.

McCollum says, "We've determined that we will probably add some additional pre-staged equipment and change the locations of some of those to make them more accessible."

Chief Operating Officer Bill McCollum says they don't have all the information yet, and any drastic changes would be premature.

Yet due to Japan's nuclear disaster, Germany abandoned nuclear energy.

However, TVA plans to continue work on Watts Bar and Bellefonte.

McCollum says, "There would be a cost to trying to stop and start a project like that and so you would spend money if you wanted to say stop, you would spend money to stop and money to start."

McCollum says continuing gives TVA the opportunity to incorporate the lessons learned.

In Chattanooga, Mandy Odom, WDEF News 12.

McCollum says nuclear energy still makes sense for the future.

NRG Energy Slows Down Plans To Expand In Bay City (VICTORA)

By Dianna Wray

The Victoria (TX) Advocate, March 24, 2011

The South Texas Project nuclear expansion in Bay City has been slowed down in the wake of the nuclear disaster in Japan.

The entire nuclear power industry gave a shudder as the disaster at the Fukushima Daiichi unfolded two weeks ago, and the Nuclear Regulatory Commission has been looking at safety regulations at nuclear power plants across the country.

Nuclear Innovation of North America LLC, a nuclear development company jointly owned by NRG Energy Inc. and Toshiba Corporation, announced that the planned expansion of the plant has been slowed while they wait for the NRC to come back with any regulatory changes, NRG Energy communications director David Knox said.

"Basically, we know the Nuclear Regulatory Commission is going to be doing a review of what the lessons of Fukushima are, and how we can make our plants even stronger," Knox said. "They're going to be doing this review, and the review could cause the requirements on how the plants are permitted to change."

Knox said the NRC review may change how they will construct the additional two units in Bay City.

Plans call for construction to start in 2012, with the new units operational by 2016.

"As we're moving forward to where we're doing this detailed engineering, if the requirements are going to change, why not wait until this is settled?"

Knox noted that this an attitude being adopted by the entire US nuclear industry, but that he had faith in the NRC.

"The NRC is very interested in having the safest possible plants, but they know the capabilities of the industry, and they know how well it has performed, and we are anticipating that," Knox said.

Knox said the NRC review shouldn't slow down the progress on the expansion, unless it is a drawn-out review.

"If this is a two-week or two-month review, that's something the project can take, but if this is a six-month review this could impact the project," Knox said.

The STP expansion project is also waiting to see if Tokyo Electric Power Company, the owners of Fukushima Daiichi, still plan to invest in the project.

The company has an agreement to buy 10 to 20 percent of NRG's stake in the investment, Knox said.

"Our goal is to own 40 to 50 percent of the project. If they don't buy it, then we need to revisit investors before we make motions to proceed," Knox said.

While there's been no indication that the company would withdraw from the agreement, Knox said, it seems prudent to make sure TEPC still plans to invest.

To make the project happen, they need to be certain of the NRC's regulatory process and that they will get the loan guarantees and that the expansion will actually cost \$10 billion, as estimated.

"We must have that certainty, and that's what we're slowing down to make sure of," he said.

Either way, Knox said the project is on a timetable and that the decision of whether to move forward will be made, as promised in September.

"We're on timeline, we've made a commitment to our shareholders that we would make a decision on the status of the expansion by the third quarter, and we are going to stand by that," Knox said.

Nuke Talks On Hold; Town Hall Meetings To Address Property Tax Questions (AUSTIN)

Austin American Statesman, March 24, 2011

A company looking to expand the South Texas Project nuclear facility has temporarily broken off talks with Austin, citing concern for its Japanese partners dealing with the aftermath of the earthquake and tsunami.

"Our most immediate concern is for the safety of our friends and partners and all the people of Japan," according to an email from NRG Inc. spokesman Juan Garza. "There will be time to assess the impact on nuclear development in the US in the days and weeks to come."

NRG had been talking with Austin, San Antonio and other cities about buying power from two new reactors it is proposing to build at the Matagorda County facility. But a key player in the expansion is Tokyo Electric Power Co., which owns the distressed Fukushima Daiichi power plant and is scrambling to restore power to four of the plant's reactors, which are overheating and causing health concerns.

CPS Energy of San Antonio agreed last week to suspend talks with NRG.

NRG spokesman David Knox said the company hopes to resume talks with Austin and San Antonio at some point.

Water your lawn with pool water

When you're draining your pool, think conservation, the city says. The city is encouraging Austinites to drain their pools onto their lawns — potentially reducing the amount of watering that's needed — instead of draining the water into nearby storm drains.

Actually, it's more than encouragement. Draining a pool into a nearby storm drain is illegal in Austin. According to a release from the city, "improperly backwashing your pool can discharge pollutants such as chlorine, acid, salt and diatomaceous earth, not to mention sunscreen, body oils and sometimes harmful bacteria into our waterways."

Got property tax questions?

People with questions about Travis County property taxes, available exemptions, home valuations or the appraisal protest process may attend free town hall meetings with county officials who might be able to provide answers. Chief Appraiser Patrick Brown and Tax Assessor/Collector Nelda Wells Spears will be on hand at the property tax meetings in the next couple of weeks.

The next meetings will take place 6:30 to 8 p.m. on the following days: Monday at Pflugerville Community Library, 102 10th St., Pflugerville; Tuesday at Lakeway Activity Center, 105 Cross Creek, Lakeway; and April 5 at Laura's Library, 9411 Bee Cave Road, Austin.

Texas Nuke Plant Involving Shaw May Be Scratched (CHARBIZ)

By John Downey

Charlotte Business Journal, March 24, 2011

The Wall Street Journal reports NRG Energy's 2,700-megawatt South Texas nuclear project may be delayed or canceled in the wake of the nuclear plant crisis in Japan.

That could have a direct effect on Shaw Power Group, which signed on with Toshiba Corp. to participate in the massive project. In November, Shaw announced it was hiring about 225 — including 180 engineers — in Charlotte in part to support work on the South Texas plant.

NRG CEO David Crane acknowledged the project could be tabled because of mounting issues. Tokyo Electric Power Co., which owns the Fukushima Daiichi plant where the crisis continues, has agreed to be a partner in South Texas. Crane told the paper it is not clear whether TEPCO will continue its participation in the plant. Suspending negotiations

On Monday, the project suffered another setback when CPS Energy of San Antonio announced it was suspending negotiations about the possibility of buying power from the plant.

Nuclear Innovation North America, the partnership NRG established with Toshiba to build the project, later announced it "is reducing the scope of development at the South Texas Project expansion to allow time for the US Nuclear Regulatory Commission and other nuclear stakeholders to assess the lessons that can be learned from the events in Japan."

NRG is a merchant power provider. Without a buyer for the power the plant will produce, NRG will not go forward with construction.

Shaw has agreed with Toshiba to be the engineering, procurement and construction contractor for Toshiba nuclear plants worldwide. That would include the South Texas project.

Shaw also agreed to invest up to \$250 million in the South Texas project. John Downey covers the energy industry for the Charlotte Business Journal. [Click here to read more recent postings on Power City.](#) To get an RSS feed for Power City [click here.](#)

Japan Nuke Disaster Could Delay Reactor (SOMD)

By Jeff Newman

[Southern Maryland Newspapers](#), March 24, 2011

Just a few years ago public officials and economic analysts touted an imminent "nuclear renaissance" that would revitalize an industry that had gone more than 30 years without adding a plant in the United States.

Rising oil prices and concerns about global warming during the past decade created an advantageous political climate for nuclear power that, following the 2005 announcement of an \$18.5 billion federal loan guarantee program, had the Nuclear Regulatory Commission as recently as last spring expecting applications for a couple dozen new reactors to join the 104 existing plants.

Among the applications was one for a third reactor at the Calvert Cliffs Nuclear Power Plant in Lusby, an almost \$10 billion project expected to create about 4,000 temporary and 400 permanent jobs at Maryland's only nuclear electricity plant.

But the Great Recession, coupled with falling natural gas prices and the consistently high initial costs to build and fuel nuclear plants, dampened the push toward nuclear expansion. Meanwhile, major investors such as Google began flocking to wind and other renewable energy projects that promise lower upfront capital expenses.

And that was all before March 11, when an estimated 9.0-magnitude earthquake rocked Japan, triggering a massive tsunami that left one of the island nation's principle nuclear plants teetering on the edge of a catastrophic meltdown.

The tsunami knocked out emergency generators needed to operate cooling pumps at three of the six boiling-water reactors at the Fukushima Daiichi nuclear power plant, located about 135 miles northeast of Tokyo. Japanese officials since have scrambled to limit radiation leaks with varying level of success reported, though NRC officials said Monday that radiation had been contained and the situation was stabilizing.

The crisis already is considered the worst for the industry since the 1986 Chernobyl disaster and has awakened memories of the Three Mile Island accident in 1979. For Maryland, it means a likely lengthy delay in plans to build the third Calvert Cliffs reactor.

Local and state officials have said the events in Japan have little bearing on the safety of a plant on the East Coast and that the project still is viable.

But longtime opponents of nuclear power have been emboldened, pointing to Japan as evidence of Murphy's Law — that if something can go wrong with nuclear power, it will.

"Japan is a serious, major accident, and it really highlights a lot of the questions people have always had about nuclear," said Nathan Hultman, a public policy professor at the University of Maryland and an expert on global energy policy.

Regarding the Calvert Cliffs project, "It's going to be on hold for a couple of years," Hultman said.

"I can't imagine this is going to blow over quickly. There will have to be some pause on the discussion. It's just not a good time to push forward on that."

The US should "quickly put the brakes on, until we can absorb what has happened in Japan as a result of the earthquake and tsunami and then see what more, if anything, we can demand of the new power plants that are coming on line," Sen. Joseph I. Lieberman (I-Conn.), a nuclear supporter who chairs the Senate's homeland security committee, said March 13 on the CBS Sunday talk show, "Face the Nation."

But the industry still has its backers.

"I would caution people not to make snap judgments," said state House Minority Leader Anthony J. O'Donnell (R-Calvert, St. Mary's), whose district includes Calvert Cliffs. "The crisis in Japan is still occurring, so let's let the crisis be brought under control and be stabilized and then be appropriately evaluated before we rush to judgment."

Gov. Martin O'Malley (D) said he thinks both wind and nuclear power are critical to the state's energy future, spokesman Shaun Adamec said. Maryland Public Service Commission Chairman Doug Nazarian told the Senate Finance Committee last week that nuclear provides the "best long-term bang for the buck" — more so than other energy sources.

Hultman said that while brewing national discussion on the risks and rewards of nuclear energy might trigger significant safety upgrades at current plants, shutting down any of the existing fleet "will never be on the table."

But he said he thinks nuclear is far from the leading option when it comes to the country's energy future.

"I think possibly there are some regulatory environments and demand environments where nuclear makes sense, but I would never say that nuclear is the obvious choice," Hultman said. "I think you can get your electrons much more easily by other means."

What If It Happened Here? (SOMD)

By JAY FRIESS, ANDY MARSO

Southern Maryland Newspapers, March 24, 2011

The United States embassy in Tokyo advised Americans living in Japan on Thursday to evacuate a minimum of 50 miles away from the burning and exploding nuclear reactors at Fukushima, damaged two weeks ago by an earthquake and ensuing tsunami.

If such a radius was applied to Southern Maryland with the center located at the Calvert Cliffs Nuclear Power Plant in Lusby, it would include an area stretching to Washington, D.C. in the north; Salisbury in the east; nearly the entire Virginia Northern Neck to the south; and to Stafford, Va. in the west.

Yet Maryland's published emergency response plan for a nuclear disaster at Calvert Cliffs is focused on a 10-mile radius including only the southern end of Calvert County, a slice of Dorchester County coastline, and a stretch of St. Mary's County's eastern side, stretching from Oakville to the Patuxent River Naval Air Station.

This 10-mile radius is known as the Protective Action Zone, and the state stockpiles iodine tablets in this area for residents to protect their thyroid glands from radiation exposure. But according to officials, the state also has a plan for the evacuation and protection of a 50-mile radius, known as the Ingestion Pathway Zone.

According to David Zylak, public safety director for St. Mary's County, his team drilled last year to practice instituting the 50-mile radius plan, which also includes protecting and decontaminating food sources, such as livestock and crops.

He said his team drills for a 10-mile evacuation every two years and will do so again in September.

But "we have a 50-mile map as well," Zylak said.

Zylak said the 10-mile plan is triggered if there is an incident at the Calvert Cliffs plant, but the 50-mile plan only kicks in if there is an actual release of radioactive material from the plant.

Richard Muth, executive director of the Maryland Emergency Management Agency, confirmed Zylak's information and noted that his agency is in constant contact with the county's public safety department.

"We have plans in place for these [nuclear] plants," Muth said.

Mark Sullivan, director of communications for the Constellation Energy Nuclear Group, said safety was the company's top priority for Calvert Cliffs.

"We have emergency response plans in place which are approved at the federal, state and local government agencies," Sullivan wrote in an e-mail. "The plans have detailed procedures which are routinely reviewed and used in training of our teams. We have training exercises and drills to test our ability to effectively implement our plan and are formally evaluated by the NRC."

Sullivan also said Calvert Cliffs' reactors would be shut down if certain levels of seismic activity were detected in the area and that the NRC required all plants to be designed to withstand natural phenomena like tsunamis.

According to the US Geological Survey, there has never been an earthquake centered in the Washington, D.C., area in recorded history (though the area has felt mild effects from quakes centered elsewhere).

Dr. Jeff Halka, director of the Maryland Geological Survey with the Maryland Department of Natural Resources, said there is a 2 percent probability in 50 years of any earthquake occurring in Maryland, and even if one did strike, there is an almost zero percent chance that it would ever be as large as the quakes around the Pacific Rim.

"We're not in an area of active mountain building. We're not in an area of continental drift causing one oceanic plate to go under another," Halka said. "The East Coast of the US, we haven't been in that situation for some hundreds of millions of years when the Appalachian Mountains were formed."

However, because earthquake predictions are by and large based on an area's seismic history, the possibility of a Maryland quake can never be overruled, he said. "Most of the East Coast has a low probability, except for Charleston, South

Carolina because Charleston had a big earthquake" at the end of the 19th century, Halka said. "Nobody really knows what the cause is. Obviously there's a fault somewhere, but it doesn't express itself at the surface."

Nathan Hultman, a University of Maryland professor in the School of Public Policy who is an expert on atomic energy policy, said reactor containment units in the United States are built to withstand tremendous impacts — even the force of a plane flying into them, a scenario illustrated by the terrorist attacks of Sept. 11, 2001.

But Hultman said the cooling ponds where used nuclear rods are placed at most facilities are sometimes more vulnerable. Spent rods must be radioactively cooled for several years before they can enter "dry cask" storage. Fires have broken out in some of the pools at the damaged Fukushima plant, sending high levels of radiation into the atmosphere.

"Even if someone did try to fly an airplane into a nuclear reactor ... it's likely not going to actually break the reactor and release radioactivity," Hultman said. "But if you fly the airplane into the pool of spent fuel, you can create essentially a dirty bomb, right, from just this activity and maybe even set the thing on fire."

Sullivan wrote that the spent fuel at Calvert Cliffs is stored in a hardened facility.

"The spent fuel at Calvert Cliffs ... [is] stored in auxiliary buildings designed to withstand the design basis earthquake as well as all other natural phenomenon," he wrote. "As a result of enhancements implemented after Sept. 11, our sites have additional capabilities to handle beyond design basis events, including the capability to provide cooling to the spent fuel pool in the absence of electrical power. This capability includes equipment (diesel-driven pumps, hoses, valves, etc.) that has been pre-staged at the plant. Personnel are trained in their use."

NRC spokesman Neil Sheehan said the type of reactor involved in the Japanese emergency is the boiling-water reactor, or BWR. Both Calvert Cliffs units are pressurized-water reactors, or PWRs. The spent fuel pool in the PWR is located outside the containment building, rather than on top of it, as is the case with certain BWR designs. The overhead placement at Fukushima Daiichi led to problems in the days following the earthquake and tsunami.

Calvert Cliffs Nuclear Plant Manager Warned Employees Of Roof Leaks, Declining Maintenance (SMDO)

By Andy Marso

Southern Maryland Online, March 24, 2011

WASHINGTON (March 23, 2011) — Calvert Cliffs Nuclear Power Plant General Manager Thomas Trepanier warned his employees about a pattern of "tolerating degraded roof conditions" at the 35-year-old facility last year after water damage shorted out backup power systems, leading to a weeklong shutdown.

"The station had developed a reactive culture rather than a preventive strategy on dealing with roof leaks, thereby eliminating an increased sensitivity," Trepanier wrote in an internal PowerPoint presentation about the incident.

Trepanier titled the presentation "Calvert Cliffs: A Case for Change." It includes pictures from the leaky section of roof and, after a slide titled "So What?," has pictures of the interior of the Three Mile Island plant that leaked radiation in Pennsylvania in 1979.

"We must use these events as a burning platform to identify all issues and understand the extent of condition to arrest this decline and improve plant performance," Trepanier wrote near the end of the presentation.

He then complimented the employees saying, "Good human performance, fundamental behaviors and training prevented the situation from deteriorating."

Trepanier also warned his staff that "Events are lagging indicators of the direction of the plant."

According to Nuclear Regulatory Commission inspection records, a roof leak at the Calvert Cliffs plant shorted out one of the Unit 1 reactor's two electrical distribution buses on the morning of Feb. 18, 2010. This caused the emergency diesel generators to kick in automatically, but a failure of an electrical relay caused one of the five generators to stop working.

Massive generator failures led to the current crisis at the Fukushima nuclear plant in Japan.

"The emergency diesel generators — as came into play in Japan — are a backup source of power," said Dave Lochbaum, the director of the Nuclear Safety Project for the Union of Concerned Scientists. "So if they don't work when you need them to, there's a safety significance."

NRC inspector Glenn Dentel said the Calvert Cliffs roof leak may have been caused by excessive snowmelt after blizzards hit the area. He and his team found that the plant's operators had not adequately prioritized roof repairs to protect the most sensitive equipment first.

"The leak that ended up impacting dripped down in the cabin that had electrical equipment," Dentel said. "Obviously electricity and water ended up in a short. That's not where you want it to be leaking."

After evaluating the incident, the NRC issued a rare "white" finding — the third-most severe rating in its "green, white, yellow, red" system. According to NRC data, there were 819 green findings, 9 white findings, 2 yellow findings and 0 red findings at the nation's 104 nuclear reactors last year.

Mark Sullivan, communications director for the Constellation Energy Nuclear Group, which operates the plant, said via e-mail that Trepanier's PowerPoint was "an internal document for an employee meeting that was presented at an industry human performance working group."

The presentation was available online on the Department of Energy's "Operating Experience" Wiki page. It was removed a few hours after Capital News Service called Sullivan for comment.

Sullivan also said the company had learned from the incident and worked to fix the problems.

"As soon as we found out we had roof leaks, we put an employee team together, we jumped on it and we came up with solutions to the problem so it doesn't happen again." Sullivan said in a phone interview. "I don't know what else to tell you. Every business has issues that you deal with and that's exactly what we did in this case."

But NRC's latest inspections show that Calvert Cliffs had more problems with water buildup as recently as December. The facility had three "green" findings in an integrated inspection report dated Jan. 28, 2011, including one for "submerged safety related (SR) cables including the 1A diesel generator (DG) cables." The inspection report warned that "repeated submergence of medium voltage cables can cause excessive aging and degradation in the exposed sections of the cables, which could significantly shorten its qualified life and cause unexpected failures."

"We determined that their actions were not effective for addressing that, and that's why we ended up giving the green finding," Dentel said. "The reason it wasn't any more significant is that, actually, though the cables had water, they ... still performed their designed function."

Dentel also said that the submerged cables should not necessarily be connected to the leak that caused the Feb. 18 incident, because they were in a different area of the plant.

But the NRC is clear on the fact that water and electrical cables — even insulated ones — don't mix. The agency issued a generic letter in 2007 titled "Inaccessible or underground power cable failures — that disable accident mitigation systems or cause plant transients," in which it warned that water damage was leading to electrical failures, especially in cables more than 10 years old.

"At each nuclear station, there may be only a dozen or so power cables installed in locations susceptible to moisture-induced damage," the letter stated. "The low number of cables notwithstanding, the staff identified 23 licensee event reports and 2 morning reports since 1988 regarding failures of buried medium-voltage, alternating current (AC) and direct current (DC) low voltage cables from insulation failure. The staff has knowledge of several other cable failures that were not required to be reported and therefore, these reported events are only a fraction of all failures."

At Fukushima plant, a tsunami overwhelmed backup generators and cut off-site power on March 11, leading to a failure of cooling systems and the release of dangerous levels of radiation.

At Calvert Cliffs last year the water damage was much less dramatic and much more easily contained. Workers tied in an alternate power source and "Reactor Coolant System temperature increased slightly," but "there were no actual nuclear safety consequences," according to NRC. The agency sent a team of inspectors and the plant was shut down voluntarily until Feb. 26.

In e-mails, Sullivan said all of Constellation's nuclear plants had multiple backup safety features and that the company had spent \$26 million in safety and security enhancements at Calvert Cliffs.

Mohammed Modarres, a professor in the nuclear engineering department at the University of Maryland said in an e-mail that while the Feb. 18, 2010, shutdown was "an important event" it was not very serious "since the plant had not lost all its normal power and had emergency cooling capability."

He said it also illustrated the effectiveness of the backup power systems at Calvert Cliffs, which sits in Lusby, Md., about 50 miles from downtown Washington, D.C.

"It shows that the general designs of nuclear plants are robust due to its defense-in-depth design philosophy (availability of multiple ways and barriers to prevent or mitigate events)," Modarres wrote.

The NRC did a follow-up inspection of the systems that failed in the "white" incident last week and Dentel said the agency will release its findings in about a month. Search for more local news stories about Calvert Cliffs Nuclear Power Plant

If TMI, Peach Bottom Lose Power, Turn To Diesel (YDRPA)

By Sean Adkins

York (PA) Daily Record, March 24, 2011

Peach Bottom and TMI have multiple back up systems to keep fuel cool in the event of an emergency.

Peach Bottom Atomic Power Station employees who work in the plant's refueling area don protective clothing to help guard against the effects of radiation. Workers at the Fukushima Dai-ichi in Japan have struggled to control the temperature of that plant's spent fuel pools after the site was damaged by both an earthquake and a tsunami, causing nuclear plants elsewhere to review emergency procedures. (YORK DAILY RECORD/SUNDAY NEWS— FILE)York, PA -

Should area nuclear-powered plants ever lose off-site power, those sites would rely on a series of redundant safety systems to keep both the reactors and spent fuel pools cool and filled.

Earlier this week, an official with a nuclear industry watchdog group said some, but not all, nuclear plants across the nation would turn to emergency diesel generators to power the cooling systems of their spent fuel pools.

The pools hold spent fuel assemblies that had previously powered a reactor. Typically, the assemblies remain in racks close to the bottom of the pool to cool for at least five years.

If the emergency diesel generators failed in a power outage, the cooling systems for the pool would not be able to turn to back up batteries for power — a source of reserve energy that is available to power the cooling system of a reactor, said David Lochbaum, director for the Union of Concerned Scientists Nuclear Safety Project, during a conference call earlier this week.

At Peach Bottom Atomic Power Station, for example, the plant's two boiling water reactors are cooled by a system that relies on off-site power.

If that power was lost, emergency diesel generators would kick in to power the cooling system. Batteries would fill in as another source of power should the generators fail, said Diane Screnci, a spokeswoman for the US Nuclear Regulatory Commission.

The cooling system for the pool could be powered by diesel generators, she said, but batteries would not supply power to the spent fuel pool pumps if the generators were unavailable.

"So, you have to get either the diesels back or the electrical grid back in order to restore cooling and make-up (water) to the spent fuel pool," Lochbaum said. "And that's true for the 31 reactors that are like the Japanese reactors."

The reactors at the crippled Fukushima Dai-ichi Nuclear Power Station and Peach Bottom Atomic Power Station function similarly.

Workers at the Fukushima Dai-ichi in Japan have struggled to control the temperature of that plant's spent fuel pools after the site was damaged by both an earthquake and a tsunami.

Three Mile Island Unit 1, a pressurized water reactor in Dauphin County, would turn to diesel fuel to cool its spent fuel pool should that plant lose off-site power.

The plant has in place portable, high-capacity diesel-fueled pumps that would keep the pool filled, said Ralph DeSantis, a TMI spokesman.

It was not clear Tuesday if Peach Bottom would use similar pumps in the case of an emergency.

Those pumps are powered by their own diesel engines and do not rely on the plant's emergency diesel generators, DeSantis said.

Those pumps would not be tied into the back-up batteries, which the plant would use to power the reactors cooling system in an emergency, DeSantis said.

However, even before the plant would turn to those pumps, TMI has other systems to ensure that that pool stays filled and the fuel assemblies remain cool.

For example, the pool has back-up tank that is powered by either electricity or diesel generators.

"We have a lot of back-ups," DeSantis said. "We have a lot of redundancy."

Good Ed, Bad Ed (BOS)

Boston Globe, March 24, 2011

AMID THE ongoing nuclear worries in Japan, Representative Ed Markey was bracingly outspoken. He sounded a wise note of caution about domestic nuclear power, pressuring both President Obama and the Nuclear Regulatory Commission to force nuclear power plant operators to adhere to the highest standards. Markey's statements have been a vital counterweight to the increasingly common — and dangerously naive — sentiment that the situation in Japan can be pinned on a once-in-a-lifetime confluence of factors rather than the inherent danger of under-regulated nuclear power.

Alas, Markey has also been bracingly frank on Libya — and may end up fueling conspiracy theories the size of SUVs. During a Monday appearance on MSNBC, he said that while he supports the United State joining the multinational effort to protect Libyan civilians and oust Colonel Moammar Khadafy, "[W]e're in Libya because of oil." This could feed cynicism about American foreign policy, and it's at odds with the facts: The strongest voices in favor of intervention — and the ones Obama clearly listened to — were warning of humanitarian disaster, not higher oil prices.

Markey also cited the humanitarian justification for the intervention, and endorsed the aspirations of the Libyan people. But it's important that the Arab world understand that the United States is acting to save Arab lives, not to covet Arab resources. Markey needs to be crystal-clear on that point.

Markey should be praised for speaking his mind, of course. As dean of the Massachusetts congressional delegation, he's one of the state's best advocates in Washington. He's also a visionary leader in energy policy. But not every policy decision comes down to energy.

Crisis To Complicate Funding For US Reactors (WSJ)

By Tennille Tracy And Naureen S. Malik

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Plants Face New Worries (WSJ)

Spread of Radiation in Japan Fuels Questions About Evacuation Plans in US

By Daniel Gilbert

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Polls: Majority Of Americans Believe Nuclear Power Safe But Oppose New Plants (CALLER)

Daily Caller, March 24, 2011

Though most of the public considers American nuclear power plants to be safe, the majority of Americans oppose the construction of more plants on US soil and the increased use of nuclear energy in the US in the wake of the accident in Japan.

Polls released Monday and Tuesday by CNN, Pew, CBS, and a poll released last Wednesday by Gallup, found that about half of Americans are opposed to building more plants or having the government promoting increased use of nuclear power, while the number of those in favor hovers just above forty percent in most polls. A table of results appears below:

Support has dropped significantly in the wake of the crisis in Japan. At this time last year, Gallup found 62 percent of respondents in favor of the use of nuclear energy in the US, and in July 2008, CBS found 57 percent in favor and just 34 percent disapproving of the construction of more nuclear power plants in the US.

Nonetheless, a large majority of Americans consider nuclear power plants to be fairly safe.

Pew had participants compare the relative safety of power plants in the United States to those in Japan, and found that just over half of the public perceives power plants in the two countries to be equally safe, while just a quarter called American plants safer. The question tells us very little, in the grand scheme of things, except that most of the public seem to trust American technology as much as, if not more than, Japanese technology.

CBS and CNN did not make the parallel to Japan immediately. CBS asked respondents: "Generally speaking, do you think the nuclear power plants that are in operation in the United States today are safe, or do you think they are not safe?" 69 percent called them safe; 22 percent said unsafe.

CNN asked respondents to contextualize "from what you have heard or read, how safe are nuclear power plants that support electric power...?" 79 percent of respondents called the power plants safe – about half of respondents said they were somewhat safe, just under a third said they were very safe – and a fifth called them not so safe.

The numbers shifted rather dramatically, however, when respondents were asked "specifically about the nuclear power plants in areas of the US that are close to the ocean or areas that have had earthquakes in the past." This time, 45 percent of the public called those plants 'not very safe,' 42 percent said they were 'somewhat safe,' and just 12 percent called them 'very safe.' Though the recent events in Japan are never explicitly mentioned by CNN, the obvious parallel between the two situations clearly raised the specter of an accident and stoked concern about the use of nuclear energy, even among the same people that say they favor the use of nuclear power in general.

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The element of specificity likely also triggered 'not in my backyard' sentiment. People tend to think of nuclear power plants being built in remote places. Near the ocean likely calls up locations that are too close to home; two-thirds of respondents polled by CNN said that "building a new nuclear power plant in [their] community" would be 'unacceptable.' Nonetheless, the events in Japan certainly seem to have concerned Americans.

Gallup asked about the worst-case scenario, polling respondents on their fear of a nuclear disaster occurring and whether "the recent events in Japan" had caused them to more or less concern about the possibility of a "nuclear disaster occurring in the US." Seventy percent said they were more concerned.

CBS found a similar percentage of Americans worried about "a major accident at a nuclear power plant" occurring in the US. About two-thirds of respondents said they were concerned. But CBS did not mention the crisis in Japan in this specific question. In fact, in a later question when respondents were asked: "have the recent events concerning the damaged nuclear power plant in Japan made you more fearful about a nuclear accident happening in this country, or haven't they?" Just over half of respondents said no, and only 44 percent said they had become "more fearful."

This disparity could potentially come from the use of the word 'fear' in the second CBS question, and the use of the word 'concern' in the first CBS question and the Gallup poll. Concern is a much more idle sensation; people may be concerned about something when asked about it directly, even if they hardly think about it otherwise. Fear, on the other hand, suggests a more constant consciousness of the issue.

Increased levels of concern in the immediate wake of Japan is likely the reason for the disconnect between Americans' perceptions of nuclear power plants as safe and their aversion to building more.

One reason for the disconnect may be the way the question was phrased. Not one of the polls made any reference to Japan or the recent crisis in the phrasing of the initial question about the increased use of nuclear energy or construction of more nuclear power plants. Pew asked the question as part of a series of "possible government policies to address America's energy supply." CNN asked if respondents approved or disapproved "generally speaking." Gallup asked the question as part of a series of polling questions related to other things, and introduced this question as "Turning to something else." CBS asked the question as part of a longer questionnaire, and the crisis in Japan was referenced to respondents in previous questions. Americans' concern increases significantly when the parallel to the crisis in Japan is explicitly drawn.

The results predictably vary by party line. All four polls found Republicans significantly more in favor of the expansion of nuclear energy than Democrats, more inclined to see nuclear power plants as safe, and less concerned about the possibility of an accident at a power plant.

This trend seen among Republican respondents was amplified in those who identified themselves as tea party supporters, CNN found. Support for building more nuclear power plants was 68 percent among tea party supporters, the largest amount of support found among any demographic measured. (CNN also broke down results by gender, race, age, income, party-affiliation, ideology, and geographical location). Similarly, over fifty percent of tea party supporters called nuclear power plants 'very safe'; compared to just 28 percent of the rest of the population.

Watchdog Sinks Teeth Into Nuclear Crisis, Hill Budget Brawl (GWIRE)

By John McArdle

Greenwire, March 24, 2011

As the triple disaster in Japan turns a spotlight on the US capacity to respond to a similar crisis at home, US EPA Inspector General Arthur Elkins is contemplating taking another look at parts of his agency's emergency response preparations that have raised red flags in the past.

For example, with a Japanese nuclear reactor spewing radioactive particles into the atmosphere, the White House and EPA have relied heavily on the national Radiation Ambient Monitoring System -- which continuously checks US air for radiation -- to determine if exposure in the United States should warrant concern. But an EPA IG report from January 2009 found that the full implementation of the RadNet system was behind schedule and that further delays were possible to allow time to modify some monitors.

"As a result, the agency may have less information about the levels of radiation should a national radiological or nuclear emergency occur," the report stated.

And then there is a January 2008 IG report on EPA's national emergency response planning efforts: "While EPA has a proven track record of responding effectively to serious environmental situations, those situations are limited in scope and severity when compared to suggested incidents of national significance," such as, say, a major earthquake.

The IG found EPA's emergency response plan, which was developed by the agency's Emergency Management Office in 2006, was "too limited and unstructured" to prepare EPA to roll out an effective national disaster response while also maintaining its day-to-day functions.

"I suspect it's time to look at that again," said Elkins, who has been on the job for about nine months and recently sat down for an interview at EPA headquarters.

Elkins said there are plenty of other issues stemming from the Japan disaster that could be worthy of the office's special brand of environmental protection, but that even with the broad level of independence granted to his office, he still has to bow to budget restraints.

"In a perfect world where ... money is no object, there's lots of things that we can do," Elkins said. "But we don't live in that world. We live in a different world right now."

It is a world where the IG's investigative dollars are already being stretched.

Two days before the Obama administration's budget was released in February, Elkins sent a letter to the Office of Management and Budget in which he expressed concern that the White House had submitted a fiscal 2012 request for his office that was more than \$5 million below what he had requested.

Elkins is currently trying to stem a rising tide of cyberattacks at the agency, and it is an expensive project that requires specialized skills and machinery (E&ENews PM, March 2). Between that effort and many other projects competing for resources in his office, Elkins said in his letter that the approximately \$46 million that the president proposed for his office is simply not enough.

Obama's proposal is more than the office got under the George W. Bush administration, when the IG's budget ticked up from about \$34 million to around \$40 million over eight years.

But as the budgeting process plays out on Capitol Hill, Elkins said last week that he is trying to make sure his staff remains focused on doing the best it can with what it has by investigating the biggest and most substantive issues facing the agency.

One of those issues, he said, is EPA's ongoing failure to ensure that its approximately 18,500 employees are being put to the best use.

Human resource management has been an ongoing problem that is on display when – as the IG's office found numerous examples of in recent years – staff members are assigned to certain projects without thought as to whether they have the proper skills to do the job (Greenwire, Feb. 24).

But Elkins said it is a problem that could come back to haunt EPA if the worst happens and a disaster on the scale of the Japanese crisis hits the United States.

EPA must ensure "that the human resources are in place to be able to respond effectively ... whether or not it's a national catastrophic event or whether it's a localized event," he said.

Congress as customer

Elkins, 61, is the first Senate-confirmed IG at EPA since Nikki Tinsley stepped down in 2006.

Before his appointment, Elkins was an associate general counsel at EPA where he served in the Office of General Counsel's Information Law Practice, Employment Law Practice and Intellectual Property Law Practice. He also spent about five years working as counsel to the inspector general at the National Science Foundation.

When he took over the EPA IG post last summer, the office was still finding its footing after both a prolonged vacancy in its top post and an effort under the Bush administration to sideline the EPA watchdog.

In the summer of 2008 the then-chief of staff in EPA's enforcement and compliance office sent what amounted to a gag order to top agency officials directing them to instruct their staffs not to speak with the inspector general's office or congressional investigators without first checking with public affairs officials. The incident prompted an outcry on and off Capitol Hill.

Now-EPA Administrator Lisa Jackson added her voice to that criticism during her confirmation hearing and, not long after taking over the agency, issued a memorandum instructing all staff to comply with auditors. Jackson said EPA staff are not required to obtain permission before speaking to OIG representatives during reviews and managers should not question employees about their interactions with OIG in the context of reviews (Greenwire, Aug. 10, 2009).

Those efforts have gone a long way toward ensuring the crucial independence his office needs to do its job effectively, Elkins said.

But, he added, the office has to remain vigilant to guard against any effort that would impede its efforts to bring issues to light.

"Our mission is the same mission the agency has," Elkins said. "Our focus is on protecting human health and the environment."

Elkins and his staff of about 350 accomplish that goal by using their independence within EPA to "ask the tough questions" to bring incidents of waste to light and ensure the agency is running in the most efficient way possible.

While his law background has seen him serve as a public defender, prosecutor and chief legal officer in previous local and federal postings, Elkins analogized his current job to that of a newspaper reporter.

"We investigate, we report on what we find, we have our sources. ... We want to make sure the story is right," he said.

What Elkins is not is a political animal.

When asked about the impact his investigations and audits have on the hot-button debates on Capitol Hill over EPA operational or policy decisions, Elkins immediately retreats back to the definition of his job under the guidelines laid out in the 1978 Inspector General Act.

But while he tries to shun the politics, that does not mean Elkins also shuns politicians.

Elkins views Congress as one of his most important customers, and early in his tenure he made an effort to reach out to politicians on both sides of the aisle.

Those efforts may be part of the reason that seven lawmakers have already reached out to him for help in conducting their oversight and investigation efforts.

The requests have included a review of how the agency handles Freedom of Information Act inquiries at the behest of Rep. Darrell Issa (R-Calif.) and Sen. Charles Grassley (R-Iowa) and an effort to gather information on a lead-contaminated Superfund site in Omaha for Sen. Mike Johanns (R-Neb.).

Sen. James Inhofe (R-Okla.), the ranking member of the Senate Environment and Public Works Committee, recently requested Elkins' help in preserving documents in the agency's ongoing dispute with the state of Texas over gas-drilling permits. Inhofe had already approached Elkins last fall for a request involving mountaintop-removal coal mining permits in Appalachia.

Gulf spill investigations

At a time when EPA and its allies are trying to hold the line against deep budget cuts proposed by House Republicans, Elkins' reports can sometimes have unintended consequences.

For example, Elkins' recent report on the agency's failures to manage the human resources it already has isn't likely to help agency brass make the case that certain proposed Republican cuts go too far.

Meanwhile, the IG's office is in the process of putting out a couple other reports that are sure to find their way into political discussions.

The agency is conducting an audit of the decisionmaking behind the use of dispersants during the cleanup effort on last year's massive oil spill in the Gulf of Mexico.

Environmental and public-health groups have long aired concerns that the soup of toxic chemicals from gushing crude and oil dispersants could cause long-term health problems for Gulf cleanup workers.

The IG report, which is set to come out in the next few months, won't focus on the health effects of using those chemicals but will provide information on who made the decisions to use the dispersants and what scientific data they had on hand when they made that decision.

Another evaluation is looking into the recovery of costs that EPA incurred as a result of the spill and a third study is looking into EPA's role in managing the waste left over from the spill to ensure that it was properly disposed of or recycled.

With the one year anniversary of the spill coming up next month and finger-pointing continuing over the disaster, those reports could become fodder for a group whose agenda may be something other than simply minimizing waste, fraud and abuse.

Elkins said that is not something he worries about.

"We publish our reports in the public domain," Elkins said. "Anybody can take those reports and do with them as they will. Our purpose is to educate, to inform. What folks do with the reports after they leave our office, there's not much I personally can do about that."

Nuclear Watchdog Group Wants To Meet With Quinn (AP)

Associated Press, March 24, 2011

CHICAGO (AP) - An Illinois nuclear watchdog group is asking Gov. Pat Quinn for a face-to-face meeting to discuss safety and oversight of the state's reactors.

David Kraft is director of the Nuclear Energy Information Service. He sent a letter to Quinn Tuesday requesting the meeting and included a list of topics his group wants to discuss.

First on the list: the four Illinois reactors that are the same model and roughly the same age as those involved in Japan's ongoing nuclear crisis. Kraft believes the design of those Mark I reactors makes them more susceptible to problems in the event of a natural or man-made disaster.

Exelon Corp. owns the Illinois reactors and says they're safe.

A Quinn spokesman said the governor has the letter and his office would contact Kraft.

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Illinois To Inspect Its Nuclear Power Plants (WFIL)

WGIL-AM Galesburg, IL, March 23, 2011

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Dresden Nuclear Plant In Morris Conducts Drill (WLS)

WLS-TV Chicago, March 24, 2011

March 23, 2011 (JOLIET, Ill.) (WLS) – State and county emergency management agencies began a drill at a southwest suburban nuclear power plant Wednesday morning.

The Dresden nuclear power plant is in Morris. The drill was held at a mock command center 10 miles away at the Chicagoland Speedway in Joliet. Participants practiced coordinating evacuations, setting up shelters and telling people where to go for health concerns.

Officials prepared for the worst, just to be safe. Safety drills are held at Illinois power plants every two years.

"We want to get as close to the plant as possible but not interfere or get into the emergency planning zone within 10 miles. So this is where we coordinate the response. This is where law enforcement, state police is involved here, natural resources and all the different state entities that would be participating in such an event," said Joseph Klinger, Ill. Emergency Management Agency.

Emergency crews were there with high-tech equipment to make sure that the power plant is safe.

The drill tests the response of state and local emergency agencies to a disaster at the Dresden nuclear power plant. The drill was scheduled years in advance, but it's timely in light of the nuclear disaster in Japan. The reactors at the Japanese power plant are much like those at Dresden and also around the same age.

In light of the Japanese disaster, Congressman Bobby Rush, the ranking Democrat on the House Energy and Commerce subcommittee, went on a tour of the Dresden plant last week to get reassurances about its safety. Dresden is the oldest privately owned nuclear power facility in the country.

"There will never be a nuclear facility built where there is a 100-percent guarantee that something won't happen," said Rush.

During the tour, officials pointed out improvements they have made throughout the years to make it safer, including vents and backup generators to prevent explosions and losses of cooling water, problems that crippled the Japanese plant.

"We have backup systems here now that, I believe, that if they had had them there they would not have gotten to where they are," said Tim Hanley, Dresden nuclear plant.

The safety of Illinois' nuclear reactors also is the focus of a forum later in the week hosted by Sens. Dick Durbin and Mark Kirk. The forum will examine whether Illinois is prepared for an emergency.

Future Of Iowa Nuclear Energy Bill Uncertain (AP)

Associated Press

Associated Press, March 15, 2011

Expanding nuclear power in Iowa came under intensified scrutiny amid the threat of a nuclear meltdown in Japan on Monday, with some lawmakers softening their support and others predicting tough questioning when a utility boss testifies about his plans this week.

Legislators are considering bills that would make it easier for energy companies to build new nuclear plants in Iowa. Supporters say nuclear power is the only option amid increasing regulation of coal and natural gas plants.

Sen. Matt McCoy voted for the bill when it was approved by the Senate Commerce Committee 13-2 this month, but now he's undecided. A subcommittee is set to debate the legislation again Thursday and hear from the president of MidAmerican Energy, which is considering building a nuclear power plant in Iowa. The state currently has one nuclear plant.

"I think they have an extreme burden now to resell this," said McCoy, a Democrat from Des Moines. "I think the question is what assurances can you give us that this is safe."

The committee's chairwoman, Sen. Swati Dandekar, expects lawmakers will have a lot of questions for MidAmerican CEO William Fehrman.

MidAmerican spokeswoman Ann Thelen said the company hopes to learn lessons from the events in Japan as it continues its study on building a nuclear facility in Iowa.

"We believe nuclear is a viable energy source and is the only proven carbon-free source of base load power," Thelen said. "Advances in nuclear technology have dramatically changed the prospects for adding nuclear generation to the state's energy portfolio."

MidAmerican is interested in a small, modular reactor design that Thelen said is safer than the plant design used in Japan.

Still, McCoy doubts the legislation will move forward this year as the world watches Japan try to stabilize its nuclear reactors after last week's devastating earthquake and tsunami. McCoy, a Senate assistant minority leader, said he's been deluged with e-mails from his constituents on the nuclear issue in the past several days.

"I don't see a bill this year," the lawmaker said. "I may be wrong on that. But it's been dealt a significant blow by what happened in Japan."

Water levels dropped precipitously Monday inside a Japanese nuclear reactor, twice leaving the uranium fuel rods completely exposed – raising the threat of a meltdown and increasing the risk of the spread of radiation. The levels dropped just hours after a hydrogen explosion tore through the building housing a different reactor.

Rep. Chuck Soderberg, a Le Mars Republican, said he's watching to see what happens in Japan and he's not sure how those events will impact efforts in Iowa. Soderberg is chairman of the House Commerce Committee, which unanimously approved a slightly different bill.

"I guess it's unclear what direction the bill will go," Soderberg said.

Soderberg noted a decision to build a nuclear power plant in Iowa would ultimately be up to utilities and federal regulators. But he said nuclear power is now one of the only options for base load electricity generation as coal and natural gas plants come under more regulation.

"As we look to grow the economy we have to have more capacity," Soderberg said.

Other leaders, including Lt. Gov. Kim Reynolds, said the events in Japan shouldn't deter expansion of the industry in Iowa and elsewhere in the US. Reynolds said technology has changed, attitudes are different and the country should continue to expand nuclear power options.

"I think we need to look at all forms of alternative energy," Reynolds said. "We continue to move forward with it."

Iowa's only nuclear power plant, the Duane Arnold Energy Center near Cedar Rapids, was granted a license in 1974 that was set to expire in 2014, but it received a 20-year extension in December. The plant produces about 592 million watts of electricity a year, enough to power 600,000 homes, according to its website.

Last year, then-Gov. Chet Culver signed a bill allowing MidAmerican Energy to study building a nuclear power plant in Iowa. The law allows the utility to charge its Iowa customers \$15 million for the three-year study examining the feasibility of building a plant.

Howard Learner, executive director of the Environmental Law and Policy Center, said the reactor design is unproven and the legislative proposals would force consumers to pay in advance for a potential nuclear plant.

Jane Magers, who leads a coalition of eight groups opposed to nuclear power, said the events in Japan should change people's attitudes about what she calls a terrible and risky energy source. Magers said 18 states have rejected nuclear power and many plants are no longer being relicensed.

"It's so tragic that we have to have this kind of an accident to change people's minds," Magers said. "I told them way before what happened in Japan that I can't understand why you're so enamored with nuclear power. It's happening around the world that there's a rejection of nuclear power. And yet you are determined that nuclear power will lead our future and I don't know why."

AP-WF-03-14-11 2305GMT

CORRECT: Nuclear Energy To Remain Part Of US Energy Mix - Utility Executive (WSJ)

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

US Nuclear Output Rises As Southern Co. Boosts Georgia Reactor (BLOOM)

By Colin McClelland

Bloomberg News, March 24, 2011

US nuclear-power output rose 0.8 percent as utilities increased production by reactors in Georgia, Pennsylvania and New Jersey, the Nuclear Regulatory Commission said.

Power generation nationwide increased by 662 megawatts from yesterday to 85,184 megawatts, or 84 percent of capacity, according to a report today from the NRC and data compiled by Bloomberg. Seventeen of the nation's 104 reactors were offline.

Southern Co. (SO) raised output at the 876-megawatt Edwin I. Hatch 1 unit, 74 miles (119 kilometers) west of Savannah, to 99 percent of capacity from 84 percent yesterday. The 883-megawatt Hatch 2 was operating at 97 percent of capacity.

Exelon raised power at the 1,134-megawatt Limerick 1 to 99 percent from 81 percent yesterday. The generating station is about 30 miles northwest of Philadelphia. Another reactor at the site, the 1,134-megawatt Limerick 2, is operating at 90 percent of capacity.

Public Service Enterprise Group Inc. (PEG) boosted output from the 1,061-megawatt Hope Creek 1 reactor to full power from 64 percent of capacity yesterday. The plant is about 18 miles south of Wilmington, Delaware.

Some reactors close for maintenance and refueling during the spring and fall in the US, when demand for heating and cooling is lower. The outages can increase consumption of natural gas and coal to generate electricity.

The average US reactor refueling outage lasted 41 days in 2009, according to the Nuclear Energy Institute.

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Chu touts small module reactors as answer to nuclear hazards (FORBES)

Forbes, March 24, 2011

Conventional nuclear reactors may not be safe enough to operate near cities—if you take Energy Secretary Steven Chu at his word—but small module reactors are “much, much safer,” he said at a Pew Environment Group forum in Washington this afternoon.

In February, the Nuclear Regulatory Commission reversed longstanding opposition to small reactors and issued a request for information to gauge the interest and plans of potential manufacturers.

The NRC considers reactors small if they produce less than 700 megawatts. The Fukushima nuclear plant consisted of four reactors with a capacity of 1,100 megawatts each. But module reactors can be much smaller, producing perhaps 25 megawatts in an underground chamber:

One idea is to create enclosed, small “modular reactors,” like the one developed at Los Alamos National Laboratory and now proffered by Santa Fe, N.M.'s Hyperion Power. Its \$50-million product would be an enclosed reactor roughly 1.5 meters wide by 2.5 meters tall; generating 25 megawatts, it would be buried underground and good for at least seven years. In fact, the promotional materials, on display at a booth at the inaugural ARPA-E conference, show nothing but a green field with a single tree. Think large (hidden) battery, the company urges.

via Scientific American

On Wednesday, Chu suggested module reactors should appear with solar and wind power in a new US energy policy designed to win “the race” with China and other nations to develop clean energy sources, according to Brian Wingfield, who covered the forum for Bloomberg.

Solar and wind power would become cost competitive in this decade, Chu predicted.

The advantage, to Chu, of small reactors is that they produce no carbon pollution. They produce spent fuel, however. They are just as capable as large conventional reactors of suffering a molten core, but their diminutive size may simplify containment.

Chu's endorsement of small reactors comes on the heels of remarks Sunday in which he suggested the US would reconsider placing conventional nuclear reactors near populated areas.

“Certainly where you site reactors and where we site reactors going forward will be different than where we might have sited them in the past,” Chu said during an appearance on Fox News Sunday.

“Any time there is a serious accident, we have to learn from those accidents and go forward.”

On Tuesday, Sen Barbara Boxer (D-CA) revealed that the Nuclear Regulatory Commission had told her two California nuclear plants are in areas rated with the highest seismic hazard: The San Onofre plant north of Los Angeles and the Diablo Canyon plant near San Luis Obispo.

Earlier in the week, New York Gov. Andrew Cuomo said the NRC has promised to examine New York's Indian Point reactor first.

Boxer didn't address Indian Point, but she tried to shift attention to the opposite coast: "New information about the severe seismic risk at the San Onofre Nuclear Generating Station and the Diablo Canyon Power Plant make clear that these two plants require immediate attention in light of the catastrophic events in Japan."

In fact, President Obama has directed the NRC to conduct a security check of all 104 US reactors.

The main guest at this afternoon's Pew event had long been former Michigan Gov. Jennifer Granholm. Chu was recently added to the program.

This morning, Pew announced it had hired Granholm as an advisor to "to launch a national campaign for clean energy policies that create jobs, stimulate innovation, spur investment and enhance America's competitiveness in the global clean energy race."

Wind, Solar Becoming Cost Competitive: Chu (AFP)

AFP, March 24, 2011

WASHINGTON — Clean sources of energy such as wind and solar will be no more expensive than oil and gas projects by the end of the decade, US Energy Secretary Steven Chu said Wednesday.

President Barack Obama's administration has been encouraging companies to invest in green growth, calling it a new source of jobs and fearing that other nations – led by China – are stealing the march.

"Before maybe the end of this decade, I see wind and solar being cost-competitive without subsidy with new fossil fuel," Chu told an event at the Pew Charitable Trusts.

"So the country and the companies who develop those renewable energy and resources that become cost competitive without subsidy all of a sudden have a world market. And, boy, we can't lose that world market," he said.

The US Congress has rejected attempts to mandate curbs on carbon emissions blamed for climate change, with many members of the Republican Party arguing that reducing dependence on fossil fuels would be too expensive.

But the Obama administration has been hoping to seek bipartisan cooperation on what it hopes are less controversial efforts such as encouraging renewable energy.

Both the administration and Republicans have defended the pursuit of nuclear power – which causes virtually no carbon emissions – despite radiation concerns in Japan from a plant hit by the March 11 earthquake and tsunami.

Wind, Solar May Be Competitive With Coal Without Aid In Decade, Chu Says (BLOOM)

By Brian Wingfield

Bloomberg News, March 24, 2011

Wind and solar power may compete with fossil fuels, without aid from government subsidies, within the next decade, US Energy Secretary Steven Chu said.

"It's not going to be three decades," Chu said today at an event in Washington sponsored by the Pew Charitable Trust.

Chu is calling for a national energy policy that will promote the use of clean-energy technologies. The US should invest in advanced battery technologies, biofuels and efficient high-voltage transmission systems, Chu said.

China and other nations are promoting policies to support cleaner energy.

"This is a race," he said.

Small, modular nuclear reactors, less than a third the size of current units, are "much, much safer" than traditional reactors, which remain safe, Chu said.

Chu was speaking about the role that future generations of nuclear reactors might play in US energy policy.

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Granholm Joining Pew As Senior Adviser (DETN)

By David Shepardson, Detroit News Washington Bureau

Detroit News, March 24, 2011

Washington — Former Michigan Gov. Jennifer Granholm is joining the nonpartisan Pew Charitable Trusts as a senior adviser on energy and will tour the United States to tout pragmatic solutions to reduce greenhouse gas emissions.

Granholm is joining former Sen. John Warner, R-Va., in the effort to push "for clean energy policies that have bipartisan support."

"I'm not going to talk about cap and trade. I'm not going to talk about global warming," Granholm told a standing-room crowd today, saying she will focus on green jobs.

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She noted the state has shed 850,000 jobs as the manufacturing and auto sectors have retrenched dramatically. "This is the mother of all opportunities."

She quoted the late Detroit Tigers announcer Ernie Harwell's iconic line about a batter as a "house by the side of the road." Instead she said the US must "swing."

Warner says combatting climate change is too important to ignore.

"The consequences of climate change are too great to not move ahead with a national policy," Warner said. "This country desperately needs a new energy policy."

Energy Secretary Steven Chu said it "keeps me awake at night" that other countries are moving ahead of the United States in clean energy.

"We need to diversify our transportation energy sources," Chu said. "It means electrification of vehicles."

By the end of 2020 or 2030, Chu predicts wind and solar power will be cost competitive with other power without subsidies. "Boy, we can't lose that market," Chu said. "We need a policy to unleash that."

Granholm will speak at the Clinton Center in Little Rock, Ark., on April 20. She plans other appearances in Missouri and other states. "It's going to be very aggressively focused on best practices across the country to demonstrate the ability to create jobs," she said in a Detroit News interview. "Michigan has a good story to tell in this regard."

The group said Granholm is the perfect voice to tout clean energy.

"Gov. Granholm has a demonstrated track record in growing the clean energy economy in the US," said Joshua Reichert, managing director of the Pew Environment Group. "During her eight years as governor of Michigan, she pioneered some of the most compelling clean energy policies in the nation, working with business and labor, Republicans and Democrats to create new economic opportunities for the state. Her leadership attracted more than 89,000 jobs and \$9.4 billion in clean energy investments to Michigan."

Granholm told The Detroit News that in accepting the job at Pew, she told the Obama administration that she "had no interest" in serving as head of the new Consumer Financial Protection Bureau or at the Democratic National Committee. Several reports this week said Granholm had turned down both jobs.

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Federal Officials Release Japanese Radiation Measures (USAT)

By Dan Vergano, Usa Today

USA Today, March 24, 2011

Energy Department and National Nuclear Security Administration officials today detailed radiation measured from a recent aerial survey of Japan close to a crippled nuclear plant, finding a plume of high exposure headed northwest of the accident during the March 17 - 19 survey.

In the most high-exposure parts of the plume, radiation measures reached from 125 to 300 microSieverts per hour (12.5 mRem/hr to 30 mRem /hr). For perspective, the federal officials note that a medical x-ray exposes patients to about 100 microSieverts of radiation and the typical person receives 6,200 microSieverts exposure in a year (about .71 microSieverts /hr).

So the exposures are pretty low-dose, says the report. Still, the authors notes the "area of greater radiation extending northwest from the accident. This area may be of interest to public safety officials and responders."

Computer Models Aid Japanese Nuclear Response (WP)

By Andrew Freedman

Washington Post, March 24, 2011

U-Md. research team wants more data made public

As the Japanese nuclear crisis continues to unfold, the airborne spread of radioactive materials from the stricken reactors at the Fukushima Daiichi power station continues to be a key concern of Japanese and American officials. To help determine the path that any hazardous emissions are likely to take, scientists are employing specialized computer models, known as "trajectory models," which can take into account factors such as winds and temperatures aloft to determine how high a parcel of air is likely to climb, how far it may go, and where it may be within certain timeframes.

In the local area, a team from the University of Maryland at College Park has been providing publicly viewable trajectory model projections for emissions of radionuclides from the Fukushima facility, in an effort to address a need they say was created in part by the lack of information being put out by US and Japanese authorities.

Using the HYSPLIT model developed by the National Oceanic and Atmospheric Administration (NOAA) in partnership with Australia's Bureau of Meteorology, scientists at the University of Maryland at College Park have been able to provide evidence to back up recent statements by American officials playing down the public health risks to the West Coast from the radioactive plume emanating from the Fukushima facility.

HYSPLIT model for March 23. Courtesy University of Maryland.

"We had heard everyone saying this stuff is going to be too dilute to get to America, but we wanted to check ourselves," said Ross J. Salawitch, an atmospheric scientist at the University of Maryland, noting the importance of putting the information in the public domain. "Basically we think this is quite benign for North America, and unless the situation on the ground changes dramatically there is no reason to change that."

According to Salawitch, one of the key factors determining the destination of any radioactivity from the Fukushima facility is the height to which the emissions are lofted. Since very little is publicly known about the precise quantities, loft heights, and other technical details about the emissions, he says there are significant uncertainties involved with his group's plots, as well as those from other entities.

"The notion that you can track an air parcel precisely as it travels across the Pacific is fanciful," he said. "The difficulty in doing that is we really don't know what is being emitted." That information, if known at all, is being closely held by Japanese authorities and the US government, which has a team of about 40 nuclear energy experts on the ground in Japan equipped with sophisticated monitoring gear.

Department of Energy (DOE) experts are feeding their monitoring data into trajectory models, such as HYSPLIT, to arrive at more realistic simulations of just how much radioactive materials are likely to be transported away from the plant, along with the critical questions of the distance and timing of that transport. Those model results are being shared with the Japanese government, but are not publicly available in the US

By keeping the detailed information regarding emissions amounts close to the vest, however, the University of Maryland team says the Energy Department is making it difficult for outside researchers to come to more robust conclusions and communicate them with the public. Rather than utilizing official trajectory forecasts, American officials are relying more heavily on information gleaned from monitoring stations on the West Coast that are detecting trace amounts of radiation from Japan, levels that so far have been far below thresholds for harming human health.

Still, the University of Maryland researchers say the American public could benefit from knowing more about the path any additional radioactive materials are likely to take, which depends on knowing how much and what kinds of materials are being lofted into the skies above Fukushima. "It's unfortunate," said Jeff Stehr, who has been producing the trajectory models along with Salawitch and other colleagues. "Why not release some of these numbers?"

(1:25 p.m. update: Yesterday, DOE released measurements of the cumulative amounts of radiological materials that have settled on the ground in Japan, noting that "nearly all elevated readings are within 25 miles of Fukushima Daiichi." DOE has not, however, released its trajectory modeling or real-time information from any continued aerial monitoring missions that could shed light on the ongoing emissions from the nuclear plant, which would aid researchers such as Salawitch and his colleagues.)

HYSPLIT

The HYSPLIT model, which is short for "HYbrid Single-Particle Lagrangian Integrated Trajectory model," was designed for just this type of emergency situation, although it is usually called into action for more common incidents, such as chemical spills, large fires, and even volcanic eruptions that can send ash plumes into the paths of jet airliners.

The model is designed to hone in on how small-scale, difficult-to-detect particles are likely to flow through the atmosphere. HYSPLIT is not unlike a police dog at an airport, using its sense of smell to sniff out potentially dangerous packages from the piles of innocuous luggage, except the HYSPLIT model actually predicts where those "packages" are likely to go while traveling the atmospheric conveyor belt.

The HYSPLIT model takes in weather observations and forecasts from NOAA, and allows researchers to choose where and when particles are put into the model. For example, modelers could choose to add hazardous radioactive materials between ground level and 2,000 feet in height over the Fukushima Daiichi plant. From that point, using weather forecast information, HYSPLIT would look at the forecasted winds in that column of air, move the particles, take a step forward in time, and repeat the process until a trajectory forecast is generated.

Researchers can request access to HYSPLIT and run it from their own computers, making it extremely adaptable to a wide variety of research needs, "We have to just commend NOAA for making this available... This is an extremely valuable tool," Salawitch said.

The University of Maryland team does not normally study radioactive plumes, instead focusing on somewhat more mundane matters such as air quality, the depletion of the ozone layer, and the global carbon cycle, but Salawitch says they decided to put their expertise and HYSPLIT to use in response to a clear need for more information about the possible public health consequences of the nuclear emergency.

Officials Clam Up After Talk Of Secret 'Stardust' (AUGC)

Augusta Chronicle, March 24, 2011

Peter Pan relied on faith, trust and pixie dust -- and it seems the US Energy Department has its own secret something: stardust.

The few who are privy to the material won't discuss it, other than to say it can turn highly contaminated plutonium into a less dangerous form.

"It's classified, so we can't tell you what it's made of," said department spokesman Jim Giusti of Savannah River Site.

There is no mention of "stardust" in the vast sea of public documents associated with SRS and the National Nuclear Security Administration, which manages US nuclear weapons programs.

However, it was came up briefly during a meeting in Aiken this week, described as a means to allow tons of problematic plutonium to be moved out of the state.

Allen Gunter, a senior DOE technical adviser, told members of an SRS Citizens Advisory Board committee that the site has 12.8 metric tons of plutonium, of which five tons is unsuitable for processing at the mixed-oxide fuel facility under construction there.

Though officials hope to dispose of that material at a government site in New Mexico, some of the SRS waste is up to 70 percent plutonium oxide and would not meet the facility's waste acceptance criteria.

"You have to blend it with other materials to get it down to less than 10 percent," Gunter said.

A committee member asked him how such a feat would be accomplished.

"Stardust," he replied, adding that he could not divulge the particulars.

The secret compound could be mixed with plutonium oxide so it would be more difficult to reprocess the resulting material to recover the plutonium, which must be carefully guarded because of its possible use by terrorists.

Don Hancock, the director of the Nuclear Waste Safety Program at Southwest Research and Information Center in Albuquerque, N.M., said he has tried unsuccessfully to get more details on "stardust."

"Is it a process? Is it a material? What does it do?" he asked. "If we've come up with a way to make weapons-grade plutonium into where it's not weapons-grade plutonium, that should be a good thing."

More details might be revealed as part of a draft Environmental Impact Statement under preparation as part of the plan to dispose of the plutonium at SRS, he said.

"A lot of people who should know about it don't, including a lot of people with top security classifications," he said. "Whatever 'stardust' is, and I don't know what it is, they need to fess up and tell us about it."

Agreement Brings DOE, SRR Closer Together (AIKSTD)

By ANNA DOLIANITIS

Aiken (SC) Standard, March 24, 2011

The Department of Energy-Savannah River and the Savannah River Site's liquid waste contractor Savannah River Remediation have signed a DOE-Environmental Management partnering agreement with the intent of achieving a more collaborative working relationship between DOE and SRR.

The agreement, signed earlier this month between DOE-SR Manager Dave Moody and SRR President and Project Manager Dave Olson in Washington D.C., is a pilot that will be used as a guide for other DOE sites.

"We at DOE view the partnering relationship with SRR as an opportunity to see our work from each other's point of view," Moody said in a press release. "While both DOE and SRR continue to work well together, the partnering agreement brings our people and our processes closer together to find win-win solutions."

The Mission of the DOE-SR/SRR Agreement reads: "This Partnering Team will work together in a manner consistent with the goals and objectives of this charter to achieve the contract commitments for safely treating and disposing of radioactive waste and closing high level waste tanks at SRS."

In February, key DOE-SR and SRR representatives convened in Augusta and actively participated in a Partnering Workshop, sponsored and attended by Jack Surash, the DOE-EM Deputy Assistant Secretary for Acquisition and Contract Management. The workshop was intended to serve as a first step on the path toward development of a Partnering Agreement in which the parties recognize that their mutual success and, consequently, the success of the EM mission, depends on their ability to work effectively together as a team in the contract performance, according to the release.

"The essence of this agreement was continuing to have open and honest communications, which serves as an underpinning of effective partnering," Olson said. "We are pleased DOE chose us to mature this process for the rest of the DOE Complex."

The DOE-EM policy on Partnering-Based Contract Management was established on June 30, 2010.

Contact Anna Dolianitis at adolianitis@aikenstandard.com.

Lessons For Washington In Japan's Nuclear Crisis (SEATIMES)

The nuclear crisis unfolding in Japan might provide some lessons for Washington state, which is home to one nuclear reactor and the nation's largest inventory of nuclear defense waste, writes guest columnist Tom Carpenter.

By Tom Carpenter, Special To The Times

Seattle Times, March 24, 2011

AS we all watch the nuclear crisis unfolding in Japan, and with the approach of the 25th anniversary of the Chernobyl disaster, questions arise about nuclear risks from the Hanford Nuclear Site.

Washington has one operating reactor — the Columbia Generating Station — located on leased land on the Hanford Site. Although safety improvements have been made in the past few years, this reactor shares three features in common with the Japanese reactors under stress: They are all located near seismic faults, they are boiling-water reactors, and their spent nuclear fuel is located above ground rather than behind any containment structures.

This means that a radiation leak from the spent-fuel pool could flow directly into the atmosphere. Because there is no repository to which this fuel can be shipped, the spent nuclear fuel at Washington's reactor is stored on site at four times the pool's design capacity.

A loss of coolant to these pools could cause the fuel to melt, catch on fire and release large inventories of radioactivity. This is what is happening now in Japan at Fukushima Unit 4. Spent-fuel ponds typically hold five to 10 times more long-lived radioactivity than a reactor core. A 1997 Brookhaven National Laboratory report for the Nuclear Regulatory Commission (NRC) found that a severe pool fire could render about 188 square miles uninhabitable, cause as many as 28,000 cancer fatalities and cost \$59 billion in damage.

The Hanford Site's nuclear defense reactors have been shut down. However, Hanford hosts the largest inventory of high-level nuclear waste in the United States. About 53 million gallons of this waste is stored in 177 aging underground waste tanks. Because they are beyond their "design life," a third of these tanks have failed and leaked. Even without factoring in the risk of seismic events, the radioactive waste in these tanks poses risks of potential explosion and fire.

The Northwest is seismically active. Every 200 to 1,000 years, a massive earthquake as strong as a magnitude 9 called "The Cascadia Event" has occurred off the Pacific Northwest coast. The last such earthquake was in 1700.

Whether such an earthquake could affect Eastern Washington is not well understood. We do know that disasters can cause cumulative impacts that are unanticipated, at least until they happen. In Japan, that involved a larger earthquake than anticipated, a tsunami and loss of power to the site. The same combination is obviously not going to happen at Hanford, but there are scenarios that could lead to similar results.

So what does this all mean for Washingtonians?

The first priority is for the Columbia Generating Station to remove all the older spent fuel it can from its spent-fuel pool, dry-cask that fuel and put it in an underground bunker for protection. This would significantly reduce the risk from a spent-fuel pool failure.

Another high priority is to remove the high-level nuclear waste from the decaying underground nuclear-waste tanks and treat that waste as soon as possible by immobilizing it in glass in a facility called the vitrification plant. Safety and design concerns have been raised by a senior manager who was removed from his position after raising these issues. The vitrification plant must not continue to be built or allowed to operate without independent oversight and a consensus that these concerns are adequately addressed.

Since we are years away from a treatment facility, the government needs to construct new tanks now as a backup plan for future tank failures at Hanford.

Some hard thinking is needed about whether the risks justify the continued operation or development of nuclear plants in the US. In Japan, the earthquake and tsunami were foreseeable, yet out of our control, therefore the reactors had built-in backup systems in the event of this kind of emergency. However, as we are seeing, preparing for a crisis and predicting what might happen can only take you so far. Tom Carpenter is executive director of the Hanford Challenge.

US Agencies Respond To Cyberattack On Information Security Firm (WP)

By Ellen Nakashima

Washington Post, March 24, 2011

Federal agencies are confronting possible repercussions from a cyberattack disclosed late last week on one of the nation's largest information security companies.

RSA Security, a division of EMC, has contracts throughout the federal government for its SecurID system, which uses a token to generate a random six-digit number every 60 seconds. That number, when used with a user's password, provides access to unclassified systems throughout government agencies.

In a filing Thursday to the Securities and Exchange Commission, EMC reported "an extremely sophisticated" cyberattack that targeted its RSA business unit and resulted in "certain information" about its products "being extracted." Although there were no reports of lost customer data as a result of the breach, the risk is that the stolen information could enable a successful attack later, company officials said.

"We do not believe that either customer or employee personally identifiable information was compromised as a result of this incident," RSA Executive Chairman Art Coviello said in a letter to customers accompanying the filing.

Amy Kudwa, a spokeswoman for the Department of Homeland Security, said the federal government was working with RSA to secure networks that are accessible via SecurID. The tokens would generally be used when a government employee is trying to gain access to a computer system while on a personal computer or laptop.

"It's not classified data, but more proprietary and personal data that's at issue," said one defense industry official familiar with the breach, which occurred this month. "It will be a fairly significant event before this is all said and done."

RSA has tens of millions of dollars worth of contracts across the federal government. Agencies with large contracts include the Social Security Administration and the Defense Department and its service branches.

A chief security officer for a Fortune 500 company that processes payroll transactions worldwide and uses SecurID said his firm had experienced no adverse effects. He said that within minutes of detecting the breach, RSA gave his company details on how it occurred so that it could defend against a possible attack.

Forty million SecurID tokens are in use in more than 30,000 companies and government agencies worldwide. The tokens range from a two-inch key fob that fits on a key chain to software versions used on iPhones and BlackBerrys.

Security experts said the breach demonstrates another evolution in cyberattackers' tactics. Instead of targeting banks or government agencies, they are targeting firms that provide security to those entities.

"It indicates some serious planning," said James A. Lewis, director of the technology and public policy program at the Center for Strategic and International Studies.

RSA issued an online bulletin this week with steps to help companies and agencies using SecurID protect their data. They include reviewing recent authentication manager logs for unusually high rates of failed authentications and educating users on recognizing efforts by outsiders to trick them into giving up passwords.

Web Firm Suspects Iran Hacked Into It (WSJ)

By Christopher Rhoads

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Union Leaders Say That Getting Rid Of PASS Is Their First Priority (WP)

By Joe Davidson

Washington Post, March 24, 2011

Transportation security officers largely consider PASS, their agency's pay system, a hopeless failure. Getting rid of it is a top priority for the two unions now campaigning to represent the officers who screen passengers and baggage at the nation's airports.

But lost amid screeners' excitement over finally getting collective-bargaining rights and an election to choose a union is the possibility that they won't be able to fully negotiate over the Performance Accountability and Standards System.

Yet union leaders insist that even if PASS isn't on the bargaining table, getting rid of it would remain job one.

"PASS is at the top of the list and always has been," said Colleen M. Kelley, president of the National Treasury Employees Union.

Instead of a "system of favoritism," she said, screeners want one "that's fair and transparent and that employees would see as credible, something that does not exist today."

John Gage, president of the American Federation of Government Employees, agreed: "PASS is number one and number two" on the priority list. "It has no credibility with the officers. They are just sick of it. . . . That will be the main thing that we'll attack."

Both unions are working to win the right to represent about 44,000 TSOs. No union is also a choice. The election period ends April 19. At that time, both unions say, it's on to tackling PASS.

A full scale attack on PASS, however, might be limited at the bargaining table by the scope of issues that John Pistole, administrator of the Transportation Security Administration, has determined are permissible bargaining items.

Letter "a" under "Issues excluded from collective bargaining" in his "Decision Memorandum / Determination" is "pay and policies affecting pay." For emphasis, Pistole's memo said that the items listed as excluded from collective bargaining "shall have the broadest possible interpretation as to scope, meaning and interpretation."

But union leaders say they are not deterred.

Kelley pointed to sections of the memo that allow bargaining over "the awards and recognition process" and performance management. "We can't bargain pay rates, but it is very clear that the performance management system, the evaluation system, is something that we can bargain over."

Aspects of PASS certainly include performance management, but the memo also says negotiating over that is allowed "to the extent not otherwise excluded."

This is how TSA spokesman Nicholas Kimball explains it: "While we cannot speculate about whether a union will be chosen or not, as indicated in the Determination, certain aspects of the performance management process could be a part of bargaining; however, performance standards, officer certification and the system to the extent it affects officers' pay will not be subject to bargaining."

What that means in real life remains to be seen. What is clear is that if union leaders can't kill PASS at the bargaining table, they would push for its death at the hands of the administration or Congress.

"We will definitely be lobbying Congress and the administration for a new pay system," Kelley said.

TSA describes PASS as "a dynamic pay-for-performance system" with "standards defined for specific performance levels, and pay-for-performance associated with those levels." But reviews from employees indicate the agency's view is out of sync with the workers' reality.

PASS is a big reason the TSA consistently rates at or near the bottom of agencies on the Best Places to Work List in the Federal Government, issued annually by the Partnership for Public Service and American University. Even as TSA's ratings have improved recently, it remains dead last, out of 223 agencies, in how satisfied workers are with their pay.

"I think you have to see that in the context of the demands of the job," said John Palguta, a vice president of the nonprofit Partnership. (The group has a content-sharing relationship with The Washington Post.)

Noting how the officers must deal with upset passengers for little pay, Palguta added: "I don't think I could be a TSO."

The TSO pay range is \$25,518 to \$44,007.

Whatever is decided about what extent PASS will be a negotiating item, union leaders want it gone.

"I think after we get a contract, PASS will be the very first thing we look at," said Aubrey Williams, the AFGE Georgia state vice president and a TSO at Atlanta Hartsfield Jackson International Airport. "It has constantly and consistently lowered morale. . . . It's too subjective."

Or, as Palguta put it, "223 out of 223 on pay. That kind of tells the story."

INTERNATIONAL NUCLEAR NEWS:

Tokyo Tap Water Unfit For Infants; Radiation Warning On 11 Vegetables (WP)

By David Nakamura

Washington Post, March 24, 2011

TOKYO — Fears over Japan's food and water supply escalated Wednesday after authorities announced they had discovered radioactive material above the legal limit in 11 types of vegetables and radioactive substances in water produced at a Tokyo purifying station.

Officials warned residents not to eat the vegetables produced in several prefectures near the badly damaged Fukushima Daiichi nuclear facility and recommended that infants not ingest tap water in Tokyo.

Tokyo officials said they would distribute three 550-milliliter bottles of water to every household in the capital where an infant was living — about 80,000 households.

Meanwhile, emergency work to repair the Daiichi plant was halted again when smoke was seen blowing from the complex Wednesday afternoon, prompting the second evacuation of workers in three days.

Crews have been attempting to restore electrical power to four of Daiichi's six nuclear reactors, which are in various states of overheating.

The situation at Daiichi still warranted "serious concern," said Graham Andrew, technical adviser to the director general of the International Atomic Energy Agency, although radiation readings at the site were declining. He added that since partial power was restored to the facility, IAEA had been receiving better data from Japanese authorities regarding the status of each stricken reactor. Andrew said IAEA experts were analyzing temperature and pressure readings from the reactors and would send advice on proposed actions to Japanese authorities.

Some of the reactors have spewed radioactive particles into the air, leading to the contamination of crops, milk and water.

The March 11 earthquake and tsunami have left 9,487 dead and 15,617 missing, the National Police Agency reported. And the Japanese government said Wednesday that the escalating catastrophes have caused up to 25 trillion yen (\$309 billion) in damages. That estimate is far higher than the \$235 billion figure suggested by the World Bank this week.

The Japanese government's warning on tap water sparked fears among many mothers of young children in Tokyo, including Mitsue Watanabe, 39, who said she was "really worried." She said she called a couple of stores to try to find bottled water, but the stores were sold out.

"They say they don't know when they will get more," Watanabe said. "I breast-feed, but my child is starting solids, and I have to cook her meals using tap water. I have been exchanging e-mails with mum-friends with babies sharing concerns and to get tips on what to do."

The list of contaminated vegetables includes broccoli, cabbage, turnips, parsley and other green leaf vegetables, the Health, Labor and Welfare Ministry said. This week, government officials found elevated radiation levels in raw milk and spinach in several prefectures near the Daiichi plant.

Though officials had said the radiation in milk and spinach was not high enough to be harmful to humans, the latest tests show contamination that is high enough to be unsafe if the vegetables are consumed on a regular basis. Eating 100 grams for 10 days would be equivalent to the amount of radiation a person receives from the natural environment for a year, health officials said.

Concerns about Japan's agricultural exports spread to the United States Tuesday, when the Food and Drug Administration banned the import of dairy products, fruit and vegetables from four prefectures — Fukushima, Ibaraki, Tochigi and Gunma. Japanese seafood will be allowed into the US market after being screened, the agency said.

The Japanese government has said it will offer subsidies to farmers whose crops have been affected by the nuclear fallout, but some farmers fear their livelihoods will be severely threatened as consumers change their eating habits.

The dangers associated with food that has been contaminated by radioactive material was highlighted in the wake of the Chernobyl nuclear accident in 1986, when thousands of children who ingested milk developed thyroid cancer.

Tokyo resident Jinko Sato, 39, who is pregnant with her third child, said she doesn't know what to do now that she cannot use water to cook.

"What to me was something that was happening far away," Sato said, "has all of a sudden become an immediate concern."

Also Wednesday, the Department of Energy released radiation data collected from 40 hours of flights near the Daiichi facility. The flights found more radiation to the northwest of the plant than elsewhere. The maximum radiation recorded by the team was 300 microsieverts per hour; by comparison, a round-trip flight from Tokyo to New York exposes passengers to about 200 microsieverts of radiation from cosmic rays.

Meanwhile, wisps of radioactivity from the facility were detected in Washington state and California, the Environmental Protection Agency reported. While the EPA's monitors detected a few radioactive isotopes that likely originated at Daiichi, the amounts detected "are hundreds of thousands to millions of times below levels of concern," the agency said in a statement.

Japan Nuclear Crisis: What's In The Smoke Emerging From Fukushima I? (CSM)

Christian Science Monitor, March 24, 2011

Smoke plumes continue to rise from parts of Japan's devastated Fukushima I nuclear plant. On Wednesday, black smoke suddenly billowed up from reactor No. 3, causing workers to evacuate the area and stopping work at the plant for a few hours. Crews later returned, and officials said radiation levels did not spike during the incident. But smoke has been a continuing problem at Fukushima I (also called Fukushima Daiichi) – white and grey plumes have erupted at the plant a number of times this week. Skip to next paragraph

What's causing this smoke? Is it a matter of concern?

In general, workers are making progress stabilizing Fukushima I, said the International Atomic Energy Agency on Wednesday. Electricity has returned – in some measure – to most of the plant's six reactors. Control room instruments are now powered at all except No. 3, for instance.

But seeing light at the end of the tunnel is not the same thing as reaching open air. The bursts of smoke are among pieces of evidence indicating that Fukushima I is not yet under complete control.

"The overall situation remains of serious concern," said Graham Andrew, special advisor to the IAEA Director General for Scientific and Technical Affairs.

At this point, officials do not know how serious the smoke bursts are because they are not certain what their cause is.

As Japanese workers have powered up reactors in recent days, shorts or other electrical problems could have ignited debris from last week's containment building explosions, said David Lochbaum, director of the nuclear safety project at the Union of Concerned Scientists, in a Wednesday phone briefing for reporters.

Smoke from such a cause is not necessarily something to worry about. On the other hand, it is also possible that the spent-fuel pool at No. 3 has overheated to the point where water has boiled away and exposed fuel assemblies, causing them to overheat and release particulate matter into the atmosphere. That could cause plumes of radioactive smoke like the black smoke seen Wednesday.

"That might be an additional cause for concern," said Lochbaum.

Lochbaum added that Japanese authorities continue to inject seawater laced with boron into reactor Nos. 1, 2, and 3. Boron absorbs neutrons and thus is used to moderate nuclear fission. Its presence in the water indicates that Japanese officials remain worried that fuel in the reactors may have melted and slumped inside the containment vessels, changing shape in a way that might restart a nuclear chain reaction.

"That's pretty clear evidence of significant damage," he said.

Meanwhile, on Tuesday the US Department of Energy for the first time released detailed radiation readings taken by US ground and airborne detectors deployed in Japan.

Unlike the periodic measurements taken at the Fukushima I plant gates, the new US readings give a sense of how radiation has settled over the area surrounding the Fukushima I complex.

The good news is that the readings are relatively low – all are less than 0.3 mSv (300 µSv) per hour – according to the Energy Department. The worrisome news is that the data shows a plume of somewhat elevated radiation levels, higher than 0.125 mSv (125 µSv) per hour, extending up to 25 miles northwest into Japan's interior, instead of east or southeast towards the ocean. [Editor's note: The original version of this paragraph incorrectly reported 300 mSv (milliSieverts) released from the Fukushima I plant each hour. The correct leakage rate was 300 µSv (microSieverts). The radiation leakage was thus overstated by a factor of 1000.]

New Problems At Japanese Plant Subdue Optimism (NYT)

By Keith Bradsher

New York Times, March 24, 2011

The Japanese electricians who bravely strung wires this week to all six reactor buildings at a stricken nuclear power plant succeeded despite waves of heat and blasts of radioactive steam.

The restoration of electricity at the plant, the Fukushima Daiichi Nuclear Power Station, stirred hopes that the crisis was ebbing. But nuclear engineers say some of the most difficult and dangerous tasks are still ahead — and time is not necessarily on the side of the repair teams.

The tasks include manually draining hundreds of gallons of radioactive water and venting radioactive gas from the pumps and piping of the emergency cooling systems, which are located diagonally underneath the overheated reactor vessels. The urgency of halting the spread of radioactive contamination from the site was underlined on Wednesday by the health warning that infants should not drink tap water — even in Tokyo, 140 miles southwest of the stricken plant — raised alarms about extensive contamination.

"We've got at least 10 days to two weeks of potential drama before you can declare the accident over," said Michael Friedlander, who worked as a nuclear plant operator for 13 years.

Nuclear engineers have become increasingly concerned about a separate problem that may be putting pressure on the Japanese technicians to work faster: salt buildup inside the reactors, which could cause them to heat up more and, in the worst case, cause the uranium to melt, releasing a range of radioactive material.

"A meltdown is looking less likely, but a lot of radiation has been released in the reactor buildings and may continue to seep out," said a Western nuclear power executive who asked not to be quoted by name because he did not want to risk his broad contacts in Japan. "What we might have is a slow-moving contamination problem rather than a fast-moving contamination problem."

Richard T. Lahey Jr., who was General Electric's chief of safety research for boiling-water reactors when the company installed them at the Fukushima Daiichi plant, said that as seawater was pumped into the reactors and boiled away, it left more and more salt behind.

He estimates that 57,000 pounds of salt have accumulated in Reactor No. 1 and 99,000 pounds apiece in Reactors No. 2 and 3, which are larger.

The big question is how much of that salt is still mixed with water and how much now forms a crust on the uranium fuel rods.

Crusts insulate the rods from the water and allow them to heat up. If the crusts are thick enough, they can block water from circulating between the fuel rods. As the rods heat up, their zirconium cladding can rupture, which releases gaseous radioactive iodine inside, and may even cause the uranium to melt and release much more radioactive material.

Some of the salt might be settling to the bottom of the reactor vessel rather than sticking to the fuel rods. But just as a heating element repeatedly used to warm tea in a mug tends to become encrusted in cities where the tap water is rich with minerals, boiling seawater is likely to leave salt mainly on the fuel rods.

The Japanese have reported that some of the seawater used for cooling has returned to the ocean, suggesting that some of the salt may have flowed out again. But clearly a significant amount remains.

A Japanese nuclear safety regulator said on Wednesday that plans were under way to fix a piece of equipment that would allow freshwater instead of seawater to be pumped in.

He said that an informal international group of experts on boiling-water reactors was increasingly worried about salt accumulation and was inclined to recommend that the Japanese try to flood each reactor vessel's containment building with cold water in an effort to prevent the uranium from melting down. That approach might make it harder to release steam from the reactors as part of the "feed-and-bleed" process that was being used to cool them, but that was a risk worth taking, he said.

Public alarm about the crisis increased on Wednesday after officials announced that levels of radioactive iodine had been detected in Tokyo's tap water.

Recent rains might have washed radioactive particles into the water, as the Japanese government suggested. But prevailing breezes for the past two weeks should have been pushing the radiation mostly out to sea. And until Wednesday, some experts had predicted that radioactive iodine would not be much of a problem, because the fission necessary to produce iodine — which breaks down quickly, with a half-life of just eight days — stopped within minutes of the earthquake on March 11. The fear is that more radiation is being released than has been understood.

Preventing the reactors and storage pools from overheating through radioactive decay would go a long way toward limiting radioactive contamination. But that would require pumping a lot of cold freshwater through them.

The emergency cooling system pump and motor for a boiling-water reactor are roughly the size and height of a compact hatchback car standing on its back bumper. The powerful system has the capacity to propel thousands of gallons of water a minute throughout a reactor pressure vessel and storage pool. But that very power can also be the system's Achilles' heel.

The pump and piping are designed to be kept full of water. But they tend to leak and develop alternating pockets of air and water, Mr. Friedlander said.

If the pump is turned on without venting the air and draining the water, the water from the pump would hit the alternating pockets with enough force to blow holes in the piping. Venting the air and draining the water requires a technician to reach a dozen valves, sometimes using a ladder. The water is removed through a hose to the nearest drain, usually in the floor, that leads to machinery designed to remove radiation from the water.

The process takes a full 12 hours in a reactor that is operating normally, Mr. Friedlander said. But even then, the water in the pipes tends to be radioactively contaminated because the valves that separate it from the reactor are not entirely tight.

Backlash from the reactor is likely to be an even bigger problem when the water inside the reactor is much more radioactive than usual and is under extremely high pressure.

Japanese government and power company officials expressed optimism on Wednesday morning that the crisis was close to being brought under control, only to encounter two reminders in the afternoon of the unpredictable difficulties that lie ahead.

Fukushima Daiichi's Reactor No. 3 began belching black smoke for an hour late in the afternoon, leading its operator, the Tokyo Electric Power Company, to evacuate workers. No. 3 is considered one of the most dangerous of the reactors because of its fuel — mixed oxides, or mox, which contain a mixture of uranium and plutonium and can produce a more dangerous radioactive plume if scattered by fire or explosions.

The cooling system at Reactor No. 5, which was shut down at the time of the quake and has shown few problems, also abruptly stopped working Wednesday afternoon, said Hiro Hasegawa, a spokesman for Tokyo Electric.

"When we switched from the temporary pump, it automatically switched off," Mr. Hasegawa said. "We'll try again with a new pump in the morning."

US Looking For A Few Unaccounted Citizens In Japan (AP)

Associated Press, March 23, 2011

WASHINGTON – The United States says it is searching for fewer than 10 Americans who remain unaccounted for in Japanese areas affected by the March 11 earthquake and tsunami.

State Department spokesman Mark Toner says only one US citizen has been confirmed dead from the disaster.

He says thousands have been accounted for but that officials were still dealing with less than 10 cases of missing Americans.

The body of 24-year-old English teacher Taylor Anderson was discovered earlier this week, making her the first fatality of a US citizen in Japan.

Atomic Cleanup Cost Goes To Japan's Taxpayers, May Spur Liability Shift (BLOOM)

By Natalie Obiko Pearson And Carolyn Bandel

Bloomberg News, March 24, 2011

Japan's taxpayer, not the nuclear industry or insurers, will cover most of the cleanup cost from the worst accident since Chernobyl, a financial rescue that may spur moves by nations to make companies assume more liability.

Tokyo Electric Power Co., in its 13th day fighting to avert a meltdown at its Fukushima plant 220 kilometers (135 miles) north of Tokyo, at most is required to cover third-party damages of 120 billion yen (\$2.1 billion) under Japanese law. Should the government declare the magnitude-9 earthquake and tsunami that flooded its reactors an "exceptional" act of God, the utility may be off the hook in paying compensation that may be demanded by injured workers, farmers and shareholders.

While nations including the US, Germany, India and China ordered plant safety checks after the March 11 accident, some governments may seek to transfer more financial responsibility to plant operators, which worldwide plan to build or relicense more than 100 reactors, according to researchers who follow the nuclear industry.

"Governments now will review burden-sharing in insurance coverage, just like after an oil spill or bank crisis," David Robinson, senior research fellow at Oxford Institute for Energy Studies in Oxford, England, said in an interview.

The Japanese government may pay as much as 1 trillion yen to compensate businesses and individuals for damages from the nuclear accident, or eight times the maximum cost for Tokyo Electric, the Tokyo Shimbun reported on March 12, without saying where it got the information.

The overall damages from the record earthquake and tsunami are as much as 25 trillion yen, an amount almost four times the hit imposed by Hurricane Katrina on the US, Japan's government estimated today.

India, the world's second-largest market for new reactors, with five under construction, passed a law last year to hold atomic-power equipment suppliers partly liable for damages from accidents, even in the case of operator error.

"That's very controversial, and the current accident is going to strengthen India's resolve not to capitulate to vendors," said Chris Gadomski, a nuclear analyst for Bloomberg New Energy Finance in New York.

Japan, already the developed world's most-indebted nation, will have to sign the blank check, in keeping with international conventions that call for a taxpayer bailout for most of the expense of a nuclear catastrophe, regardless of fault.

Japanese authorities rated the Fukushima accident a 5 on the 7-step scale for nuclear incidents of the International Atomic Energy Agency, under which each extra point represents a 10-fold increase in the seriousness.

At Pennsylvania's Three Mile Island in 1979, one reactor partially melted in the worst US accident, earning a 5 rating. Its \$975 million repair and cleanup took 14 years to complete, according to a March 14 report by Mikka Pineda, a research analyst for Asia-Pacific at Roubini Global Economics.

The Japanese plant, with potential damage to several of its six reactors, is “useless beyond repair,” and the generation capacity must be rebuilt, she said.

The disaster has sparked a debate about the financial risks of extending the lives of old reactors that may lack more robust designs, said Mark Hibbs, an atomic policy analyst in Berlin at the Carnegie Endowment for International Peace. Plants in Japan, Korea, Taiwan and the US may be affected, he said.

“These were risks that most investors considered to be very small,” Hibbs said in an interview. “Investors will be taking a much closer look at the design of what reactors are built to withstand. Some projects will not find approval.”

US Applications

Since 2007, the US Nuclear Regulatory Commission has received applications to build 26 reactors. Owners of 19 US reactors are seeking permits to extend the plants' operating lives by as much as two decades.

The Chernobyl accident in the former Soviet Union was rated a 7. Its cleanup continues 25 years later as governments balk at spending taxpayers' money and Ukraine says it can't foot the bill alone.

The cost of resettling inhabitants, sealing off Chernobyl's contaminated area and paying medical claims may rise to \$235 billion, according to an estimate by Belarus. The neighboring country suffered the most after the 1986 explosion that spewed radiation across Ukraine, Belarus, Russia and northern Europe.

A new debate over liability may be “inevitable” in the US Congress though it's unlikely that changes will be made, Patrick Hughes, an energy analyst at Height Analytics in Washington, said in an e-mail.

BP Plc's oil spill in the Gulf of Mexico prompted similar questions last year. So far, policy makers have been unable to agree on how much oil companies should pay in case of a spill. US law caps liability at \$75 million. BP separately agreed to set up a \$20 billion fund to compensate spill victims.

“A pre-emptive strike against safe nuclear plant operators and contractors may prove even more difficult to advance,” Hughes said.

Some analysts said they don't expect any liability overhauls after Fukushima that would affect the 61 reactors under construction worldwide and dozens more up for license renewals.

Chernobyl prompted an overhaul of nuclear liability laws to help streamline compensation and litigation, and spread the financial burden. The measures channel third-party liability for nuclear accidents to plant operators regardless of fault and limit their exposure by setting caps on payouts and restricting claims to a specific timeframe.

A 2004 amendment to the Paris Convention, which covers most western European nations, raised the operator's liability to 700 million euros from 15 million International Monetary Fund special drawing rights (\$23.9 million). It hasn't been ratified by enough states, however, to take effect.

Japan raised an operator's liability to 120 billion yen from 60 billion yen in 2010. US nuclear companies must buy insurance to cover the first \$375 million in cleanup costs.

In most countries, responsibility for general accident damages beyond those caps falls to industry insurance pools and eventually to the state. US utilities contribute to a pooled fund of about \$12.6 billion, according to the Nuclear Regulatory Commission, and taxpayers may be asked to pick up any remaining costs.

“Twelve billion dollars is not going to look like much coverage if you start talking about a catastrophic accident,” said Charles Ebinger, director of Energy Security Initiative at the Brookings Institution, a Washington-based group that researches and analyzes US public policy.

Japanese atomic-power operators are required to buy both government and private insurance, according to the Science & Technology Ministry, which oversees the nuclear compensation law. The private insurance pool has an exclusion for earthquake and tsunami-related accidents so it won't pay out this time.

Regardless of the final expense of coverage, the “open-ended” liability for governments is elusive, said the Oxford Institute's Robinson.

“Most governments have effectively hidden the reality of costs from the public,” Robinson said.

Anxiety In Tokyo Over Radiation In Tap Water (AP)

By Elaine Kurtenbach, Shino Yuasa, Associated Press

Associated Press, March 24, 2011

TOKYO – Anxiety over Japan's food and water supplies soared following warnings about radiation leaking from Japan's tsunami-damaged nuclear power plant into Tokyo's tap water at levels unsafe for babies over the long term.

Residents cleared store shelves of bottled water after Tokyo Gov. Shintaro Ishihara said that levels of radioactive iodine in tap water were more than twice what is considered safe for babies. Officials begged those in the city to buy only what they need,

saying hoarding could hurt the thousands of people without any water in areas devastated by the March 11 earthquake and tsunami.

"I've never seen anything like this," clerk Toru Kikutaka said, surveying the downtown Tokyo supermarket where the entire stock of bottled water sold out almost immediately after the news broke Wednesday, despite a limit of two, two-liter bottles per customer.

The unsettling new development affecting Japan's largest city, home to around 13 million people, added to growing fears over the nation's food supply.

Radiation from the Fukushima Dai-ichi nuclear plant has seeped into raw milk, seawater and 11 kinds of vegetables, including broccoli, cauliflower and turnips, from areas around the plant.

The US Food and Drug Administration said it was halting imports of Japanese dairy and produce from the region near the facility. Hong Kong said it would require that Japan perform safety checks on meat, eggs and seafood before accepting those products, and Canada said it would upgrade controls on imports of Japanese food products by requiring documents verifying their safety.

Concerns also spread to Europe. In Iceland, officials said they measured trace amounts of radioactive iodine in the air but assured residents it was "less than a millionth" of what was found in European countries in the wake of the 1986 Chernobyl disaster.

The crisis already is emerging as the world's most expensive natural disaster on record, likely to cost up to \$309 billion, according to a new government estimate. Police estimate that more than 18,000 people were killed.

The overall situation at the Fukushima plant 140 miles (220 kilometers) north of Tokyo remains of serious concern, the International Atomic Energy Agency said. The deposition of radioactive iodine and cesium varies across 10 prefectures on a day to day basis but "the trend is generally upward," said Graham Andrew, senior adviser to IAEA chief Yukiya Amano.

The Fukushima Dai-ichi plant has been leaking radiation since the tsunami engulfed its crucial cooling systems, leading to explosions and fires in four of the facility's six reactors in the ensuing days.

Nuclear workers have struggled to stabilize and cool down the overheated plant.

Unit 3 has stopped belching black smoke, an official at Tokyo Electric Power Co. said Thursday, a day after a plume forced an evacuation of nuclear workers. However, white smoke was rising intermittently from two other units, spokesman Masateru Araki said.

As a precaution, officials have evacuated residents within 12 miles (20 kilometers) of the plant and advised those up to 19 miles (30 kilometers) away to stay indoors to minimize exposure.

And for the first time, chief Cabinet secretary Yukio Edano suggested that those downwind of the plant should stay indoors with the windows shut tight — even if just outside the zone.

In Tokyo, the municipal government planned Thursday to distribute 240,000 bottles of water to households with infants. They estimated 80,000 babies in the affected area, with each infant getting three bottles of 550 milliliters.

Officials said tap water showed elevated radiation levels: 210 becquerels of iodine-131 per liter of water — more than twice the recommended limit of 100 becquerels per liter for infants. Another measurement taken later at a different site showed the level was 190 becquerels per liter. The recommended limit for adults is 300 becquerels.

"It is really scary. It is like a vicious negative spiral from the nuclear disaster," said Etsuko Nomura, a mother of two children ages 2 and 5. "We have contaminated milk and vegetables, and now tap water in Tokyo, and I'm wondering what's next."

Infants are particularly vulnerable to radioactive iodine, which can cause thyroid cancer, experts say. The limits refer to sustained consumption rates, and officials urged calm, saying parents should stop giving the tap water to babies, but that it was no problem if the infants already had consumed small amounts.

They said the levels posed no immediate health risk for older children or adults.

Dr. Harold Swartz, a professor of radiology and medicine at Dartmouth Medical School in the US, said the radiation amounts being reported in the water are too low to pose any real risk, even to infants who are being fed water-based formula or to breast-fed infants whose mothers drink tap water.

Radioactive iodine is also short-lived, with a half-life of eight days — the length of time it takes for half of it to break down harmlessly.

Richard Wakeford, a public health radiologist at the University of Manchester in Britain, blamed the spike in radiation on a shift in winds from the nuclear plant toward Tokyo. He predicted lower levels in coming days.

Edano pleaded with shoppers to restrict purchases of bottled water to the bare necessity, urging them to think of tsunami victims in need.

"We have to consider Miyagi, where there is no drinking water at all," he said, referring to a stricken region. "Under these conditions, we would appreciate it if people would avoid buying more water than they need."

The latest data showed sharp increases in radioactivity levels in a range of vegetables. In an area about 25 miles (40 kilometers) northwest of the nuclear plant, levels for one locally grown leafy green called kukitachina measured 82 times the government limit for radioactive cesium and 11 times the limit for iodine.

With supplies of fuel and ice dwindling, officials have abandoned the traditional practice of cremation in favor of quick, simple burials. Some are interred in bare plywood caskets and others in blue plastic tarps, with no time to build proper coffins. The bodies will be dug up and cremated once crematoriums catch up with the glut, officials assured families.

In Higashimatsushima in Miyagi prefecture, soldiers saluting as they lowered bodies into freshly dug graves. Two young girls wept inconsolably, hugged tightly by their father.

"I hope their spirits will rest in peace here at this temporary place," said mourner Katsuko Oguni, 42.

Masaru Yamagata, a Higashimatsushima official, said the crematorium cannot keep up with demand.

"Giving the grieving families coffins is the most we can do right now," Yamagata said. "Every day, more dead bodies are found, and we need more coffins quickly."

Hundreds of thousands remain homeless, squeezed into temporary shelters without heat, warm food or medicine and no idea what to call home after the colossal wave swallowed up communities along the coast..

Tokyo Issues Tap Water Warning For Infants (NYT)

By David Jolly, Kevin Drew

New York Times, March 24, 2011

TOKYO — Radioactive iodine detected in the capital's water supply spurred a warning for infants on Wednesday as the government issued a stark new estimate about the costs of rebuilding from the earthquake and tsunami that slammed into the northeast of the country this month.

Ei Yoshida, head of water purification for the Tokyo water department, said at a televised news conference that infants in Tokyo and surrounding areas should not drink tap water. He said iodine-131 had been detected in water samples at a level of 210 becquerels per liter. The recommended limit for infants is 100 becquerels per liter.

For adults, the recommended limit is 300 becquerels.

The Health Ministry said in a statement that it was unlikely that there would be negative consequences to infants who did drink the water, but said it should be avoided if possible and that it should not be used to make infant formula.

The warning applies to the 23 wards of Tokyo, as well as the towns of Mitaka, Tama, Musashino, Machida and Inagi to the west of the city.

The announcement about the water added to the growing anxiety about public safety posed by the Fukushima Daiichi Nuclear Power Station which was severely damaged by the March 11 earthquake and tsunami. Earlier Wednesday, Prime Minister Naoto Kan said the public should avoid additional farm produce from areas near the power station because of contamination, according to Japanese media.

The government found radioactive materials at levels exceeding legal limits in 11 vegetables in Fukushima Prefecture, the Kyodo news agency reported. Shipments of the affected vegetables from Fukushima Prefecture ended on Monday.

On Wednesday, Mr. Kan also suspended shipment of raw milk and parsley from neighboring Ibaraki Prefecture, Kyodo reported.

Meanwhile, the United States Food and Drug Administration said on Tuesday that it would prohibit imports of dairy goods and produce from the affected region.

The spread of a small amount of radiation is inevitable, considering the steam that is generated as emergency workers spray water on damaged reactors and cooling pools at the Fukushima complex. Government and company officials were nonetheless expressing increasing optimism that the crisis was closer to being brought under control.

Officials said Wednesday on morning that they were hoping that power to cooling pumps would be restored at many of the six reactors in the next few days, and said they were planning to test the cooling system on Reactor No. 3 later in the day.

But black smoke began rising from No. 3 in the afternoon, leading the plant operator, Tokyo Electric Power Company, to evacuate workers from the area. No flames were visible, the company said.

Rebuilding after the 9.0-magnitude quake and tsunami, which ravaged the northeastern coast of the main Japanese island of Honshu, will cost from \$197 billion to \$309 billion, Mr. Kan's office said on Wednesday.

The government raised the death toll on Wednesday to more than 9,400, and said more than 14,000 were missing, although officials said there could be overlap between the two figures.

Tokyo Tap Water Not Safe For Infants, Officials Warn (LAT)

Levels of radioactive iodine found to be about double the safe levels for children under age of 1. Black smoke billows from a reactor at the stricken Japanese nuclear plant.

By Julie Makinen

Los Angeles Times, March 24, 2011

Reporting from Tokyo – Infants in Tokyo and five surrounding cities should not be allowed to consume tap water, the city's government said Wednesday after elevated levels of radioactive iodine from a crippled nuclear plant were detected at a water treatment plant.

Japanese Prime Minister Naoto Kan urged consumers not to eat a dozen types of contaminated vegetables from the region surrounding the nuclear facility 150 miles northeast of the capital and also expanded a shipment ban.

Water tests in Tokyo found levels of radioactive iodine 131 at 210 becquerels per liter Tuesday and 190 becquerels per liter on Wednesday morning, about double the level of 100 becquerels per liter deemed safe for children under the age of 1. A level of 300 becquerels per liter is considered safe for adults.

Photos: Japan's earthquake, tsunami and nuclear crisis

Tokyo Gov. Shintaro Ishihara said the city's water was safe for "non-potable" use and urged residents to remain calm. But some convenience stores were sold out of bottled water late Wednesday and officials announced plans to distribute bottled water to 80,000 households with young children.

The national government said damage from the March 11 earthquake, tsunami and nuclear accident could reach 25 trillion yen or nearly \$310 billion, significantly more than the World Bank's recent estimate of \$235 billion. The disaster could shrink Japan's gross domestic product by 0.5% in fiscal year 2011, which begins April 1, the government said.

The new estimate could even be on the low side, because the government said it excludes losses in productivity from continuing power outages as well as the problems at the Fukushima Daiichi nuclear plant. The disaster could shrink Japan's gross domestic product by 0.5% in fiscal year 2011, which begins April 1, the government said.

Workers continued their struggle to gain control over the Fukushima Daiichi nuclear plant. Dark smoke at the No. 3 reactor forced officials to evacuate the facility Wednesday afternoon.

Earlier, high temperatures at Reactor No. 1 and high radiation at Reactor No. 2 were reported, the government's nuclear agency said, dashing hopes that reestablishing power to the entire plant on Tuesday would quickly help stabilize it.

As relief officials and evacuees continued to battle subfreezing temperatures on the 12th day after the quake, the National Police agency said the death toll had increased to 9,523 and the number of missing had risen yet again, from 14,700 Wednesday morning to 16,094 by 11 p.m.

Some rescuers said the rising toll of missing may reflect the fact that aid workers are still encountering groups of survivors who had been cut off from rescue efforts and are only now registering their missing loved ones.

US Ambassador to Japan John Roos and a contingent of US military officials toured towns along Japan's battered northern coast. In Ishinomaki, he offered words of encouragement and further pledges of American support to a group of survivors who have taken shelter in an elementary school gymnasium.

In Yamada city in Iwate prefecture, about 100 miles north of Sendai, UCLA pediatric critical care doctor Kozue Shimabukuro said snow was falling as evacuees at one local elementary school lined up for food. Residents' mobility was improving after days in which residents were only able to get around by foot, she said, thanks in part to Japanese Self-Defense Force troops clearing massive amounts of debris. A gas shortage also has eased.

"A portable shower was set up today, so it was a good day," said Shimabukuro, 34, a native of Okinawa, who is volunteering with relief efforts.

At the nuclear plant, Tokyo Electric Power Co. said two workers were hospitalized after being injured Tuesday in the effort to reconnect power, although they were not exposed to radiation.

Chief cabinet secretary Yukio Edano said the source of the smoke Wednesday afternoon at Reactor No. 3 was unclear. But radiation levels one kilometer west of the plant had not changed, officials said. In Fukushima prefecture, tap water with levels exceeding 300 becquerels has been found.

Tepco has asked banks for about \$18 billion in emergency loans to cope with the crisis at the power plant and the resulting power shortages in a wider area. Economy Minister Kaoru Yosano said ongoing power shortages would pose the biggest problem for Japan's economy.

Insurers are tabulating their losses. Munich Re said Tuesday that it estimated its claims in Japan would amount to about 1.5 billion euros, or about \$2.1 billion, and that its profit forecast for the year could not be maintained. Hannover Re said

Wednesday it would have claims of about 250 million euros, or \$355 million, from the Japan disaster. The World Bank's recent report estimated that insurers would face claims of up to \$33 billion in Japan.

Meanwhile, the US Food and Drug Administration on Tuesday banned the importation of milk, milk products and fresh fruits and vegetables from four areas near the plant.

Minuscule particles of fallout from the Japanese plant have reached Iceland and are expected in France and elsewhere in Europe, experts said Wednesday, but stressed they don't pose a health risk, according to wire reports.

A plume carrying trace amounts of radioactive iodine has been detected in Iceland, the country's Radiation Safety Authority said. However, it added, the concentration was "less than a millionth" of what was found in European countries in the wake of the 1986 Chernobyl disaster that spewed radiation over a large distance.

Radiation Found In Tokyo Tap Water (USAT)

By Rita Rubin, Dan Vergano

USA Today, March 24, 2011

Radioactive iodine exceeding the safety standard for infants but not children or adults was found Wednesday in water at a Tokyo purification plant, the Japanese prime minister's office said.

The level was about twice the safety standard for infants up to 1 year and two-thirds that for adults, the prime minister's office said. Parents were advised to give only bottled water to infants.

"These aren't huge doses we're talking about here," said Donald Milton, director of the Maryland Institute for Applied Environmental Health. "The safe doses are set down at quite low levels in order to give safety margins."

Still, the news, in the wake of radiation from Japan's damaged nuclear power plant after the March 11 earthquake and tsunami, led anxious Japanese residents to clear store shelves of bottled water. Radiation from the Fukushima Dai-ichi Nuclear Power Station has not only seeped into water, but also into raw milk, seawater and 11 kinds of vegetables.

The thyroid gland uses iodine to make thyroid hormone, and it can't tell the difference between radioactive or stable isotopes. It's "very efficient at gobbling up and scavenging almost every molecule of iodine it comes across," said Alan Lockwood, professor of neurology and nuclear medicine at the University of Buffalo.

And, Milton said, "infants with a growing thyroid and a tremendous need for thyroid hormone are more susceptible to taking up a lot of the iodine from their diet," helping to explain why the infant safety standard is so low.

Scott Davis, a University of Washington epidemiologist who studies the effects of radiation exposure at the Fred Hutchinson Cancer Research Center, called the relationship between age and thyroid cancer risk due to radioactive iodine "striking." "The effect on young people and infants is much different than on people exposed as adults," he said.

Besides infants, Milton said, it would be "reasonable" for pregnant or nursing women to avoid drinking tap water contaminated with radioactive iodine so their fetuses or infants aren't exposed.

The only excess malignancies linked to the 1986 Chernobyl nuclear disaster have been thyroid cancers in people who were young children or teens at the time. Lockwood noted that the risk of exposure to radioactive iodine doesn't suddenly drop on a baby's first birthday but gradually decreases as children age.

Meanwhile, smoke from one of the reactor buildings Wednesday led to an evacuation of Japan's crippled Fukushima plant, further delaying repair efforts.

The toll climbed again, and now exceeds 9,500 dead and 16,000 missing. More than a dozen small aftershocks rumbled offshore, a pattern likely to continue for months, according to the US Geological Survey.

The evacuation at the Fukushima plant halted the planned restart of automatic cooling pumps at a reactor building that may have a leaky reactor and an overheating spent nuclear fuel rod pool.

Black smoke from that pool area sparked the evacuation, according to Tokyo Electric Power Co. Radiation readings did not rise at the plant, and seawater cooling efforts continued. Workers will not be allowed to return to the plant until this morning.

"Some progress is being made," said nuclear engineer David Lochbaum of the Union of Concerned Scientists, a nuclear industry watchdog. Lochbaum added that continued evacuations and damaged equipment have slowed efforts to move the plant past the crisis.

Japan Nuclear Crisis: 3 More Earthquakes Rattle Fukushima Daiichi (DAYBEST)

By Lennox Samuels

The Daily Beast, March 23, 2011

Tokyo residents rushed to stock up on bottled water Wednesday night after the metropolitan government announced that authorities had detected iodine in tap water. Mothers, especially those with young children, were especially panicky, because

officials warned that the radiation is harmful to babies. The health ministry has suggested that parents, daycare centers, and others not use tap water when preparing infant formula. Some neighborhoods have started a type of informal rationing, as convenience stores are permitting each person only two 1-liter bottles of water each. Tokyo's water department warned that this panicked buying makes it difficult for many to obtain safe water, while metro officials said they'll distribute more of the scarce liquid to needy families. They also called for an increase in production of mineral water.

The water department said radioactive iodine-131 has been detected in one liter of water at a purification plant in northern Tokyo, although the central government maintains the radiation isn't harmful—at the moment. Chief Cabinet Secretary Yukio Edano urged consumers to "act calmly" and said authorities will keep the public apprised of the results of the ongoing tap-water tests.

The government also revised death toll figures, announcing that more than 25,000 people are officially dead or missing following the earthquake and tsunami that struck the northeast on March 11. The National Police said more than 9,500 people of those are confirmed dead. The figures are expected to rise further.

It rained for a short while in Tokyo late Wednesday evening as well as Tuesday, and some experts suggested that the higher level of radioactive material in the city's tap water may have been the result of air mixing with the rain. They said this phenomenon might have caused the level of iodine to rise before the tap water could reach the purifying plant. The government's warning stressed a risk to children under less than a year old, but even parents with older children were rushing to purchase bottled water.

Ichiro Kawai, an accountant who lives in the Shibuya district, said his in-laws are sending his family water from Osaka, about 250 miles south of Tokyo. "We have a daughter who is about four, and it's very scary," he said. "They say young kids should not drink the water. We want to be very careful. If it happens, it's irreversible, so we want to protect the kids." He said he anticipates using drinking only bottled water for two to three months—"until they say it is safe."

The water-contamination scare follows a directive earlier this week by Japan's central government prohibiting the shipping of some vegetables from Fukushima Prefecture, where the stricken Fukushima Daiichi nuclear plant is located, as well as the states of Ibaraki, Tochigi and Gunma. The products include spinach and another leafy vegetable called kakina. The move followed the detection of above-normal radiation in the produce. The government also asked Fukushima dairy farms to stop shipping raw milk, for the same reason.

The government's warning stressed a risk to children 1 year old and younger, but even parents without infants were purchasing bottled water.

Concerns about tap water developed on the same day that workers at the nuclear plant tried to end the country's nuclear crisis by trying to restore power at the facility, amid signs that efforts to rein in persistent setbacks at reactor No. 3 are paying off.

A trio of quakes early Wednesday morning, measuring up to 6.0 magnitude, were reported in Fukushima. But employees of Tokyo Electric Power Company, which operates the facility, remained focused on avoiding a meltdown and the release of additional radiation. Workers were back on the job after a fire scare forced them to evacuate the plant on Tuesday. Lights were reported to be on at the No. 3 reactor and its control room was back in operation. Workers were preparing to distribute electricity to all six reactors at Daiichi.

TEPCO is eager to move beyond a seesawing pattern that has seen progress punctuated with new explosions, cooling problems and the appearance of smoke in the compound. Defense Minister Toshimi Kitazawa has said the smoke and steam at the buildings housing the Nos. 2 and 3 were not directly related to the reactor containment vessels or spent fuel rod pools.

Officials with the International Atomic Energy Agency (IAEA) have said they continue to see radiation coming from site, but don't know what the source is. And TEPCO said Tuesday that seawater near the plant was found to contain radioactive particles at a level that would be unsafe for a human to ingest continuously for a year. That could adversely affect fish and marine life, which could in turn have an impact on people. Chief Cabinet Secretary Yukio Edano said the radiation posed immediate threat, but "if the situation continues over time, there may be an adverse impact."

Despite such lingering questions, TEPCO is pressing on with the power restoration. The utility has come under increasing attack for its handling of the campaign to end the crisis, as well as a failure to quickly level with the Japanese people—and political officials—regarding the extent of damage, and especially, the risk posed by radiation levels at the plant and the area around it.

In a classic Japanese move that would be considered quaint—if not a nonstarter—by Western executives, a senior TEPCO official apologized in person to people forced to evacuate their homes near the plant. Company vice president Norio Tsuzumi visited an emergency shelter in Tamura City, where about 800 evacuees from Okuma town are housed. He apologized to the crowd, many of whom wanted to know when they would be able to return home. That will not be soon.

TEPCO also has acknowledged that it underestimated the earthquake and tsunami that struck northeastern Japan on March 11 and crippled reactors at Fukushima Daiichi. National Police officials raised the number of confirmed dead to 9,200, with almost 14,000 still missing. Most of the deceased perished in Miyagi Prefecture. The greatest share of the missing—5,000—hail from Iwate Prefecture, with 4,500 reported in Fukushima Prefecture, and about 4,200 in Miyagi. The casualty list includes Taylor Anderson, a 24-year-old woman from Virginia who had been teaching English at eight schools in Ishinomaki, a hard-hit city about 240 miles north of Tokyo.

TEPCO said it had anticipated a quake of not more than an 8.0 magnitude and tidal waves below 7 meters high. The quake actually was 9.0, and the tsunami rose as high as 14 meters when it hit the plant. Nuclear expert Keiki Miyazaki, emeritus professor at Osaka University, said it was clear the utility did not anticipate or plan for a calamity of the scale of the March 11 natural disaster. He also said TEPCO appeared to have “hesitated” on a decision to relieve pressure within the reactors. “They should have taken that action sooner,” he told *The Daily Beast*.

Miyazaki also said it was not clear why company officials had selected a low-elevation site for the plant, whose first reactors came online about 40 years ago. He said a remedy to consider going forward is to construct a high bank that would better protect the plant from high tidal waves. “The power plant should be waterproofed around the cooling pump,” he said. “It should be protected by the higher bank; that is the measure that should be taken, in my opinion.” The question may be academic, however. Authorities are expected to shutter the plant in the wake of the current disaster.

Tokyo Issues Warning On Water (WSJ)

Radioactivity Level Seen as Harmful to Infants in Long Term; Officials Say Standards Are Strict

By Juro Osawa, Hiroyuki Kachi

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Japan Radiation Scare Spreads To Tokyo Water (FT)

By Michiyo Nakamoto, Demetri Sevastopulo, Gwen Robinson

Financial Times, March 23, 2011

Full-text stories from the Financial Times are available to FT subscribers by clicking the link.

Tokyo Water Unsafe For Babies, Food Bans Imposed (AFP)

By Karyn Poupee

AFP, March 23, 2011

TOKYO (AFP) – Tokyo warned Wednesday that radioactive iodine over twice the safe level for infants had been detected in its tap water after Japan’s massive earthquake crippled a nuclear plant.

The revelation came after the United States barred imports of dairy and other produce from areas near the Fukushima power station, and as the Chinese territory of Hong Kong became the first Asian economy to follow suit.

Japan also estimated the immense economic impact of the March 11 earthquake and tsunami, saying it could hit 25 trillion yen (\$309 billion) – double that of the 1995 Kobe quake and nearly four times more than Hurricane Katrina.

The confirmed death toll from the earthquake and tsunami that battered Japan’s northeast coast rose to 9,487, and Japan holds out little hope for 15,617 officially listed as missing.

Japan has already banned farm produce from areas near the crippled plant northeast of Tokyo, which has been leaking radiation and has suffered a series of explosions and fires since the country’s worst natural disaster in nearly a century.

France urged the European Union to also monitor Japanese food imports because of the emergency at the Pacific coast plant, where engineers are battling to prevent a meltdown in overheating reactors.

In one Tokyo ward, a water sample contained 210 becquerels of iodine per kilogramme, or more than double Japan’s legal limit, a city official said. Tokyo’s stock market dived 1.6 percent on the news.

The government advised residents throughout the city to avoid using tap water to make infant milk formula until further notice, and said it would distribute 240,000 water bottles to households in need.

Bottled water quickly disappeared from shelves in Tokyo as people rushed to stock up despite government appeals against panic-buying, Kyodo News reported.

Tainted tap water was also detected in the city of Hitachi-ota in Ibaraki prefecture, located between Tokyo and the Fukushima plant, public broadcaster NHK reported.

The government has declared an exclusion zone with a radius of 20 kilometres (12 miles) around the power station and evacuated tens of thousands of people, while telling those within 20-30 kilometres to stay indoors.

But top government spokesman Yukio Edano unveiled for the first time estimates that people outside the 30-kilometre zone could be exposed to radiation of 100 millisieverts or more – an annual dose associated with increased risk of cancer – Kyodo said.

"As a precautionary measure, I would like to recommend that if people (outside the 30-km radius) are on the leeward side of the nuclear plant, they close their windows and stay indoors inside sealed buildings as far as possible," he was quoted saying.

Prime Minister Naoto Kan stopped shipments of untreated milk and vegetables including broccoli, cabbage and parsley from areas near the plant, about 250 kilometres northeast of Tokyo.

Farm produce shipments were halted from Fukushima and three nearby prefectures – Ibaraki, Tochigi and Gunma – while radiation monitoring of farm and seafood products was stepped up in six others, officials said.

The new inspection zone extends to Saitama and Chiba, part of the greater Tokyo urban sprawl that is home to more than 30 million people.

The health ministry said radioactivity drastically exceeding legal limits was found in 11 kinds of vegetable grown in Fukushima.

Radioactive caesium at 82,000 becquerels – 164 times the legal limit – was detected in one type of leaf vegetable, it said.

The ministry said that if people eat 100 grams (four ounces) a day of the vegetable for about 10 days, they would ingest half the amount of radiation typically received from the natural environment in a year.

"Even if these foods are temporarily eaten, there is no health hazard," said Edano, following reports that some products may have already entered the market.

"But unfortunately, as the situation is expected to last for the long term, we are asking that shipments stop at an early stage, and it is desirable to avoid intake of the foods as much as possible."

Even if the short-term risk is limited for now, scientists pointing to the 1986 Chernobyl disaster warn that some radioactive particles concentrate as they travel up the food chain and stay in the environment for decades.

The US Food and Drug Administration said it has placed an import alert on all milk, dairy products, fresh vegetables and fruit from four Japanese prefectures.

"In addition, FDA will continue to flag all entries from Japan in order to determine whether they originated from the affected area," it said. "FDA will test all food and feed shipments from the affected area."

Hong Kong said it was slapping a ban on a variety of food imports from five prefectures after contamination as much as 10 times above safe levels was found in vegetables shipped from Japan.

South Korea said it was considering a similar ban.

Around Asia, many Japanese restaurants and shops have reported a decline in business, and governments have stepped up radiation checks on the country's goods. Tainted fava beans from Japan have already cropped up in Taiwan.

In Japan, any further food shortages threaten to compound the misery for hundreds of thousands made homeless by the 9.0-magnitude quake and the jet-speed tsunami it spawned that erased entire communities.

As grieving survivors huddled in evacuation shelters amid the rubble of their former lives, their fate was overshadowed by the struggle to avert another massive catastrophe – a full nuclear meltdown at Fukushima.

Engineers hope to restart the cooling systems of all six reactors that were knocked out by the 14-metre (46-foot) tsunami, and they have already reconnected the wider facility to the national power grid.

But workers were evacuated from part of the site after dark smoke rose from one of the reactors, said plant operator Tokyo Electric Power Co.

Germany Set To Abandon Nuclear Power For Good (AP)

Associated Press, March 24, 2011

BERLIN (AP) — Germany is determined to show the world how abandoning nuclear energy can be done.

The world's fourth-largest economy stands alone among leading industrialized nations in its decision to stop using nuclear energy because of its inherent risks. It is betting billions on expanding the use of renewable energy to meet power demands instead.

The transition was supposed to happen slowly over the next 25 years, but is now being accelerated in the wake of Japan's Fukushima Dai-ichi nuclear plant disaster, which Chancellor Angela Merkel has called a "catastrophe of apocalyptic dimensions."

Berlin's decision to take seven of its 17 reactors offline for three months for new safety checks has provided a glimpse into how Germany might wean itself from getting nearly a quarter of its power from atomic energy to none.

And experts say Germany's phase-out provides a good map that countries such as the United States, which use a similar amount of nuclear power, could follow. The German model would not work, however, in countries like France, which relies on nuclear energy for more than 70 percent of its power and has no intention of shifting.

"If we had the winds of Texas or the sun of California, the task here would be even easier," said Felix Matthes of Germany's renowned Institute for Applied Ecology. "Given the great potential in the US, it would be feasible there in the long run too, even though it would necessitate huge infrastructure investments."

Nuclear power has been very unpopular in Germany ever since radioactivity from the 1986 Chernobyl disaster drifted across the country. A center-left government a decade ago penned a plan to abandon the technology for good by 2021, but Merkel's government last year amended it to extend the plants' lifetime by an average of 12 years. That plan was put on hold after the March 11 earthquake and tsunami compromised nuclear power plants in Japan, and is being re-evaluated as the safety of all of Germany's nuclear reactors is being rechecked.

Germany currently gets 23 percent of its energy from nuclear power — about as much as the US. Its ambitious plan to shut down its reactors will require at least euro150 billion (\$210 billion) investment in alternative energy sources, which experts say will likely lead to higher electricity prices.

Germany now gets 17 percent of its electricity from renewable energies, 13 percent from natural gas and more than 40 percent from coal. The Environment Ministry says in 10 years renewable energy will contribute 40 percent of the country's overall electricity production.

The government has been vague on a total price tag for the transition, but it said last year about euro20 billion (\$28 billion) a year will be needed, acknowledging that euro75 billion (\$107 billion) alone will be required through 2030 to install offshore wind farms.

The president of Germany's Renewable Energy Association, Dietmar Schuetz, said the government should create a more favorable regulatory environment to help in bringing forward some euro150 billion investment in alternative energy sources this decade by businesses and homeowners.

Last year, German investment in renewable energy topped euro26 billion (\$37 billion) and secured 370,000 jobs, the government said.

After taking seven reactors off the grid last week, officials hinted the oldest of them may remain switched off for good, but assured consumers there are no worries about electricity shortages as the country is a net exporter.

"We can guarantee that the lights won't go off in Germany," Environment Ministry spokeswoman Christiane Schwarte said.

Most of the country's leaders now seem determined to swiftly abolish nuclear power, possibly by 2020, and several conservative politicians, including the chancellor, have made a complete U-turn on the issue.

Vice Chancellor Guido Westerwelle said Wednesday "we must learn from Japan" and check the safety of the country's reactors but also make sure viable alternatives are in place.

"It would be the wrong consequence if we turn off the safest atomic reactors in the world, and then buy electricity from less-safe reactors in foreign countries," he told the Passauer Neue Presse newspaper.

But Schuetz insists that "we can replace nuclear energy even before 2020 with renewable energies, producing affordable and ecologically sound electricity."

But someone will have to foot the bill.

"Consumers must be prepared for significantly higher electricity prices in the future," said Wolfgang Franz, head of the government's independent economic advisory body. Merkel last week also warned that tougher safety rules for the remaining nuclear power plants "would certainly mean that electricity gets more expensive."

The German utilities' BDEW lobby group said long-term price effects could not be determined until the government spells out its nuclear reduction plans. Matthes' institute says phasing out nuclear power by 2020 is feasible by better capacity management and investment that would only lead to a price increase of 0.5 cents per kilowatt-hour.

In Germany, the producers of renewable energy — be it solar panels on a homeowner's rooftop or a farm of wind mills — are paid above-market prices to make sure their investment breaks even, financed by a 3.5 cents per kilowatt-hour tax paid by all electricity customers.

For a typical German family of four who pay about euro1,000 (\$1,420) a year to use about 4,500 kilowatt-hours, the tax amounts to euro157 (\$223).

The tax produced euro8.2 billion (\$11.7 billion) in Germany in 2010 and it is expected to top euro13.5 billion (\$19.2 billion) this year. The program — which has been copied by other countries and several US states such as California — is the backbone of the country's transition toward renewable energies.

"Our ideas work. Exiting the nuclear age would also be possible in a country like the US," Schuetz said.

Another factor likely to drive up electricity prices is that relying on renewable energies requires a huge investment in the electricity grid to cope with more decentralized and less reliable sources of power. Economy Minister Rainer Bruederle just announced legislation to speed up grid construction but gave no cost estimate.

And even if non-nuclear power is more expensive, Germans seeing images daily of Japan's crippled Fukushima nuclear complex seem willing to pay the higher price.

Ralph Kampwirth, spokesman for Lichtblick AG, Germany's biggest utility offering electricity exclusively from renewable sources, said since the Fukushima disaster it has been getting nearly three times more new clients than normal, up from 300 to more than 800 per day, despite prices slightly above average.

Sticking with nuclear power would also have its costs and require public funds.

The only two new nuclear reactors currently under construction in Europe, in France and in Finland, both have been plagued by long delays and seen costs virtually doubling, to around euro4 billion (\$5.7 billion) and euro5.3 billion (\$7.5 billion) respectively.

The disposal of spent nuclear fuel is also a costly problem, but it has no set price tag in Germany because the government has failed to find a sustainable solution.

Many decades-old reactors are highly profitable as their initial cost has been written off, but they now face higher costs as regulators push for safety upgrades in the wake of the Fukushima disaster. One of the most pressing — and costly — requirements is likely to be a mandatory upgrade to reinforce all nuclear power plants' outer shell to withstand a crash of a commercial airliner.

Utility EnBW pulled the plug for good on one reactor temporarily shut down by the government because the new requirements made operating it "no longer economically viable."

But even if Germany abandons nuclear energy, some of Europe's 143 nuclear reactors will still sit right on its borders.

Since France and other nations are firmly committed to nuclear power, shutting down all reactors across Europe won't happen, but Merkel is now pushing for common safety standards. The topic will be discussed at the European Union summit in Brussels on Thursday and Friday.

Merkel said the 27-nation bloc, which has standardized "the size of apples or the shape of bananas," needs joint standards for nuclear power plants.

"Everybody in Europe would be equally affected by an accident at a nuclear power plant in Europe," Merkel said.

Sooner Germany Abandons Nuclear Power, The Better: Merkel (AFP)

AFP, March 24, 2011

FRANKFURT (AFP) – Chancellor Angela Merkel said Wednesday that the sooner Germany abandoned nuclear power the better, but stressed the energy source was still needed as a stopgap technology for Europe's biggest economy.

The lesson Germany should learn from the nuclear crisis in Japan is "the earlier the exit, the better. Nuclear technology is a transitory technology", Merkel told a financial conference here.

Merkel also voiced support for a European Union decision taken last week to submit the 143 nuclear reactors in the bloc to stress tests aimed at ensuring they could resist earthquakes, tsunamis and terrorist attacks.

"The debate must take place on a rational basis," added the German leader, a former environment minister.

In the wake of the Japanese crisis, Merkel's centre-right coalition has decided on a three-month moratorium on plans approved last year to postpone the closing of nuclear plants by more than a decade, until the mid-2030s.

She also ordered the temporary shutdown of Germany's seven oldest nuclear reactors while authorities conduct safety probes. At least one was mothballed for good.

Opposition politicians, particularly those from the Green party, slammed the moves as electioneering ahead of a key state election this weekend in Baden-Wuerttemberg, which is home to four nuclear reactors.

Merkel vowed last week that Germany would accelerate the switch to renewable energy, calling for a "measured exit" from nuclear power in light of the Japanese crisis.

"We want to reach the age of renewable energy as soon as possible. That is our goal," the chancellor told parliament.

Polls consistently show that nuclear power is unpopular in Germany and protests against it regularly attract large crowds.

A survey published in mass circulation Bild daily showed 70 percent of the 1,122 voters surveyed approved of the decision to halt the reactors temporarily.

But 81 percent of respondents said they did not believe "credible" Merkel's apparent U-turn on nuclear policy.

On March 14, more than 100,000 people turned out to call for the closure of the country's nuclear facilities across more than 450 towns and cities, according to anti-nuclear campaigners.

In a separate protest three days earlier, tens of thousands formed a 45-kilometre (28-mile) human chain between a nuclear plant and Stuttgart. The demo was planned beforehand, but events in Japan swelled numbers.

It took place in Baden-Wuerttemberg, where on Sunday, Merkel's Christian Democrats face losing power after 58 years in charge.

Meanwhile, Italy declared on Wednesday a one-year moratorium on the country's nuclear programme at a cabinet meeting owing to the crisis in Japan, government officials told AFP in Rome.

And across Asia, supermarkets were selling fewer Japanese products and restaurants in "Little Tokyo" districts were suffering as fears rise that Japan's food chain has been dangerously tainted with radiation.

Hong Kong became the first place in Asia to impose a ban on certain Japanese food imports after the United States said it was barring dairy products and fresh produce from regions around the stricken nuclear plant.

Poland Rebuffs German Call On Nuclear Power (WSJ)

By Marcin Sobczyk

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Italy Freezes Its Nuclear Plan After Japan Crisis (NPR)

NPR, March 24, 2011

European leaders meet in Brussels Thursday with the nuclear disaster in Japan very much on their minds. German Chancellor Angela Merkel is pushing for the European Union to have common safety standards for nuclear power plants, but agreement will be difficult.

On Monday, energy ministers could not even agree on how and when to conduct stress tests on European nuclear plants. Reactions to the Fukushima accident have differed sharply across Europe.

In Italy, fear of losing upcoming local elections has forced the conservative government to slow its push to re-introduce nuclear power. Rome is calling for a one-year moratorium on nuclear power but anti-nuclear activists say it's just a ploy to buy time.

Next month marks the 25th anniversary of Chernobyl, the worst nuclear disaster in history. A year later, in 1987, Italians overwhelmingly voted against nuclear energy in a nationwide referendum. Italy's four nuclear power stations were shut down.

Two years ago, the conservative government of Prime Minister Silvio Berlusconi announced that Italy would go nuclear again. Then came the Japanese tsunami.

Lack Of Common Policy

Thousands of people gathered in a Roman square last weekend for an anti-nuclear rally. A speaker on the stage said Italy is the only European country whose environment minister is pro-nuclear energy.

There are already 143 reactors in the European Union — some of which are obsolete. Many demonstrators voiced concerns over the safety of several reactors built by the Soviets in former communist countries.

Leoluca Orlando, a member of the opposition Italy of Values party, said the problem is the European Union's failure to forge a common policy on nuclear energy.

"We demonstrated it's possible just to abolish in one day the German currency, the French currency, the Italian currency and to build the euro," Orlando says. "But we are today a European Union of bankers. We need to be a European Union of citizens. It is a long way to reach this point."

Fears Renewed

Right after the outbreak of the Fukushima nuclear crisis, Italy's industry minister, Paolo Romani, voiced the government's determination to go ahead with its nuclear power program.

"Nineteen percent of our energy sources come from nuclear-fueled power stations in neighboring countries. Since we already take advantage of nuclear energy, it is unimaginable that we should retreat from the path we have undertaken," he said.

But many polls suggest the majority of Italians feel otherwise — Fukushima has revived their Chernobyl nightmares.

Italo Cerboni, who restores antique furniture, says nuclear energy is obsolete and dangerous.

"Besides, we have mafias that dispose toxic waste illegally — just think what they'll do with nuclear waste," he says. "I can't help but suspect that behind all this love of nuclear energy there are lobbies — speculators, politicians and the mafia."

Weighing The Risks

Since the 1987 anti-nuclear referendum, Italy has still not disposed of all of its nuclear waste. It also abandoned nuclear research — now lacking know-how and technicians. Last year, only 75 Italians got degrees in nuclear physics, compared with 300 in 1987.

Environmentalists and others opposed to nuclear energy also point out that Italy is highly prone to earthquakes. There have been seven quakes over magnitude 6 in the last 100 years.

Meanwhile, this Mediterranean country is far behind Germany in using solar power.

Nobel Prize-winning nuclear physicist Carlo Rubbia says Italy should reflect carefully on the security risks involved with nuclear energy.

"We must acknowledge that renewable energy sources are an alternative," he says. "Like oil and coal, uranium is limited. But the sun is ours and it's forever."

While German environmentalists, backed by the chancellor of nuclear-free Austria, are gathering signatures to demand EU-wide legislation on nuclear power, Italians will get another chance to have their say June 12 in a new referendum on nuclear power in their country.

Italy Puts 1 Year Moratorium On Plans To Revive Nuclear Energy Plants (AP)

Associated Press, March 24, 2011

MILAN — The Italian government has put a one-year moratorium on plans to revive nuclear energy in a country that shut down its reactors more than 20 years ago.

Premier Silvio Berlusconi's Cabinet approved the moratorium Wednesday in the wake of radiation leaks at a Japanese plant damaged after March 11 earthquake and tsunami.

Italians rejected nuclear power in a 1987 referendum following the Chernobyl disaster, forcing the shutdown of its four working plants.

Berlusconi's government pledged to revive nuclear power to reduce dependence on foreign oil and natural gas, but no sites have yet been chosen in the seismically active country.

Nuclear opponents say the moratorium is a ruse to delay a referendum on nuclear power until memories of the Japan disaster have dimmed.

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Italy Approves Nuclear Pause (WSJ)

By Liam Moloney

Wall Street Journal, March 24, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Ottawa Needs To Be Weaned From Its Nuclear Obsession (GLOBMAIL)

By Neil Reynolds

Globe and Mail (Toronto, CA), March 24, 2011

"It is not too much to expect that our children will enjoy in their homes electrical energy too cheap to meter, will know of great periodic regional famines in the world only as matters of history, will travel effortlessly over the seas and under them and through the air with a minimum of danger and at great speeds, and will experience a lifespan far longer than ours." US philanthropist and nuclear energy proponent Lewis Strauss, 1954. More related to this story

Well, famines are less frequent. Travel is easier and faster. And people live longer. Three out of four utopian visions isn't bad. But when Lewis Strauss predicted that nuclear power would make next-generation electricity "too cheap to meter," he got it wrong. Nuclear power has been in trouble ever since – as much (or more) for economic reasons as for environmental reasons. Counting full "life cycle" costs (including eternal storage of wastes), it is now impossibly expensive: the energy source that only governments can afford. And natural gas, an alternative, is abundant and cheap. As US physicist and environmental seer Amory Lovins puts it, nuclear power can't survive free-market capitalism.

In its Cold War origins, nuclear power promised a lot: the energy of the atom, all but free for the taking. But nuclear power has never kept its promises. Fifty years later, nuclear power plants produce only 15 per cent of the world's electricity, far less than once envisaged. In direct competition with it, natural gas produces 20 per cent and coal 40 per cent.

In a report published March 2 ("Managing the Nuclear Fuel Cycle"), only days before a nuclear power disaster struck Japan, the US Congressional Research Service (CRS) asserts that it was economic risks, not environmental risks, that ended the

nuclear industry's free-for-all energy delusion. Mr. Lovins agrees. In a comment last week, he says new nuclear reactors – around the entire world – are 100 per cent subsidized.

Of the 66 reactors now listed as “under construction,” Mr. Lovins says, 12 have been so listed for 20 years, 45 have no startup dates and all 66 were located in centrally planned countries (such as China and Russia). Zero, he says, were free-market purchases. But nuclear power, he says, was already anachronistic by 1978 – the year before the meltdown scare at Three Mile Island in Pennsylvania.

The CRS concludes that, by the 1970s, US nuclear power plants had proven “grossly uneconomic.” In fact, it says, “nuclear power depends on the utility regulatory system to recover its costs.” This is a remarkable finding. It means that the industry survives solely on a kind of public kickback – a retroactive tax.

In its own analysis, the US Energy Information Administration says the capital cost of a new nuclear power plant in the country is now \$5,300 (US) per kilowatt (excluding interest payments). The global mean is \$4,100 (ranging from \$1,556 in South Korea to \$5,000 in Hungary). In contrast, the capital cost of a coal-fired plant ranges from \$807 per kilowatt to \$2,719; and the capital cost of a gas-fired plant ranges from \$635 per kilowatt to \$1,747.

And 80 per cent of the world's 442 nuclear reactors are now in OECD countries: Read, technologically-advanced countries. But 541 reactors are now either under construction, planned or proposed in such nuclear novice countries as Belarus, Indonesia, Thailand, Vietnam, Kazakhstan, Malaysia, Egypt and Iran. If all of these reactors go into operation, the world will be operating more than 1,000 nuclear reactors – merely to boil water.

For its part, Canada has spent around \$30-billion to establish and to sustain a nuclear industry – making the federal government the industry's sole significant risk-taker. Yet Atomic Energy Canada Ltd. is now up for sale with (apparently) no buyers in sight. However: Ontario's plan to add two new reactors to its Darlington plant – total associated cost to the province: \$30-billion – would keep the industry in business for a while.

Enough is enough. For environmental reasons, for economic reasons and for political reasons (including nuclear proliferation), the government should end its obsession with nuclear power: Until the industry can buy its own reactors, get rid of its own wastes and pay for its own insurance. The government won't, of course. As the world's biggest supplier of uranium, Canada makes nuclear power pay off – in its role as global enabler.

Nuclear Power Bid Put On Back Burner (BANGPOST)

Bangkok Post, March 24, 2011

No proposal to construct a nuclear power plant will be made while the Democrat Party is still in power, says Energy Minister Wannarat Channukul.

"The PDP [power development plan] committee will need to look at alternative paths for our energy development," said Mr Wannarat, adding that other sources include renewable energy, natural gas and clean coal technology.

The revision of Thailand's 20-year PDP from 2010-2030 is supposed to be finished next month. The current plan includes five nuclear power plants each with a capacity of 1,000 megawatts to come online from 2020-28.

Mr Wannarat said using other energy had its limits and uncertainty. For example, hydropower relied on limited water, so fossil fuel needed to be used as a back-up. "Nuclear energy answers the issue of global warming since it does not release emissions. However, its fate depends on investment costs, safety and public acceptance," he said.

Witoon Permpongsacharoen, director of the Mekong Energy and Ecology Network, said nuclear power was unnecessary and claimed the Energy Ministry had overestimated demand for electricity.

From 1992 to 2009, the government overestimated power demand by about 30% on average and by as much as 60% on occasions, he said.

"We are still attached to the belief that there will be a never-ending increase in electricity demand when actually there are ups and downs," Mr Witoon said.

He said it was possible for electricity consumption to become lower despite economic growth, citing California where power demand has been stable since 1975.

Subhin Panyamag, an adviser at the Nuclear Power Plan Development Office, said people usually talked only about negative aspects of nuclear power when radiation has benefits such as helping to cure cancer.

"It's like a ghost _ people are afraid of it because we only talk about how scary it is," said Mr Subhin.

Romanian Official: Nuclear Plant Is Safe (AP)

By Alina Wolfe Murray, Associated Press

Associated Press, March 24, 2011

CERNAVODA, Romania – Two Romanian nuclear reactors are safe and could withstand a huge earthquake, the manager of the Cernavoda nuclear plant said Wednesday.

Ionel Bucur said the Italian and Canadian-built plant in eastern Romania is prepared to withstand a Fukushima-type emergency.

In Japan, levels of radiation have spiked, seeping into some vegetables and the water supply since a magnitude-9 quake and killer tsunami crippled the Fukushima Dai-ichi power plant nearly two weeks ago.

Managers of the Cernavoda plant, some 150 kilometers (90 miles) east of Bucharest, invited journalists for discussions on plant safety after fears arose following the events in Japan.

Production manager Dan Bigu appeared unnerved by the prospect of a major quake. A 7.2-magnitude tremor killed over 1,500 people, most of them in the capital Bucharest, in 1977.

"There is no vulnerability which would put its safety into question," Bigu said. He explained the plant has 2,500 tons of water to ensure cooling for the reactors, for 15 hours, in the absence of electricity, together with two diesel generators.

The plant was built on the Danube to have direct access to water for cooling and it supplies about 20 percent of Romania's electricity needs. The first reactor began operating in 1997 and the second in 2007.

Since Fukushima, Romanian officials, including president Traian Basescu, have expressed confidence that the nuclear plant is safe even if there is a 7.5-magnitude earthquake.

Bucur said new European Union safety standards are likely to be imposed following Fukushima. He said it was unclear how these standards will influence plans to build two new reactors at Cernavoda.

"I am not worried...because the project is solid." The two new reactors will require an enlarged channel to bring water from the Danube.

Panic May Slow Nuclear Energy In China (NYT)

By Didi Kirsten Tatlow

New York Times, March 24, 2011

BEIJING — Nuclear fear has struck in China, a country of 1.3 billion with the world's most ambitious nuclear power plans, in response to the unfolding crisis at the Fukushima Daiichi plant in Japan.

Across the nation, panicked Chinese stormed stores last week for iodized salt, in the apparent belief that it would offer protection from possible radiation leaks in Japan, 2,000 kilometers, or 1,200 miles, to the east. When iodized salt ran out, they bought iodine-free sea salt. Then, even more bizarrely, soy sauce.

State-run news media and doctors pleaded with the public to stop, saying that radiation had not been detected in China, and warning that a person would have to eat several kilograms of iodized salt to ingest the required amount of iodine, inducing vomiting, or even death.

Yet panic persisted. Chinese customs even changed.

"Instead of our traditional greeting 'Have you eaten?' I heard people saying 'Have you bought salt?' It was so ridiculous," said a woman waiting in line at a cellphone shop, who gave her surname as Zhang.

The salt panic, plus a surge in online voices opposing plans to build dozens of power plants across the country, suggest that the government may have a harder time than it expected managing its aggressive nuclear energy plans. Currently, these foresee an approximate eightfold expansion within just nine years.

Chinese and overseas experts worry that safety cannot be guaranteed at that rate of growth, saying the country lacked experienced nuclear engineers, plant operators and a nuclear safety culture.

Slower growth in nuclear energy, broadly expected now after Japan's crisis, may help reduce fears, but it is unlikely to address a deeper problem, one energy expert said.

"The salt-buying panic shows that in the future, the lack of trust in this area between people and the government is going to be really serious," said Kevin Jianjun Tu, a senior associate for energy and climate at the Carnegie Endowment for International Peace in Washington.

Shortly after trouble began at the Japanese plant, online traffic swelled at bulletin boards on the popular Tianya, Baidu and Dahe Web sites, with people declaring they "resolutely oppose!" new plants, announcing petitions or calling for demonstrations. Many threads appear to have been discontinued or deleted, as the government clamps down increasingly hard on all dissent.

Yet those still up offer a glimpse of significant opposition to nuclear power in a country where virtually no public discussion of the issue is permitted. The posts appear to come from all over: the southwestern province of Yunnan, where an earthquake killed 26 this month; the central province of Henan, home to about 100 million people; the eastern seaport Weihai; and the southern province of Guangdong, where a nuclear power plant at Daya Bay leaked small amounts of radiation last year.

Even some contributors to Iron Blood, a Web site for military aficionados that is generally pro-government, voiced skepticism. In response to an essay posted by one netizen, liumangjintu, titled "Japan's Fukushima nuclear power plant blasts are ringing alarm bells in China!" another netizen, called zilchxp, wrote: "Chinese people are too impetuous today — this industry requires patience and meticulousness, and isn't suited to present-day China."

There are precedents of popular resistance influencing the outcome of government-backed projects. In 2007, residents of the prosperous coastal city of Xiamen organized demonstrations via text message against a planned chemical plant, forcing its relocation. Yet such movements remain rare.

China is relatively new to nuclear energy, and recent events in Japan have shocked the government, energy experts said.

"They never thought it could get so bad," Mr. Tu said. "They have been pushing nuclear very hard, so this is a very steep learning curve."

Declared goals for 2020 have varied widely over the last few years, said Mr. Tu, with some in the nuclear industry claiming that a nearly tenfold increase to 100 gigawatts was achievable. Mr. Tu believes the true plan — prior to the Japanese crisis — was to raise output from the current 10.8 gigawatts to 86, superseding an earlier target, set in 2007, of 40 gigawatts.

That would mean 8 to 10 percent of China's electricity would be produced by nuclear power by 2020 — still low by the standards of major economies.

"That may drop to 60 or 70 gigawatts now, after Japan, and any lessening is a good thing," Mr. Tu said. "I'm not saying we shouldn't develop nuclear power in China. But how much can we safely handle by 2020?"

On March 16, responding to Japan's crisis, the government declared it was suspending approval of new plants, pending review. The announcement is widely believed to herald a slowdown and new safety measures, but not a fundamental change in direction.

"I believe the next two years will see a slowing down of new nuclear plant development in China because of safety concerns," said Wu Libo of Fudan University's School of Economics.

But that may not be easy, given the lack of flexibility in China's long-term economic planning.

"As for the current Twelfth Five-Year Energy Plan, it's not easy to say how it will change, because, as you know, targets have already been set, and the Japanese threat came all of a sudden," Mr. Wu said.

Chen Jianxin, deputy director of Fudan University's Department of Nuclear Science, said: "Safety concerns will influence things on a large scale. After the Japanese incident, plant construction will be far more strictly evaluated."

Official corruption is another concern. In November, Kang Rixin, former general manager of the state-owned China National Nuclear Corp., was sentenced to life in jail for accepting bribes and other abuses, raising questions about safety and the trustworthiness of decision-making at the top of the nuclear industry.

China has been described by social scientists such as Francis Fukuyama as a "low trust" society, where rumors quickly set off mass panic. Doubts about safety standards here are widespread.

"I don't believe that China, where accidents happen all the time, can guarantee 100 percent safety at the Luoyang nuclear plant," set for Henan Province, worried Duguyu, in a posting on Dahe before Japan's crisis.

UPDATE 1-China Pushes Ahead Pakistan Nuclear Plant Expansion (REU)

By Chris Buckley

[Reuters](#), March 24, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

Forging Ahead On Nuclear Energy In Turkey (NYT)

By Susanne Güsten

[New York Times](#), March 24, 2011

ISTANBUL — Struggling through throngs of shoppers on the pedestrian Istiklal Avenue last weekend, a couple of thousand marchers with their anti-nuclear placards did not seem to be getting anywhere. "No to nuclear plants," the protesters chanted, banging on drums to make themselves heard. But few in the crowd swirling around them appeared to be listening.

The tide may have turned against nuclear power elsewhere, following the Fukushima Daiichi disaster in Japan, but Turkey is being swept along by a different current. Even as governments around the world scrambled to freeze or review their nuclear energy programs last week, Turkey announced the imminent start to construction of the first of its own nuclear plants, and experts say that a majority of Turks probably support the decision.

The cornerstone for the Akkuyu nuclear power plant near Mersin on the Mediterranean coast could be laid in April or early May, said Prime Minister Recep Tayyip Erdogan of Turkey following his talks in Moscow last week. Russia has agreed to build the plant under a \$20 billion deal signed in May. A similar deal with Japan, signed in December, involves the construction of a second plant near Sinop on the Black Sea coast, while the location of a third proposed plant was undecided.

It is a tricky decision to make, as Turkey is located in one of the most active earthquake regions in the world, and more than 90 percent of its territory is prone to earthquakes. The Akkuyu site in particular is close to a fault line, as the government concedes. Small tremors are registered in the region almost daily, and a quake measuring 6.2 on the Richter scale struck the nearby city of Adana in 1998.

Still, Turkey is forging ahead with its nuclear plans in the wake of the Fukushima scare, "even though some environmentalists are doing their best to sabotage the project," Mr. Erdogan said in Moscow, referring to doubts voiced after the tsunami in Japan, Turkish newspapers reported. "Any project can go wrong, you can't just drop it because of that. Otherwise you shouldn't be using gas bottles in your houses, and we shouldn't have an oil pipeline passing through the country."

Risk was just a fact of life, agreed the environment minister, Veysel Eroglu, speaking in Ankara. "If you drive a car, you are taking a risk," the Ihlas News Agency quoted him as saying.

Nuclear experts on both sides of the debate are aghast at such comparisons.

"I have never seen such ignorance about nuclear energy in my entire life," Tolga Yarman, a nuclear scientist and professor at Okan University in Istanbul, wrote in an e-mail, adding that the government was "making it sound like nuclear explosions are chestnuts exploding on the heater."

Professor Yarman, who said he and his peers had believed in the safety of nuclear power production until recent events, called the government's comments a "manifestation of nuclear hooliganism."

Ozgur Gurbuz, an energy specialist and anti-nuclear campaigner, said Mr. Erdogan's remarks were proof that the government had no idea of the risks.

"Nothing, absolutely nothing has changed in 25 years," Mr. Gurbuz said Monday during an interview, referring to the Turkish government's response to the 1986 Chernobyl disaster, fallout from which hit Turkey's Black Sea coast.

According to a Greenpeace report published in 1996, Cahit Aral, the trade minister at the time of the Chernobyl meltdown, coaxed Turks to drink tea from the contaminated harvest, telling them that "a little radiation is good for you." Mr. Aral, now 84, drank the tea on television to persuade compatriots to follow his example. The then-prime minister, Turgut Ozal, proclaimed that "radioactive tea tastes better," while Kenan Evren, then president, claimed radiation was good for the bones.

Even without a nuclear reactor, Turkey in 1999 rated a level 3 incident on the International Nuclear and Radiological Event scale, classified as "serious," when a container of highly radioactive Cobalt-60 turned up at an Istanbul junkyard, Mr. Gurbuz said.

"There is probably no institution in the world that should be kept as far away from a nuclear power plant as the Turkish Atomic Energy Institution," the regulator charged with supervising nuclear material, he said. A plant run by the Turkish government and supervised by the institution "would be an incredible danger not only to Turkey, but to the whole world," he added.

Nevertheless, even President Abdullah Gul — who is normally more cautious and conciliatory than the prime minister — has weighed in on the nuclear plans. "Energy is an important motor of development and prosperity," Mr. Gul told Turkish reporters last week during a trip to Kirikkale Province, just east of Ankara. He noted that Turkey depended on imports for much of its energy needs and could not meet the requirements of its rapidly expanding economy with alternative energies.

"I think it would not be right for Turkey to suddenly renounce nuclear energy" because of Japan, Mr. Gul said. "Turkey is already lagging behind other countries in adopting nuclear energy."

The opposition, sensing an opening, has called for a referendum, but given the popularity of the government, a majority would be likely to support the nuclear plans, Mr. Gurbuz said.

Environmental concerns are not high on the priority list of many Turks, as evidenced by a Green Party that has yet to muster branches in at least half of the country's 81 provinces as a prerequisite to standing for election. Mr. Gurbuz, a co-founder of the party, blames the legacy of the 1980 military coup, which still hampers such organization in Turkey.

Cengiz Aktar, a political scientist at Bahcesehir University in Istanbul, agreed that the government would probably win any referendum on its nuclear plans. "Turks are currently discovering the consumption society, just as Europeans did 30 or 40 years ago, they are happy to consume," Mr. Aktar said by telephone. If the government emphasized that aspect in a referendum campaign, it might well win the vote. Still, the absence of open protest against the nuclear plans did not mean that Turks were completely unconcerned, Mr. Aktar said.

"The way the government is advocating for the Russian deal in Akkuyu raises questions in people's minds," he said. "Why so eager, why so aggressive?"

That question was echoed by Mr. Gurbuz: "Why could they not suspend construction for three months, like other countries?" he asked. "Why not even one single month?"

One possible answer was offered by Taner Yildiz, the energy minister. "Turkey has set itself great economic goals for the 100th anniversary of the republic in 2023," he said on the state-run Turkish Radio and Television channel. "We cannot reach those goals with renewable energies alone."

Egypt May Delay Nuclear Plan After Japan Crisis, Masry Reports (BLOOM)

By Ola Galal

Bloomberg News, March 24, 2011

Egypt may delay its nuclear power program after the Japanese nuclear crisis, Al Masry Al Youm reported, citing Nuclear Power Plants Authority Chairman Yassin Ibrahim.

The authority is currently assessing and discussing options related to the program, the newspaper cited Ibrahim as saying.

To contact the reporters on this story: Ola Galal in Cairo at ogalal@bloomberg.net.

To contact the editor responsible for this story: Stephen Voss at sev@bloomberg.net.

Nuclear Industry In Russia Sells Safety, Taught By Chernobyl (NYT)

By Andrew E. Kramer

New York Times, March 23, 2011

MOSCOW — It was truly a trial by fire — one that has now become part of Russia's nuclear marketing message. Cynical as that might seem.

In April 1986, as workers and engineers scrambled to keep the Chernobyl nuclear power plant's molten radioactive uranium from burrowing into the earth — the so-called China syndrome — a Soviet physicist on the scene devised a makeshift solution for containing remnants of the liquefied core.

Teams of coal miners working in shifts tunneled underneath the smoldering reactor and built a platform of steel and concrete, cooled by water piped in from outside the plant's perimeter.

In the end the improvised core-catcher was not needed. The melted fuel burned through three stories of the reactor's basement but stopped at the foundation — where the mass remains so highly radioactive that scientists still cannot approach it.

Although 25 years later Chernobyl remains the radiation calamity by which all subsequent nuclear accidents will be measured, core-catchers are now a design feature of the newest reactors that Russia's state-owned nuclear power company, Rosatom, is selling around the world. That includes a contract the company signed with Belarus just last week, even as radioactive steam was rising from the Fukushima Daiichi plant in Japan.

Meanwhile that physicist, Leonid A. Bolshov, who was awarded a Soviet hero's medal for his efforts at Chernobyl, is now the director of the Institute for Nuclear Safety and Development, formed in 1988 in the wake of that disaster.

Like many others involved in his country's nuclear power industry, Mr. Bolshov, 64, expresses what to some ears may sound like a jarringly opportunistic sales pitch: that Chernobyl was the hard-earned experience that made Russia the world's most safety-conscious nuclear proponent.

"The Japanese disaster will give the whole world a lesson," Mr. Bolshov said in an interview last week. "After a disaster, a burst of attention to safety follows."

Opportunistic or not, in recent years the Russian nuclear industry has profited handsomely by selling reactors abroad, mostly to developing countries. That includes China and India — whose insatiable energy appetites are keeping them wedded to nuclear power, despite their vows to proceed even more cautiously in light of Japan's disaster.

And though Fukushima Daiichi provides a new opportunity to stress the message, Rosatom has long been marketing its reactors as safe — not despite Chernobyl, but because of it.

The Russians say they are now building more nuclear power plants globally than anyone, or 15 of the 60 new reactors under construction today. Rosatom says it has an additional 30 firm orders for reactors and plans to sell more.

Late last year, the company has set a goal of tripling worldwide sales by 2030, to \$50 billion annually — a goal that might seem much more doubtful now that Japan's crisis is making many countries think twice about building plants any time soon.

And yet, while stocks of publicly traded companies in the nuclear industry were falling around the world last week, Russian officials were persistently staying on message with their safety assurances.

The Russian prime minister, Vladimir V. Putin, himself flew to Belarus last week to sign the contract to build a plant in that country, worth \$9 billion.

"I want to stress that we possess a whole arsenal of advanced technical resources to ensure stable, accident-free performance for nuclear plants," Mr. Putin told journalists in Minsk, the Belarusian capital.

And the Russian president, Dmitri A. Medvedev, used the occasion of a visit by Turkey's prime minister, Recep Erdogan, to praise the safety of Russian nuclear designs. "Even in connection with what has happened in Japan, no radical reconsideration of safety standards is needed," he said, referring to a four-reactor plant the Russians have contracted to build in a seismically active region of southern Turkey. That deal is worth \$20 billion.

Sergei G. Novikov, a spokesman for Rosatom, declined to be interviewed for this article.

Rosatom now charges \$2 billion to \$5 billion for a reactor, depending on its size and other factors. And despite the claimed safety premium, the Russians still win some business by underbidding competitors that include General Electric and Westinghouse Electric, a division of Toshiba of Japan, according to Marina V. Alekseyenkova, an industrial analyst at the state-owned Gazprombank.

Independent nuclear safety experts say Russia's reactors for export are as safe as those of their international peers. But that has not insulated the Russian industry from criticism, including the rate of deal-making and the endorsement of nuclear safety to an almost unseemly degree in light of the crisis in Japan.

Igor V. Kudrik, an authority on Russia's nuclear industry at the Bellona Foundation, a Norwegian environmental group, said Russian reactor designs had indeed improved greatly since Chernobyl, which was built without a containment vessel. But the industry lacks independent oversight in Russia's politically centralized system, he said, leaving profit motive alone to guide development.

"They promote this technology only because it engages the enormous military nuclear industry left over from Soviet times," he said.

Pressurized water reactors, like the Rosatom VVER that is the company's current standard, and the 40-year-old General Electric Mark I boiling water reactor at the Fukushima plant, are inherently safer than Chernobyl-style reactors.

In both boiling water and pressurized water reactors, water cools the fuel and sustains the nuclear reaction. The water that floods the spaces between fuel rods slows neutrons, necessary for the reaction. Thus, in both designs, if the coolant is lost the reaction will stop, following the laws of physics — though, as the disaster-management team in Japan knows all too well, the shutdown does nothing to dissipate still-dangerous residual heat.

So, despite Rosatom's core-catcher feature for arresting meltdowns, its reactors may be as potentially vulnerable to release of radioactive material if the water-cooling system failed — as happened at Fukushima Daiichi.

But whatever the reactor design, operational safety procedures are crucial. And the Russians contend that their industry and engineers benefited more than others from the lessons of Chernobyl, including the stark reality that most reactors are poorly equipped to contain a full core meltdown.

Rosatom says a reactor it completed in 2007 in Tianwan, China, is the first in the world with what the Russians call a core-catcher built in. It was partly designed by Mr. Bolshov, the physicist who jury-rigged the barrier under Chernobyl.

The contemporary Rosatom core-catcher is a pool in the basement of a reactor filled not with water, but a metallic alloy. Solid under normal circumstances, it is designed to liquefy if the hot, melted-down core drops into it after burrowing through the floors above. Once the whole metallic pool liquefied, Mr. Bolshov said, heat from the continuing nuclear reaction would create currents, swirling the mixture against water-cooled steel walls.

The Russians market it as a final safety net in the last stages of a nuclear catastrophe.

And they say it is a solution to the problem of a China syndrome. It has not, of course, yet been subjected to real-world testing.

Russia is heavily invested in convincing other countries that these systems can make nuclear power safe.

As a legacy of the cold war, Russia possesses about 40 percent of the world's uranium enrichment capacity. That is much more than it needs to service its domestic reactors, meaning the industry relies on exports. (Enrichment refers to raising the level of the uranium isotope 235 from about 0.7 percent in natural uranium to 3 percent to 5 percent for civilian reactor fuel.)

Russia exports about \$3 billion worth of fuel a year. Rosatom says it intends to increase its share of the global nuclear fuel market to 25 percent by 2025, from 17 percent today. The strategy is to make money, but also to offer fuel at a discount to customers who buy Russian-made reactors.

The current threat to the market, for the Russians and others in the industry, is real. In the short term, Germany's decision last week to close seven of its 17 nuclear plants, and the probable delays of planned reactors elsewhere, will diminish demand for uranium fuel.

The McIlvaine Company, a Northfield, Ill.-based energy consultancy, estimated last week that two-thirds of all new reactor projects will be delayed after the Fukushima Daiichi disaster, and that over five years \$200 billion in energy investment globally will be redirected from nuclear to coal, petroleum or other alternatives.

Shares in publicly traded companies in the Russian nuclear power industry have plummeted in the wake of the disaster, as have shares in uranium mines and nuclear companies elsewhere.

And even as Russia seeks to export reactors backed by Rosatom's safety assurances, back home tight money has delayed plans for replacing some aging nuclear plants. That includes 11 Chernobyl-style reactors — the ones without containment vessels. Or core-catchers.



NUCLEAR REGULATORY COMMISSION NEWS SUMMARY

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NRC NEWS:

Japan Crisis Puts NRC Chairman In National Spotlight.

Greenwire (3/24, Northey) reports on how the nuclear crisis in Japan and “widespread fears over nuclear security have thrust” NRC Chairman Gregory Jaczko “into the national spotlight,” and contends the “chairman will only grow in prominence as he leads a nationwide security check on the country’s 104 nuclear reactors at the behest of President Obama.” Greenwire says in recent weeks the Obama administration has relied on the NRC chairman “to take a lead role in calming a jittery public,” though because “Jaczko has not worked as a nuclear engineer or industry official” some “question whether his political background has influenced his decisions as chairman.” Even so, the Nuclear Energy Institute “applauded” Jaczko’s appointment in 2009, while David Lochbaum, of the Union of Concerned Scientists “said the chairman has always tried to form a consensus and even successfully pushed for new reactor designs to be able to withstand an aircraft crash.”

Concerns Over US Nuclear Waste Rise In Light Of Japanese Crisis.

In a front-page story, the New York Times (3/24, A1, Wald, 950K) reports, “The threat of the release of highly radioactive spent fuel at a Japanese nuclear plant has revived a debate in the United States about how to manage such waste and has led to new recriminations over a derailed plan for a national repository in Nevada.” Experts say that “pools holding spent fuel at nuclear plants in the United States are even more heavily loaded than those at the Japanese reactors...and are more vulnerable to some threats than the ones in Japan,” but steps have been taken by utility companies since the 9/11 terrorist attacks to make them safer. Even if the Administration and Congress could reach a consensus on plans for the Yucca Mountain nuclear waste repository proposal, “it could not receive nuclear waste for at least 10 years, proponents acknowledge.”

In his argument against new reactors on the Daily Beast (3/24) blog, Newsweek correspondent Jonathan Alter writes that just closing Indian Point “won’t solve the biggest problem—spent fuel rods, which caused the most damage at Fukushima.” When “three of the seven pools” at the Dai-ichi plant were “damaged, and in one case entirely drained, by the tsunami, the spent rods began emitting high levels of radiation.” Alter goes on to add that since spent fuel pools are not hardened, like reactors are, the process known as “dry cask storage” seems to “offer a safer alternative.” But, he notes, in the US, dry cask storage is a supplemental system, not an alternative. That is one reason Alter says, that the US should not pursue new nuclear power plants.

NRC To Launch Two-Step Review Of US Nuclear Reactors.

On the heels of the nuclear crisis in Japan, the AP (3/24, Daly) reports the Nuclear Regulatory Commission voted Wednesday to launch a “two-step review” of the US nuclear plant fleet. The NRC will select a “task force, made up of senior staff and former NRC experts,” to conduct “short-term and long-term analyses of lessons learned from Japan,” and how those lessons can be applied to the US nuclear industry. The short-term review is to be completed “within three months,” while the longer review should be wrapped up by the end of the year.

USA Today (3/23, Winter, 1.83M) noted briefly the NRC’s news release on the “task force” to analyze “the lessons that can be learned from the situation in Japan.” NRC Chairman Gregory Jaczko said, “We will perform a systematic and methodical review to see if there are changes that should be made to our programs and regulations to ensure protection of public health and safety.”

AFP (3/24) notes Chairman Jaczko said, “Examining all the available information from Japan is essential to understanding the event’s implications for the United States.” NRC Executive Director for Operations Bill Borchardt said the work will “help determine if any additional NRC responses, such as orders requiring immediate action by US plants, are called for.”

CNN (3/24) said the “review will supplement existing programs to ensure plant safety,” while Reuters (3/24, Rascoe, Rampton) reports that Jaczko said in a memo to Borchardt that the task force efforts “should be informed by some stakeholder input but should be independent of industry efforts.” NPR (3/24, Peralta) also covered the announcement briefly.

WKRG-TV Mobile, AL (3/23, 10:15 p.m. CT, 46,956) broadcast that “the Nuclear Regulatory Commission has launched a two-step review of the 104 plants across the country.” WKRG adds that “a short-term review is to be completed within three months, with updates after 30 days and 60 days. The longer review should be completed by the end of the year.”

WTOL-TV Toledo, OH (3/24, 1:58 a.m. ET, 2,319) adds that the reviews were “in response to the continuing nuclear crisis in Japan following the recent earthquake and tsunami.”

NRC To Evaluate Seismic Risk At 17 Plant Sites; With Indian Point First.

Platts (3/24, Ostroff) reports the NRC “will conduct a seismic risk assessment of Entergy’s Indian Point plant in New York next year, the first of 27 reviews of nuclear power units at 17 plants, agency spokeswoman Beth Hayden said Tuesday.” The NRC “reported these nuclear units will receive the seismic review next year: Indian Point 2, Indian Point 3, Limerick 1, Limerick 2, Peach Bottom 2, Peach Bottom 3, Seabrook, Crystal River

3, Farley 1, Farley 2, North Anna 1, North Anna 2, Oconee 1, Oconee 2, Oconee 3, St. Lucie 1, St. Lucie 2, Sequoyah 1, Sequoyah 2, Summer, Watts Bar 1, Dresden 2, Dresden 3, Duane Arnold, Perry 1, River Bend and Wolf Creek.”

Bay Area Indymedia (3/24, Chan) runs a series of photos featuring the “Raging Grannies,” an anti-nuclear group who demonstrated at the US Geological Survey site in Menlo Park, California, saying “that the NRC has been rubber-stamping licenses for nuclear reactors and granting extensions and exceptions to their owners without enough regard for the public’s safety. ... An employee of USGS, who asked not to be identified, said that the mainstream press has been getting their information from PG&E and re-reporting news from other news sources, rather than getting the facts straight.” The source said that at the Shoreline Fault, near Diablo Canyon for example “the media is repeating the 6.5 magnitude earthquake prediction for Shoreline Fault, which is PG&E’s estimate, rather than the real estimate of 7.7.”

Financial Times (3/24, Bond, 448K) notes NRC spokeswoman Beth Hayden said regulators will evaluate US nuclear plants’ “seismic risk and their ability to cope with it” using data gathered in in US Geological Survey from September 2010. In addition, Hayden said the NRC “is going to look at all aspects of the response of Japan to the earthquake and tsunami to determine if any action should be taken.”

According to the Poughkeepsie (NY) Journal (3/23, Reisman, 30K), Indian Point spokesman Jerry Napi said the plant welcomes the review. “All citizens of New York need to have access to the pertinent facts regarding Indian Point,” he said. “We strongly believe that knowing the facts will answer the public’s questions and will also clearly demonstrate that this facility is safe-designed with a margin of safety beyond the strongest earthquake anticipated in the area.”

N12LI-TV New York, NY (3/23, 9:30 a.m. ET, 45,055) reports, Indian Point Nuclear Power Plant in Westchester is “going to be the first in the nation to be check for earthquake vulnerability.” N12LI-TV adds that the “Nuclear Regulatory Commission is making” the plant it’s “top priority” since it “sits near a fault line.” New York Governor, Chris Cuomo, said that that the NRC should “re-evaluate” the plant to “decide whether or not” they “should grant this facility a license today.”

Cuomo Still Wants Indian Point To Close. The New York Daily News (3/23, Lovett, Sisk, 506K) reported that even as NRC “watchdogs made Indian Point safety their ‘top priority’” Tuesday, Gov. Cuomo “said he still wants the aging nuclear power plant shut down. ‘My position hasn’t changed,” Cuomo said. “The world has changed” Cuomo said of the earthquake and tsunami-damaged Fukushima nuclear complex. “This is a new factor and a new situation aside from whether or not the facility should be relicensed,”

Cuomo said of Indian Point, whose two reactors are up for recertification in 2013 and 2015.”

Bloomberg Likely To Oppose Cuomo’s Campaign Against Indian Point. The Christian Science Monitor (3/24, Scherer, 48K) reports that New York Gov. Andrew Cuomo, sees the nuclear crisis in Japan as a “warning bell for his own state,” where he has long been trying to make sure Indian Point nuclear power plant – which he considers a “catastrophe waiting to happen” – is closed when its two reactors’ licenses expire. The NRC “has agreed to make Indian Point one of its first priorities in an ongoing study of seismic risk” and met with New York state officials to discuss how the study will proceed. “When the data comes back in we want to make sure Indian Point is at or near the top of the list when we start looking at the data,” said NRC spokesman Neil Sheehan, though the Monitor notes that in Cuomo’s battle against Indian Point, he’s likely to have an opponent in New York City Mayor Michael Bloomberg, whose constituency draws “nearly one-third” of its power from the facility.

Westchester Journal News Says Reviews, Studies Of Plant Safety Welcome. In an editorial, the Westchester (NY) Journal News (3/22) argues that longtime “critics of Indian Point continue to cite events at the deeply unstable Fukushima Daiichi nuclear plant in Japan in their calls to shut the nuclear reactors...in Buchanan.” Those supporting nuclear power, “including at Indian Point, say important lessons can be learned from Japan’s nuclear disaster, but that it is extremely unlikely a powerful earthquake, let alone the tsunami that followed, would happen here.” The News notes that Gov. Andrew Cuomo, “long a foe of the plants, has ordered a review” and the “Obama administration, which has supported nuclear power, has also pledged to review the plants’ location in a metropolitan area. As the days pass, and problems at the Fukushima plant continue, such questions, studies and examinations are welcome.”

Blog: Indian Point Still Needs Water Discharge Permit. On its website, WNYC-Radio’s (3/23, Thompson) “The Empire” blog reports that while the “controversy over Indian Point has thus far centered on the nuclear plant’s vulnerability to earthquakes – prompting the NRC to rank it their ‘top priority in its review of the seismic risk at 27 nuclear plants throughout the country’ – WNYC’s Bob Hennelly says we’re missing the bigger point: The nuclear plant has been striking out for years in its attempt to get a state water quality permit for its discharge into the Hudson. Without the state water sign off, Indian Point cannot get its 20 year federal renewal.”

Von Hippel Faults NRC For Being Too Timid In Enforcement. In an opinion piece for the New York Times (3/24, A31, 950K) nuclear physicist and Princeton professor, Frank N. Von Hippel, writes, “It will be years before we know

the full consequences of the disaster at the Fukushima Daiichi nuclear power plant," but the incident "provides an opportunity to rethink nuclear-power policy in the United States and the rest of the world — and reduce the dangers of a similar disaster happening elsewhere." Von Hippel says that on the one hand, nuclear power has been "remarkably safe," much safer than coal plants, from which he says "fine-particulate air pollution" kills about "10,000 people each year in the United States alone." But, "despite the 1979 accident at the Three Mile Island nuclear plant in Pennsylvania, the Nuclear Regulatory Commission has often been too timid in ensuring that America's 104 commercial reactors are operated safely."

Advances In Seismic Science Raising New Questions About Nuclear Plant Safety. McClatchy (3/24, Schoof, Gordon) reports that seismologists knew a lot less about earthquakes back in the 1960s and '70s, when most of the country's 104 nuclear reactors were designed and built, than they do today. While the NRC "has been attentive to earthquake risk and has done regular assessments and upgrades as warranted over the 40 to 50 years since the reactors were first designed," and is, in general satisfied that US plants, "including those in California in the highest quake-risk zones, are built to withstand the biggest quake that can reasonably be expected," the "increased seismic activity in Japan, New Zealand, Chile, Haiti and elsewhere is raising new questions." Experts like Najmedin Meshkati of the University of Southern California say the Fukushima crisis is a "rude awakening" to US regulators and says it isn't enough to assert "it couldn't happen here."

Reps. Engel, Lowey Seek Hearings On NRC Relicensing Process. On its "E2-Wire" blog, The Hill (3/24, Restuccia, 21K) reports that New York Democratic Reps. Eliot Engel and Nita Lowey want "congressional hearings to investigate the Nuclear Regulatory Commission's (NRC) relicensing process for aging US nuclear power plants." The lawmakers called on House Energy and Commerce Committee Chairman Fred Upton (R-Mich.) to hold hearings on the issue of whether "decades-old US nuclear power plants might not be able to withstand a terrorist attack or a major natural disaster like the one that hobbled nuclear reactors in Japan." Reps. Engel and Lowey "will reintroduce legislation next week that sets stringent new standards for the NRC's relicensing process."

Boxer, Feinstein Question Safety Standards At California Atomic Plants. The Grass Valley (CA) Union (3/23, 16K) reported Sen. Barbara Boxer (D-CA) and Sen. Diane Feinstein (D-CA) recently "sent a letter to the NRC asking detailed questions about the two California nuclear plants' design and operation, type of reactors and

preparedness to withstand an earthquake or tsunami." The March 16 letter follows "a new report from the US Nuclear Regulatory Commission based its assessment of the plants on 'the level of seismic activity and the potential for large-magnitude earthquakes.'" The article said the "two California nuclear plants are the only ones in the nation in areas of the highest seismic risk."

KUSI-TV San Diego, CA (3/23, 10:19 p.m. PT, 59,186) reports "California Senator Diane Feinstein and members of the Nuclear Regulatory Commission toured the Diablo Canyon plant in San Luis Obispo and the San Onofre plant, north of Oceanside." Senator Feinstein said that "her chief concern is about the spent fuel rods that are stored at both plants."

Feinstein Says She Now Supports Repository For Nuclear Waste. The San Diego Union-Tribune (3/24, Cadelago, 240K) reports, "A day after visiting the state's two nuclear plants, Sen. Dianne Feinstein said Wednesday that she now supports a national repository for nuclear waste." Feinstein said, "I had always thought we didn't need one," but the tour Tuesday of Diablo Canyon and San Onofre atomic plants, "candidly, changed my mind." The paper says "regional fuel repositories would eliminate the need for 105 facilities nationwide handling their own waste." Feinstein said that "Yucca Mountain, the Nevada site the government has considered for long-term storage, may or may not be the right place."

Article Questions PG&E's Commitment To Safety At Diablo Canyon. In an opinion piece in the Manteca (CA) Bulletin (3/23, 7K), Dennis Wyatt, the managing editor, raised questions about the safety standards at Diablo Canyon nuclear plant in California. He said "the discovery two years ago of an earthquake fault within a half mile of the nuclear reactors is promoting some government regulators...to push for operating and safety standards designed for the fault letting loose one day with a 7.5 Richter Scale quake." However, "PG&E is trying to get it downgraded to about a 6.5 because obviously it would cost a lot less to comply with it." Wyatt said voters "cannot force PG&E to shut down Diablo Canyon as it is a for-profit nuclear power plant." That, he noted, "prompts the question whether nuclear power plants should be operated by for-profit firms whose first responsibility is to corporate bonuses and then stockholders and not ratepayers or people who may be down wind."

More Lawmakers Tout Nuclear Energy Safety At Home-State Plant Visits. A number of state and local-level media outlets reported on visits made by members of Congress to power plants in their home states where they stressed the safety of nuclear power in efforts to counter anxiety caused by the nuclear crisis in Japan.

Graham Conducts Media Tour Of Oconee Plant. Characterizing him as a staunch supporter of nuclear energy in his state, South Carolina's The State (3/23, Fretwell) reports that South Carolina Sen. Lindsey Graham (R) "took the media on a tour of Duke Energy's Oconee atomic power station to show why he thinks nuclear energy needs to be expanded," notwithstanding the current nuclear crisis in Japan. "Graham said the visit reinforces his belief that a nuclear disaster like that in Japan could not happen at Duke's three reactors. Graham said the US will learn some lessons from Japan but should not slow the push to develop new reactors." Graham touted the safety innovations and the geology of the region, noting that he lives some five miles away from it.

The Spartanburg (SC) Herald Journal (3/24, Largen) also covers Graham's visit and comments, noting that the "company's invitation to Graham and reporters came as Duke Energy and other companies interested in building new nuclear power plants in South Carolina and across the US try to reassure the country that it's safe to proceed." However, "Many have said plans for new plants in the US should not move forward until the problems with the Japanese plant can be carefully analyzed."

Barton Stresses Nuclear Energy's Safety During Visit To Comanche Peak Plant. The Dallas Morning News (3/24, Weiss, 262K) reports that TX6 Rep. Joe Barton (R) "spent part of Wednesday showing his support for...the Comanche Peak Nuclear Power Plant about 80 miles southwest of Dallas. Energy Futures Holdings, the company that owns the plant, invited Barton for a tour during the congressional spring break." Barton gave Comanche Peak "his vote of confidence. 'Nuclear power is very safe,' he said. 'Its safety record is 100 percent. We had the incident at Three Mile Island in the '70s in which nobody was hurt and no radiation escaped.'"

The Fort Worth Star-Telegram (3/24, Tinsley) reports that Barton toured the plant to learn whether it "would be safe if a catastrophe hit North Texas" on the order of the one that struck Japan. "'Our safety systems in the United States are much more robust than in Japan,' said Barton. ... 'If there's ever an earthquake, I want to be in the control room at Comanche Peak. ... It can withstand the largest earthquake we could have and then some.'" Nonetheless, Barton called for congressional hearings on safety at US plants overall.

Noting that "Comanche Peak's operator, Luminant, is seeking Federal licenses for two more units," KTVT-TV Dallas/Fort Worth (3/24) also covers Barton's visit, noting that he stressed that "there are enough protections in the new design to continue the lengthy permitting process" despite the Japanese crisis. [Editor's note: this piece incorrectly identifies Barton as Chairman of House Energy and Commerce. He is

chair emeritus.] KXAS-TV Dallas/Fort Worth (3/24, Wilcox) also covers Barton's visit and comments.

Vermont Regulators Demand Answers From Yankee On Delayed Well Tests. WCAX-TV Burlington, VT (3/23) reports, "Three state departments are demanding answers from Vermont Yankee about a contaminated drinking water well." The Health Department was expecting new test results in February, and the "Public Safety Department and the Department of Environmental Conservation have now sent Entergy Nuclear officials a joint letter asking the Vernon plant's owners to conduct new tests. Entergy officials have not offered a time line or reason for the delay."

Vermonters React To NRC Relicensing Announcement. On its website, VT Digger (3/22, Galloway) reported on the NRC's decision to officially grant "Entergy Corp.'s license to continue operation of the Vermont Yankee Nuclear Power Station for 20 years beyond its scheduled shutdown date of March 2012. The commission issued the license 10 days after partial meltdowns of reactors at the Fukushima-Daiichi nuclear plant in Japan triggered hydrogen gas explosions in the wake of a devastating 9.0 magnitude earthquake and subsequent tsunami." VT Digger notes that the reaction from many state officials was shocked surprise, especially after the Commission had placed the relicensing application on hold as it tended to matters overseas. "James Moore, VPIRG's clean energy program director, said: 'I think if anyone wasn't sure the NRC was a rubber stamp machine for the nuclear industry, this should make that really clear.' For the "NRC to not even pause and reconsider giving this old reactor a license past the 20-year expiration date is almost unconscionable."

AP Issues Vermont Yankee License Expiration Correction. In a "correction," the AP (3/24) notes that a "March 21 story on the Vermont Yankee nuclear plant being granted a 20-year license extension by the Nuclear Regulatory Commission, The Associated Press erroneously reported the expiration year of the plant's state permit. It expires in 2012; it did not expire in 2010."

Blog: Shumlin Encourages Other States To Take Control Of Nuclear Plant Relicensing. The Boston Globe (3/24, Wirzbicki, 244K) blog "The Angle" examines Vermont's "authority to block the Vermont Yankee plant from staying in operation past 2012, when its license runs out." The "question is especially relevant now," with what is happening in Japan and "after the NRC granted Vermont Yankee a license extension" Monday. The "Vermont legislature, after a series of leaks at the plant, has already voted against allowing it to remain open. Letting each state have a veto over energy policy seems potentially fraught with problems — but Peter E. Shumlin, Vermont's O governor, is an unabashed fan and

believes more states should follow Vermont's lead." In an interview, Shumlin said "It puzzles me that more states don't take control into their own hands about aging plants."

TVA Says Its Plants Are More Robust Than Japan's Crippled Nuclear Reactors. Several local television stations in Tennessee covered the news of senior TVA officials reassuring the public that their nuclear reactors are safe, following the atomic plant disaster in Japan. The Chattanooga Times Free Press (3/23, Flessner, 78K) reported, "The nuclear power plants operated by the Tennessee Valley Authority are better able to withstand the loss of outside power than was the crippled Fukushima nuclear plant following the recent earthquake and tsunami in Japan, TVA's top power official said" on Wednesday. TVA Chief Operating Officer Bill McCollum Jr. said, "It's important to understand that the designs of the Japanese plants are somewhat different and there are features built into our plants that make them more robust in terms of being able to deal with these sorts of natural disasters." For instance, TVA has installed "hardened vents" to stop "hydrogen gas explosions" that took place in four of the six reactors at the Japanese plant.

On its website and on the air, WTVF-TV Nashville (3/23) reported, "TVA officials held an informational session on Wednesday to reassure the public that Tennessee's nuclear power plants are safe." The TV station said that TVA's chief nuclear officer, Preston Swafford, said the state's three nuclear plants are in a "good condition." He said, "We've spent a great deal of time to make sure if something like this were to happen that we would have the procedures, the mechanisms, the equipment to mitigate that."

TVA Defends Safety of Nuclear Reactors. On its website, WPLN-AM Nashville (3/23) reported that "TVA has been completing a second nuclear reactor at its Watts Bar facility south of Crossville." TVA's Swafford noted the "design has already been approved by the Nuclear Regulatory Commission, so he doesn't expect the disaster in Japan to stop work on Watts Barr Unit 2."

Bellefonte Work Continues. The Scottsboro (AL) Daily Sentinel (3/24, Bonner, 5K) reports, "Design and engineering work continue on one unit at the Bellefonte Nuclear Power Plant near Scottsboro though no decision has yet been made to complete the facility." TVA senior manager of communications Ray Golden said, "It will be up to our board to make a determination on Bellefonte." He pointed out that "if they don't take any action there will be an August meeting where they may consider it. Right now we're thinking this unit, if we go forward with it, will be (ready) in the 2018 range." The paper says Garry Morgan, a member of BREDL and of the Bellefonte Efficiency and Sustainability Team, "said he has concerns about TVA's continued use of nuclear power

and has questions about the utility's emergency plans in case of a catastrophic failure." The Sentinel says BREDL and BEST are environmental groups that support alternative energy sources.

TVA Works To Calm Concerns About Nuclear Plants. On its website and on the air, WKRN-TV Nashville (3/23) reported that TVA's "Swafford said the Browns Ferry Plant is equipped to with stand a 6.0 earthquake and million year flooding levels. The New Madrid Fault line in Missouri is the closest fault line to the plant." Notably, "the Browns Ferry plant is similar to the plant in Japan. Both are boiling water reactors." The report said the TVA on Friday will take reporters on a tour of the Browns Ferry Plant in Alabama, so they can see for themselves the "safety and security measure in place."

The WDEF-TV Chattanooga (3/23, Odom) reported that despite TVA's faith in its nuclear plants, the company "still put together a response center to evaluate information coming from Japan and how to apply it to strengthen TVA's nuclear defenses," citing TVA's McCollum.

Local TV Coverage. WDEF-TV Chattanooga, TN (3/23, 11:06 p.m. ET, 16,293) reports that, according to TVA officials, the company "will move ahead with their plans for new nuclear reactors, despite the disaster in Japan." TVA officials added that "their plants are different from the one in Japan" since theirs has "more robust defenses." However, they added that "but the company still put together a response center to evaluate information coming from Japan and how to apply it to strengthen TVA's nuclear defenses." TVA Chief Operating Officer Bill McCollum said that, with the information they have already gathered, they have determined that they "will probably add some additional pre-staged equipment and change the locations of some of those to make them more accessible."

WEMT-TV Tri-Cities (TN-VA) (3/23, 10:45 p.m. ET, 31,891) adds that TVA Chief Nuclear Officer Preston Swafford said that their plants in the "Tennessee Valley are built to handle an earthquake and tsunami similar to those that hit Japan." WKRN-TV Nashville, TN (3/23, 6:04 p.m. CT, 91,311) and WZTV-TV Nashville, TN (3/23, 8:01 a.m. CT, 9,043) provides similar coverage.

Japanese Crisis Prompting NRG To Slow Plans For South Texas Expansion. In continuing coverage, the Victoria (TX) Advocate (3/24, Wray, 30K) reports on the impact the Japanese nuclear crisis is having in prompting NRG Energy-owned Nuclear Innovation of North America to slow its plans to expand the South Texas Nuclear Generating Station. The article paints the move as part of an overall "shudder" in the nuclear power industry, noting that NRG plans to "wait for the NRC to come back with any regulatory changes" before proceeding. "Basically, we know

the Nuclear Regulatory Commission is going to be doing a review of what the lessons of Fukushima are, and how we can make our plants even stronger,' [NRG communications director David] Knox said. 'They're going to be doing this review, and the review could cause the requirements on how the plants are permitted to change.'"

The Austin American Statesman (3/24, 132K) reports that NRG "has temporarily broken off talks with Austin" about selling the city electricity from the expansion "citing concern for its Japanese partners dealing with the aftermath of the earthquake and tsunami. ... NRG had been talking with Austin, San Antonio and other cities about buying power from two new reactors it is proposing to build at the Matagorda County facility." However, Tokyo Electric Power had planned to play a "key" role in the project but is now coping with the crisis at its Fukushima plant. "NRG spokesman David Knox said the company hopes to resume talks with Austin and San Antonio at some point."

Following on yesterday's Wall Street Journal coverage, the Charlotte Business Journal (3/24, Downey) reports that NRG's plans to back-burner its South Texas expansion "could have a direct effect on Shaw Power Group, which signed on with Toshiba Corp. to participate in the massive project. In November, Shaw announced it was hiring about 225 — including 180 engineers — in Charlotte in part to support work on the South Texas plant." This article notes that NRG CEO David Crane has said that it's unclear whether Tokyo Electric Power "will continue its participation in the plant."

Nuclear Crisis Likely To Delay Maryland Plant Expansion. The Southern Maryland Newspapers (3/24, Newman) reports on the "nuclear renaissance" that in recent years had been poised to bring about more nuclear plants in the US, given rising oil prices and greenhouse gas concerns. "Among the applications was one for a third reactor at the Calvert Cliffs Nuclear Power Plant in Lusby, an almost \$10 billion project expected to create about 4,000 temporary and 400 permanent jobs at Maryland's only nuclear electricity plant." However, the economic downturn and increased investor interest in wind and solar power, and the Japanese nuclear crisis is further stymieing progress at Calvert Cliffs. The article suggests that the plant's expansion is now likely to be delayed for a long period of time.

In an article titled "What If It Happened Here?" the Calvert Recorder (3/24, Friess, Marso) reports CENG's Mark Sullivan "said safety was the company's top priority for Calvert Cliffs." In an email he wrote, "We have emergency response plans in place which are approved at the federal, state and local government agencies. ... The plans have detailed procedures which are routinely reviewed and used in training of our teams. We have training exercises and drills to test our ability to effectively implement our plan and are formally

evaluated by the NRC." He added that the "reactors would be shut down if certain levels of seismic activity were detected in the area and that the NRC required all plants to be designed to withstand natural phenomena like tsunamis."

Calvert Cliffs Manager Warned About Roof Leaks.

An article by the Southern Maryland Online (3/24, Marso) titled "Calvert Cliffs Nuclear Plant Manager Warned Employees of Roof Leaks, Declining Maintenance" reports, "Calvert Cliffs Nuclear Power Plant General Manager Thomas Trepanier warned his employees about a pattern of 'tolerating degraded roof conditions' at the 35-year-old facility last year after water damage shorted out backup power systems, leading to a weeklong shutdown." In a PowerPoint presentation Trepanier told employees, "Events are lagging indicators of the direction of the plant." CENG's Mark Sullivan said his PowerPoint was "an internal document for an employee meeting that was presented at an industry human performance working group." Sullivan added "the company had learned from the incident and worked to fix the problems."

Backup Cooling Systems At Pennsylvania Plants Described.

The York (PA) Daily Record (3/24, Adkins, 56K) runs a report on the "multiple backup systems" at the Peach Bottom and TMI nuclear plants in Pennsylvania, which "rely on a series of redundant safety systems to keep both the reactors and spent fuel pools cool and filled." The piece describes the dynamics between the off-site power, diesel generators, and backup batteries at the plants, comparing these systems to those in place at the Fukushima plant in Japan, where workers "have struggled to control the temperature of that plant's spent fuel pools after the site was damaged by both an earthquake and a tsunami."

Boston Globe Praises Markey's Outspokenness On Nuclear Power.

In an editorial about recent comments from Massachusetts Democrat Ed Markey about nuclear energy, the Boston Globe (3/24, 244K) notes that the Congressman has been "bracingly outspoken" about the ongoing nuclear crisis in Japan, and "sounded a wise note of caution about domestic nuclear power, pressuring both President Obama and the Nuclear Regulatory Commission to force nuclear power plant operators to adhere to the highest standards." The Globe says Markey's comments have proven to be a "vital counterweight" to the "dangerously naive" opinion that the "situation in Japan can be pinned on a once-in-a-lifetime confluence of factors rather than the inherent danger of under-regulated nuclear power."

Financing For Nuclear Construction Remains Uncertain.

The Wall Street Journal (3/24, Tracy, Malik,

2.06M) reports that in the wake of the nuclear crisis in Japan, power companies in the US may have a harder time obtaining financing for nuclear reactor construction projects. Standard & Poor's said in a note to investors last week that the Japanese crisis "renewed public focus on the inherent risks of nuclear power" which could lead to "deteriorating economics for new plant construction." While the Administration has vowed support for nuclear power, including a budget proposal for an additional \$36 billion in nuclear loan guarantees, some lawmakers have spoken out against added support for the industry. Eben Burnham-Snyder, a spokesman for Rep. Ed Markey (D-MA), said, "After the Japanese meltdown, Congressman Markey absolutely thinks it's important to revisit whether taxpayer subsidies for new nuclear-power plants is a good idea."

US Nuclear Evacuation Zone Requirements

Questioned. The Wall Street Journal (3/24, Gilbert, 2.06M) reports on the current 10-mile evacuation zones around US nuclear reactors and the question of whether that distance is enough, given that last week, the Nuclear Regulatory Commission urged US citizens in Japan to stay at least 50 miles away from the earthquake and tsunami stricken Fukushima Dai-ichi nuclear plant. Japanese officials had only required a 12-mile zone. The Journal notes that MIT professor Michael Golay suggested that the NRC's recommendation certainly took into account issues that would not necessarily impact a similar disaster response in this country, such as the limited ability of the US government to aid its citizens in another country. Still, Golay doubted a 50-mile evacuation radius would be very feasible in the US, where almost half of the 104 reactors are within 50 miles of a metropolitan area. "We're certainly not prepared for it," said Golay.

Public Opinion Trends Away From Supporting New Nuclear Plants.

According to a roundup of new polls in the Daily Caller (3/24, Levinson) while most "of the public considers American nuclear power plants to be safe, the majority of Americans oppose the construction of more plants on US soil and the increased use of nuclear energy in the US in the wake of the accident in Japan." The Caller examined surveys released earlier this week by CNN, Pew, CBS and one by Gallup, which suggest that "about half" of respondents oppose building new reactors or having the government promote "increased use of nuclear power, while the number of those in favor hovers just above forty percent in most polls."

EPA's RadNet Monitoring System Not Yet Completely Deployed, IG's Report Says.

Greenwire (3/24, McArdle) reports, "As the triple disaster in

Japan turns a spotlight on the US capacity to respond to a similar crisis at home, US EPA Inspector General Arthur Elkins is contemplating taking another look at parts of his agency's emergency response preparations that have raised red flags in the past." The EPA has been relying, for example, on the national Radiation Ambient Monitoring System to determine if exposure in the US from the Japanese nuclear reactor warrants concern. "But an EPA IG report from January 2009 found that the full implementation of the RadNet system was behind schedule and that further delays were possible to allow time to modify some monitors. 'As a result, the agency may have less information about the levels of radiation should a national radiological or nuclear emergency occur,' the report stated."

Nuclear Watchdog Group Wants Meeting With Illinois Governor On State's Reactors.

The AP (3/24) reports that the Nuclear Energy Information Service, an Illinois "nuclear watchdog group," wants to meet with Gov. Pat Quinn "to discuss safety and oversight of the state's reactors." The group's director, David Kraft, "sent a letter to Quinn Tuesday requesting the meeting and included a list of topics his group wants to discuss. First on the list: the four Illinois reactors that are the same model and roughly the same age as those involved in Japan's ongoing nuclear crisis." Quinn's office said the governor received the letter "and...would contact Kraft."

Illinois Wants State Emergency Management Agency To Inspect Nuclear Power Plants.

WGIL-AM Galesburg, Illinois (3/23) carried an Illinois Radio Network report that "Illinois will soon be inspecting all of its nuclear power plants, in the wake of the events in Japan." Gov. Pat Quinn "says while inspections are performed regularly by the Nuclear Regulatory Commission, he wants the state – in particular, an arm of the Illinois Emergency Management Agency – to take a closer look at Exelon power plants." The company owns all 11 nuclear power plants in Illinois, and four reactors – at plants in Dresden and Quad City – "are of the same design and vintage as those involved in Japan's nuclear crisis."

Illinois Authorities Conduct Safety Drill At Chicago-Area Plant.

WLS-TV Chicago (3/24) reports that emergency management officials in Illinois are conducting a drill at the Dresden nuclear power plant in Morris, Illinois, which the article designates as a suburb of Chicago. "The drill was held at a mock command center 10 miles away at the Chicagoland Speedway in Joliet. Participants practiced coordinating evacuations, setting up shelters and telling people where to go for health concerns." The piece describes the biennial drills, which test "the response of state and local emergency agencies to a disaster." Its timing is not related to the Japanese nuclear crisis, WLS reports.

Energy Exec Wants Iowa To Make Nuclear Plant Construction Easier. The AP (3/23) reported that William Fehrman, president of MidAmerican Energy, wants Iowa lawmakers to “approve legislation making it easier for the company to construct a nuclear power plant” in the state. Fehrman “told members of the House Commerce Committee on Wednesday that...nuclear may be the only viable option if federal regulations on coal plants are approved.” He also touted the plan to a Senate committee last week. The plan “effectively guarantees a recovery of the company’s costs for the plant.”

Utility Executive Says Atomic Energy Will Remain Part Of US Energy Mix. The Dow Jones Newswires (3/24, Tracy) reports that PSEG Power President and Chief Operating Officer William Levis said the US would continue to depend on energy mix that will include nuclear power, despite the current debate over the safety of atomic power in view of the Japan nuclear disaster. Lewis says it is currently unclear how the crisis in Japan would affect license renewals for existing nuclear plants, but noted that new rules may play a factor in planned atomic power plants.

NRC Says US Nuclear Output Up 0.8 Percent. Bloomberg News (3/24, McClelland) reports, “US nuclear-power output rose 0.8 percent as utilities increased production by reactors in Georgia, Pennsylvania and New Jersey, the Nuclear Regulatory Commission said.” Bloomberg says “power generation nationwide increased by 662 megawatts from yesterday to 85,184 megawatts, or 84 percent of capacity, according to a report today from the NRC and data compiled by Bloomberg.” Notably, “seventeen of the nation’s 104 reactors were offline.”

Chu Says Small Module Reactors Are “Much, Much Safer.” Jeff McMahon writes in his blog for Forbes (3/24, 924K) that “conventional nuclear reactors may not be safe enough to operate near cities—if you take Energy Secretary Steven Chu at his word—but small module reactors are ‘much, much safer,’ he said at a Pew Environment Group forum in Washington.” During the forum Wednesday, “Chu suggested module reactors should appear with solar and wind power in a new US energy policy designed to win ‘the race’ with China and other nations to develop clean energy sources.” Chu said that one of the benefits of the reactors is no carbon emissions, and while “they are just as capable as large conventional reactors of suffering a molten core, but their diminutive size may simplify containment.”

Wind, Solar Will Compete With Fossil Fuels Within The Decade, Says Chu. Also covering the Pew forum, AFP (3/24) adds that Chu said “clean sources of energy such as wind and solar will be no more expensive than oil and gas

projects by the end of the decade.” He told those in attendance, “Before maybe the end of this decade, I see wind and solar being cost-competitive without subsidy with new fossil fuel,” adding, “So the country and the companies who develop those renewable energy and resources that become cost competitive without subsidy all of a sudden have a world market. And, boy, we can’t lose that world market.”

Bloomberg News (3/24, Wingfield) says that Chu stressed about the timeline, “It’s not going to be three decades,” adding, “This is a race.”

In a story that focuses on the news that former Michigan Gov. Jennifer Granholm is joining the nonpartisan Pew Charitable Trusts as a senior adviser on energy, the Detroit News (3/24, Shepardson, 135K) reports that Chu said “it ‘keeps me awake at night’ that other countries are moving ahead of the United States in clean energy.” He went on to say, “We need to diversify our transportation energy sources,” adding, “It means electrification of vehicles.”

DOE, NNSA Officials Discuss Radiation Findings. The USA Today (3/24, Vergano, 1.83M) “Science Fair” blog reports that DOE and National Nuclear Security Administration officials on Wednesday “detailed radiation measured from a recent aerial survey of Japan close to a crippled nuclear plant, finding a plume of high exposure headed northwest of the accident during the March 17 - 19 survey. In the most high-exposure parts of the plume, radiation measures reached from 125 to 300 microSieverts per hour (12.5 mRem/hr to 30 mRem /hr).” To provide perspective, the federal officials explained that “a medical x-ray exposes patients to about 100 microSieverts of radiation and the typical person receives 6,200 microSieverts exposure in a year (about .71 microSieverts /hr),” which means the exposures are of a relatively low dose.

The Washington Post (3/24, Freedman, 572K) “Capital Weather Gang” blog reports on the efforts of a team from the University of Maryland at College Park to create publicly viewable trajectory model projections for radiation emissions. The article later explains that the DOE is also using trajectory models “to arrive at more realistic simulations of just how much radioactive materials are likely to be transported away from the plant, along with the critical questions of the distance and timing of that transport,” information which is being shared with the Japanese government, but is not publicly available in the US. “By keeping the detailed information regarding emissions amounts close to the vest, however, the University of Maryland team says the Energy Department is making it difficult for outside researchers to come to more robust conclusions and communicate them with the public.”

SRS Officials Won’t Discuss Classified “Stardust” Material. The Augusta (GA) Chronicle

(3/24, Pavey) reports that something called "stardust" "came up briefly during a meeting in Aiken this week, described as a means to allow tons of problematic plutonium to be moved out of the state," but officials won't discuss what it is, "other than to say it can turn highly contaminated plutonium into a less dangerous form." Savannah River Site spokesman Jim Giusti said, "It's classified, so we can't tell you what it's made of." According to the article, "there is no mention of 'stardust' in the vast sea of public documents associated with SRS and the National Nuclear Security Administration, which manages US nuclear weapons programs."

DOE, SRS Contractor Sign Agreement That Will Serve As Model.

The Aiken (SC) Standard (3/24, Dolianitis, 17K) reports that the DOE and the Savannah River Site's liquid waste contractor Savannah River Remediation earlier this month "signed a DOE-Environmental Management partnering agreement with the intent of achieving a more collaborative working relationship between DOE and SRR," as part of a pilot that will be used by other DOE sites as a guide. DOE-SR Manager Dave Moody said in a statement, "We at DOE view the partnering relationship with SRR as an opportunity to see our work from each other's point of view," adding, "While both DOE and SRR continue to work well together, the partnering agreement brings our people and our processes closer together to find win-win solutions."

Advocacy Exec Says Hanford Nuclear Site Poses Questions About Safety.

In an op-ed for the Seattle Times (3/23, 262K), Tom Carpenter, executive director of the Hanford Challenge, wrote that Japan's nuclear crisis and the 25th anniversary of Chernobyl mean that "questions arise about nuclear risks from the Hanford Nuclear Site." The Columbia Generating Station there "shares three features in common with the Japanese reactors under stress: They are all located near seismic faults, they are boiling-water reactors, and their spent nuclear fuel is located above ground rather than behind any containment structures." Moreover, Hanford "hosts the largest inventory of high-level nuclear waste in the United States," and about one third of the "177 aging underground waste tanks...have failed and leaked." Carpenter described what can be done at the site and said "some hard thinking is needed about whether the risks justify the continued operation or development of nuclear plants in the US."

Government Agencies Scramble To Secure Networks After RSA Attack.

The Washington Post (3/24, Nakashima, 572K) reports, "Federal agencies are confronting possible repercussions from a cyberattack disclosed late last week on one of the nation's largest information security companies." RSA Security disclosed in

an SEC filing last week that information about its SecurID products, which allow users to access secured networks, had been "extracted" during "an extremely sophisticated" cyberattack. Several government agencies use the SecurID products. DHS spokeswoman Amy Kudwa "said the federal government was working with RSA to secure networks that are accessible via SecurID."

Web Firm Believes Iran Hacked It. The Wall Street Journal (3/24, Rhoads, 2.06M) reports that Internet-security company Comodo Group Inc. said that a hacker issued nine digital certificates of authenticity to fraudulent websites in Iran, including fake Gmail, Yahoo, Microsoft, Mozilla, and Skype sites. Comodo doesn't know if anyone was fooled by the ruse, as it detected the problem and revoked the certificates within hours. This suggests that Iran may have increased its electronic-monitoring efforts of its citizens. Comodo believes the attack was funded by Iran, as it required access to critical Web infrastructure.

FD: Union Leaders Remain Committed To Ridding TSA Of PASS.

In his "Federal Diary" column for the Washington Post (3/24, 572K), Joe Davidson writes that "Transportation security officers largely consider PASS, their agency's pay system, a hopeless failure" and getting rid of it is a "top priority for the two unions now campaigning to represent" TSA screeners. Both Colleen M. Kelley, president of the National Treasury Employees Union and John Gage of the American Federation of Government Employees agree that getting rid of the TSA's Performance Accountability and Standards System is "job one" and say that after the election period ends April 19, "it's on to tackling PASS."

INTERNATIONAL NUCLEAR NEWS:

Nuclear Plant Repair Work Halted Due To

Smoke. "Meanwhile, emergency work to repair the Daiichi plant was halted again when smoke was seen blowing from the complex Wednesday afternoon, prompting the second evacuation of workers in three days," the Washington Post (3/24, Nakamura, 572K) reports. The Christian Science Monitor (3/24, 48K) says the "bursts of smoke are among pieces of evidence indicating that Fukushima I is not yet under complete control."

The New York Times (3/24, Bradsher, 950K) reports nuclear engineers "say some of the most difficult and dangerous tasks are still ahead -- and time is not necessarily on the side of the repair teams. The tasks include manually draining hundreds of gallons of radioactive water and venting radioactive gas from the pumps and piping of the emergency

cooling systems, which are located diagonally underneath the overheated reactor vessels.”

US Seeking Fewer Than 10 Missing Americans In Japan. The AP (3/23) reports the US “says it is searching for fewer than 10 Americans who remain unaccounted for in Japanese areas affected by the March 11 earthquake and tsunami. State Department spokesman Mark Toner says only one US citizen has been confirmed dead from the disaster.”

Japan's Taxpayers To Cover Most Fukushima Plant Cleanup Costs. Bloomberg News (3/24, Pearson, Bandel) reports that taxpayers in Japan, rather than the “nuclear industry or insurers, will cover most of the cleanup cost from the worst accident since Chernobyl,” and Bloomberg says this “may spur moves by nations to make companies assume more liability.” In Japan, TEPCO is at most “required to cover third-party damages of 120 billion yen (\$2.1 billion) under Japanese law” and if the government declares that the “magnitude-9 earthquake and tsunami that flooded its reactors” were “exceptional” acts of God, “the utility may be off the hook in paying compensation” entirely. Bloomberg says “some governments may seek to transfer more financial responsibility to plant operators, which worldwide plan to build or relicense more than 100 reactors, according to researchers who follow the nuclear industry.”

High Radioactive Iodine Levels Detected In Tokyo Tap Water. Coverage of the crisis in Japan is ongoing, though it was downplayed on Wednesday evening's broadcast network newscasts as the conflict in Libya and the death of Elizabeth Taylor competed for media attention. Both television and print coverage focuses on what ABC World News (3/23, story 4, 2:10, Sawyer, 8.2M) called “the cautionary tale...about radiation in tap water in Tokyo. Japanese mothers and fathers have now been told there is more than twice the legal limit of radioactive iodine for their children coming out of their faucets.”

NBC Nightly News (3/23, story 6, 2:50, Williams, 8.37M) said the “nuclear crisis that came out of the quake and the tsunami is an ongoing crisis in Japan obviously. But it's a growing global issue as it is any time radiation is involved. In Japan they have discovered radiation levels are too high in the drinking water, especially for young children, infants. It's been detected in 11 different types of vegetables.” The CBS Evening News (3/23, story 3, 2:20, Couric, 6.1M) said the catastrophe “is now the world's most expensive natural disaster. The government said today the earthquake and tsunami caused over \$300 billion in damage. The human toll is also climbing with more than 9,500 dead, 16,000 are missing.”

The AP (3/24, Kurtenbach, Yuasa) reports, “Anxiety over Japan's food and water supplies soared following

warnings about radiation leaking from Japan's tsunami-damaged nuclear power plant into Tokyo's tap water at levels unsafe for babies over the long term.” Tokyo Gov. Shintaro Ishihara said levels of radioactive iodine in tap water “were more than twice what is considered safe for babies.”

The New York Times (3/24, Jolly, Drew, 950K) reports Ei Yoshida of the Tokyo water department “said iodine-131 had been detected in water samples at a level of 210 becquerels per liter. The recommended limit for infants is 100 becquerels per liter. For adults, the recommended limit is 300 becquerels.”

The Los Angeles Times (3/24, Makinen, 657K) says Ishihara said Tokyo's water “was safe for ‘non-potable’ use and urged residents to remain calm. But some convenience stores were sold out of bottled water late Wednesday and officials announced plans to distribute bottled water to 80,000 households with young children.” USA Today (3/24, Rubin, Vergano, 1.83M) similarly reports that the news “led anxious Japanese residents to clear store shelves of bottled water.”

The Daily Beast (3/23, Samuels) reports, “It rained for a short while in Tokyo late Wednesday evening as well as Tuesday, and some experts suggested that the higher level of radioactive material in the city's tap water may have been the result of air mixing with the rain. They said this phenomenon might have caused the level of iodine to rise before the tap water could reach the purifying plant.”

The Wall Street Journal (3/24, Osawa, Kachi, 2.06M), Financial Times (3/23, Nakamoto, Sevastopulo, Robinson, 448K), and AFP (3/23, Poupee) also report on the water warning.

Germany Stepping Up Plans To Abandon Nuclear Power. The AP (3/24) reports that Germany, which had planned to “stop using nuclear energy because of its inherent risks” over the course of the next 25 years is stepping up its timeline because of the Japanese nuclear crisis. Germany is “betting billions on expanding the use of renewable energy to meet power demands instead.” Germany is taking seven reactors offline for inspections, providing “a glimpse into how Germany might wean itself from getting nearly a quarter of its power from atomic energy to none.” Some experts see Germany's experience as providing a template for other nations, such as the US.

AFP (3/24) adds that German Chancellor Angela Merkel “said Wednesday that the sooner Germany abandoned nuclear power the better,” though she noted that it was too vital to end now. “The lesson Germany should learn from the nuclear crisis in Japan is ‘the earlier the exit, the better. Nuclear technology is a transitory technology’, Merkel told a financial conference here. Merkel also voiced support for a European Union decision taken last week to submit the 143 nuclear reactors in the bloc to stress tests aimed at

ensuring they could resist earthquakes, tsunamis and terrorist attacks." AFP notes that "Merkel's centre-right coalition has decided on a three-month moratorium on plans approved last year to postpone the closing of nuclear plants by more than a decade, until the mid-2030s."

Poland Rejects German Model, Will Continue Plans For New Plants. The Wall Street Journal (3/24, Sobczyk, 2.06M) reports that despite calls from Germany to abandon its plans to build more nuclear plants, Polish Prime Minister Donald Tusk indicated that Poland would follow through, saying Wednesday, "We can't succumb to hysteria about it. The reason for radiological risks in Japan isn't an accident at the nuclear plant, but an earthquake and tsunami." The Journal notes that Matthias Platzeck, minister-president of the German state of Brandenburg, had called on Poland to end its plans.

Italy Backing Away From Nuclear Expansion Plans. Noting that officials across Europe are meeting this week to hammer out responses to the Japanese nuclear crisis vis-à-vis their own nations nuclear programs, NPR (3/24) reports, "In Italy, fear of losing upcoming local elections has forced the conservative government to slow its push to re-introduce nuclear power," with a year-long moratorium on new plants, though "anti-nuclear activists say it's just a ploy to buy time." NPR explains that a year after the 1986 Chernobyl disaster, "Italians overwhelmingly voted against nuclear energy in a nationwide referendum." However, "two years ago, the conservative government of Prime Minister Silvio Berlusconi announced that Italy would go nuclear again."

The AP (3/24) adds that Italy has "put a one-year moratorium on plans to revive nuclear energy in a country that shut down its reactors more than 20 years ago," noting that Premier Silvio Berlusconi's "government pledged to revive nuclear power to reduce dependence on foreign oil and natural gas, but no sites have yet been chosen in the seismically active country. Nuclear opponents say the moratorium is a ruse to delay a referendum on nuclear power until memories of the Japan disaster have dimmed."

The Wall Street Journal (3/24, Moloney, 2.06M) also covers the moratorium, focusing on statements from government officials to the effect that it may lead to a complete abandonment of the plan to renew nuclear power in Italy. The Journal quotes Industry Minister Paolo Romani, "The government won't proceed with the realization if the initiatives at European Union level don't provide full guarantees on safety."

Canadian Columnist Says Nuclear Power Prohibitively Expensive. In a column in Toronto's Globe and Mail (3/24) Neil Reynolds writes about the lack of fruition from "utopian visions" of the 1950s regarding nuclear power, which "has been in trouble ever since – as much (or

more) for economic reasons as for environmental reasons. Counting full 'life cycle' costs (including eternal storage of wastes), it is now impossibly expensive: the energy source that only governments can afford. And natural gas, an alternative, is abundant and cheap." Reynolds argues in favor of natural gas as a power source, arguing that the free market will not support nuclear energy, concluding that the Canadian government should distance itself from nuclear power for "environmental reasons, for economic reasons and for political reasons."

Thailand Official Says Nation Won't Proceed Toward Nuclear Power. The Bangkok Post (3/24) reports that Thailand Energy Minister Wannarat Channukul announced this week that "no proposal to construct a nuclear power plant will be made while the Democrat Party is still in power." Channukul added that the country would instead focus on renewable energy, natural gas, and clean coal. The Post adds that a "revision of Thailand's 20-year [power development plan] from 2010-2030 is supposed to be finished next month. The current plan includes five nuclear power plants each with a capacity of 1,000 megawatts to come online from 2020-28."

Manager Of Romanian Plants Says Reactors Safe. The AP (3/24, Murray) reports that Ional Bucur, that manager of the nuclear plant in Cernavoda, Romania, says the "reactors are safe and could withstand a huge earthquake" and that the "Italian and Canadian-built plant in eastern Romania is prepared to withstand a Fukushima-type emergency. ... Managers of the Cernavoda plant, some 150 kilometers (90 miles) east of Bucharest, invited journalists for discussions on plant safety after fears arose following the events in Japan." The AP notes that the "plant was built on the Danube to have direct access to water for cooling and it supplies about 20 percent of Romania's electricity needs."

Chinese Panic Over Japan Crisis Could Curtail Nuclear Expansion Ambitions. The New York Times (3/24, Tatlow, 950K) reports on the "panic" in China over the Japanese nuclear crisis, even though "state-run news media and doctors pleaded with the public to stop, saying that radiation had not been detected in China." Such panic "plus a surge in online voices opposing plans to build dozens of power plants across the country, suggest that the government may have a harder time than it expected managing its aggressive nuclear energy plans. Currently, these foresee an approximate eightfold expansion within just nine years." The Times notes international concerns about China's ability to safely manage such an expansion, and about the Chinese people's lack of trust in government.

China On Course To Continue Expansion Of Controversial Pakistan Plant. Reuters (3/24, Buckley) reports that despite the fact that concerns about the outdated technology being used by China to expand the Chashma nuclear power plant in Pakistan's Punjab region will likely blossom in the wake of the crisis in Japan, China is expected to carry forward with the expansion, while Pakistani authorities are considered equally unlikely to step away from the project.

Turkey Likely To Continue With Spring Groundbreaking On First Nuclear Plant. The New York Times (3/24, Güsten, 950K) reports that anti-nuclear protestors in Istanbul last weekend made little headway against public opinion in favor of nuclear power. Meanwhile, "even as governments around the world scrambled to freeze or review their nuclear energy programs last week, Turkey announced the imminent start to construction of the first of its own nuclear plants." Construction on the Russian-built plant could start this spring. The Times notes that Turkey "is located in one of the most active earthquake regions in the world, and more than 90 percent of its territory is prone to earthquakes." Nevertheless, "Turkey is forging ahead with its nuclear plans in the wake of the Fukushima scare."

Official: Egypt May Delay Nuclear Program. A brief Bloomberg News (3/24, Galal) article reports that the Egyptian newspaper Al Masry Al Youm is reporting that Egyptian Nuclear Power Plants Authority Chairman Yassin Ibrahim says that Egypt "may delay its nuclear power program after the Japanese nuclear crisis. ... The authority is currently assessing and discussing options related to the program, the newspaper cited Ibrahim as saying."

Russia Using Lessons Learned From Chernobyl To Sell Nuclear Technology. The New York Times (3/23, Kramer, 950K) reports that Rosatom, the Russian state-owned nuclear power company, is using lessons learned from the 1986 disaster at the Chernobyl nuclear plant in the Ukraine as "part of Russia's nuclear marketing message. Cynical as that might seem." The Times reports that an impromptu "core catcher" system that was devised on the fly to prevent a "China syndrome" at Chernobyl is now standard equipment with Russian-made reactors. Leonid A. Bolshov, the physicist who devised the core-catcher system at Chernobyl "is now the director of the Institute for Nuclear Safety and Development, formed in 1988 in the wake of that disaster. Like many others involved in his country's nuclear power industry, Mr. Bolshov, 64, expresses what to some ears may sound like a jarringly opportunistic sales pitch: that Chernobyl was the hard-earned experience

that made Russia the world's most safety-conscious nuclear proponent."

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