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NUCLEAR REGULATORY COMMISSION NEWS SUMMARY

FRIDAY, APRIL 1, 2011 7:00 AM EDT

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TODAY'S EDITION

NRC News:

NRC Chairman Avoids Taking Sides In Nuclear Energy Debate .	1
NRC Says Heightened Oversight Needed At Three Plants.....	2
Congress Launches Investigation Into Yucca Halt	3
Jaczko Outlines Thresholds For Evacuation Zones Around Nuclear Plants	4
Japan's Nuclear Crisis Sparks New Urgency For Radiation Drugs	4
NRC Criticized For Allowing Plants To Do Away With Hydrogen Recombiners.....	4
Group Renews Call For Dry Cask Storage Of Spent Nuclear Fuel	5
Japan Atomic Crisis Brings Shearon Harris Plant Under Scrutiny	5
NRC Says US Plants Are Safe.....	5
Officials Say Illinois Atomic Reactors Safe	5
Very Low Levels Of Radiation Found In Illinois.....	5
FPL, Regulators Discuss Expansion Plans For Turkey Point.....	5
Calvert Cliffs Likely Safe From Tsunamis, Earthquakes.....	6
NRC Says Farley Plant Well-Maintained	6
Regulators Mull Financial Risk Of Costs Hikes To Plant Vogtle New Reactor Project.....	6
Japan Disaster Puts Georgia Power In "Uncomfortable Spotlight."	6
PSEG Increases Output At Two Salem Reactors.....	6
Shumlin Chides Vermont Yankee Claiming Agreement On Power Deal	7
TVA Explains Reactor Valve Problem At Browns Ferry	7
Small Increase In Radiation Noted In Chattanooga.....	7
GE Said 1980s Retrofit Made Mark 1 Containment System Stronger	8

Oconee Nuclear To Shut Down Reactor For Refueling.....	8
Perry Plant Has Features In Common With Stricken Fukushima Reactor	8
Public Split On Nuclear Power In New Poll	8
Government Says No Concern Over Trace Levels Of Radiation Found In US Milk	8
DOE Says Japanese Disaster Won't Derail Loan Guarantees	9
Secretary Chu Discusses Nuclear Safety	9
Concrete Pump In Service At SRS MOX Plant Site Heading For Japan	9
Japan Nuclear Crisis Could Speed Up Quest To Scrub CO2 From Fossil Fuel.....	10
ANL Scientist, DOE Contractor Discuss Contamination Cleanup	10
INL Builds Robot To Measure Radiation In Japan.....	10
Y-12 Plant Seismically Vulnerable	10

International Nuclear News:

Workers Make Incremental Progress In Fukushima Nuclear Progress.....	10
Kan, Sarkozy Call For Tougher Nuclear Safety Standards	12
German Utility Challenges Merkel Order To Shutter Older Nuclear Plants	12
China To Cut Target For Nuclear Power Capacity	12
Chileans More Suspicious Of Nuclear Power	12
UAE Wants Update On Nuclear Plans.....	12
Two Hurt In Letter Bomb Explosion At Swiss Nuclear Lobby Group	13
Campbell Says South Korea Trade Pact Won't Permit Imports From North.....	13

NRC NEWS:

NRC Chairman Avoids Taking Sides In Nuclear Energy Debate. Under the headline, "Nuclear Industry Pins Hopes On Longtime Foe," the Wall Street Journal (4/1, Power, 2.06M) reports that in the wake of the Fukushima

nuclear crisis in Japan, the US nuclear industry is looking to NRC Chairman Gregory Jaczko – whom they had once seen as more of an adversary to their efforts to build more plants – to defend the industry's record on safety. Nuclear Energy Institute President Marvin Fertel said the industry is counting on Jaczko and the other commissioners to "provide confidence to the public and policy makers" about the safety

of US plants, especially as the NRC begins a review of the country's 104 reactors. While Jaczko speaks confidently of the safety of the US reactor fleet, he steers clear of taking sides in the debate about nuclear energy. "I can't say I have views on nuclear power or the nuclear industry. I have views on nuclear safety," he has said.

NRC Says Heightened Oversight Needed At Three Plants. The AP (4/1, Daly) reports, "Three US nuclear power plants need increased oversight from federal regulators because of safety problems or unplanned shutdowns, the Nuclear Regulatory Commission said Thursday, although officials said all are operating safely." NRC Chairman Gregory Jaczko said the three plants – H.B. Robinson in South Carolina, Fort Calhoun in Nebraska and Wolf Creek in Kansas – "are the plants we are most concerned about." Burnell said the Robinson, Fort Calhoun and Wolf Creek plants all required "significant additional oversight but continue to operate safely." The AP (4/1) also ran an abbreviated version of its coverage.

FOX News (4/1) adds on its website that the NRC said the three reactors "are rated at Level 3 in terms of their risk on a scale of 1 to 5, where Level 1 means the plant is functioning safely and well and 5 means that it needs to be closed." Chairman Jaczko told lawmakers the Level 3 designation means those "plants will receive a 'more intensive review, from a safety perspective.'"

On her "Green House" blog for USA Today (3/31, 1.83M), Wendy Koch adds that the Chairman Jaczko told a House subcommittee the three "need more review because of problems with safety systems or unplanned shutdowns, reports the Associated Press."

Bloomberg News (4/1, Snyder) notes that three additional "reactors targeted for stepped up oversight were removed from the NRC list." In a news release, the NRC said plants "warrant additional oversight when safety issues identified by the regulator haven't been resolved within a reasonable amount of time or if the underlying issue is of 'somewhat higher significance.'"

According to Reuters (4/1, Rampton), the NRC concluded in late 2010, that six reactors would need stepped up oversight, but an agency spokesman said the Oconee Station units were removed from the list since then. Jaczko said, "We have a very conservative system, so we like to identify problems early and ensure they can get addressed early."

The Dow Jones Newswires (4/1, Tracy) reports that concerns over US nuclear reactor safety emerged following the nuclear crisis in Japan, in which plant technology and operations weaknesses were revealed at the stricken Fukushima Daiichi complex.

Fort Calhoun Installed Flood Gates Around Pump Station To Bring Plant Into Compliance. The Omaha World-Herald (4/1, Gaarder, 148K) reports that on 2010, "Fort Calhoun got into trouble over problems that became apparent following Missouri River flooding." The NRC "concluded that a pump station located near the Missouri River could be at risk, despite the utility's plan to use sandbags to protect it." Omaha Public Power District chief nuclear officer, David Bannister, "said the utility has addressed the problem by installing flood gates that don't require sandbags to keep the water out."

The Lincoln Journal Star (4/1) added OPPD "spokesman Jeff Hanson said Fort Calhoun has been on the NRC's 'degraded cornerstone' watch list for almost a year" because of the potential flooding issue. Hanson said the plant had "procedures in place" to use sandbags to protect the water-pumping station "in case of a 100-year flood," but said "We did not have specific instructions on how to sandbag."

On its website, KETV-TV Omaha (3/31) reports OPPD CEO Gary Gates said, "We updated our flood protection strategy and have tested and re-tested our new strategy. The issue is operationally resolved, and at no time was there a threat to public safety or was public health at risk."

KMTV-TV Omaha (3/31, 10:06 p.m. CT) reports that the Fort Calhoun Nuclear Plant in Nebraska is the plant that the NRC was referring to in its report. An Omaha Public Power District "spokesman says the plant has been on that list after a 2009 inspection." The NRC said that the "plant did not have the proper precautions in place in case of severe flooding." On its website, KMTV-TV (3/31, Murphy) noted that OPPD is "waiting for a follow-up inspection."

First Time Wolf Creek Plant Needed Heightened Oversight, CEO Says. On its website, KAKE-TV Wichita, KS (3/31) reported that for the first time, Wolf Creek power plant near Burlington has fallen into the category requiring extra inspection from the NRC, though "plant management says it began fixing the problem before the NRC's report was even released." Wolf Creek CEO and President Matt Sunseri said "the plant immediately took action after three of its 16 performance indicators showed levels for concern." The "problems involve equipment performance, which in some cases caused the plant to have to shut down unexpectedly."

WDAF-TV Kansas City, MO (3/31, 9:33 p.m. CT) broadcast that according to the NRC, even though plant "operates safely...it has enough minor issues to warrant an increased level of inspection."

While "acknowledging problems" at Wolf Creek, the Kansas City Star (4/1, McGraw, 219K) reports, spokeswoman Jenny Hageman said the plant "is fully cooperating with the NRC and shares a common goal to 'protect the health and safety of the public.'" Hageman said Wolf Creek takes "the

NRC's assessment of our performance seriously," and added that the "two of three problem areas identified by the NRC have returned to normal." She also noted that the "heightened reviews include increased NRC oversight, additional inspections and attention from senior management at the plant."

NRC Planning More Inspections At H.B. Robinson Plant. On its website, WPDE-TV Florence, SC (3/31, Spechko) reported that NRC spokesman Joey Ledford "said the increased oversight mentioned in Washington Thursday by Jaczko is not in addition to what's already happening at the HB Robinson plant. Jaczko was just updating House members on what the NRC is currently doing." The NRC visited Hartsville "one week ago to share with residents how it's responding to three incidents at the Robinson plant in 2010." The NRC said it is planning a "series of inspections" in late May or June to ensure Robinson plant is operating in a manner that preserves public health and safety.

WACH-TV Columbia, SC (3/31, 10:33 p.m. ET) reports that HB Robinson Nuclear Plant in South Carolina is the third plant on the list and the NRC said that it "needs more intensive review than other plants because of problems with safety systems and unplanned shut downs." WACH-TV adds that the company that operates the plant, Progress Energy, "says it has already started to resolve these issues."

Congress Launches Investigation Into Yucca Halt. The CBS Evening News (3/31, story 7, 3:10, Hill) reported, "For more than 50 years a debate has raged over where to store radioactive nuclear waste in this country. And that debate has been reignited by the crisis in Japan. The solution was supposed to be here at a place called Yucca Mountain in Nevada, but the multibillion-dollar storage project has been shelved." CBS later added, "Now the Nuclear Regulatory Commission must decide if it wants to restart what is already a 25-year, \$14 billion project in the face of tough opposition, like that from Harry Reid, the Democratic Senate Majority Leader from Nevada." Greg Jaczko, NRC chairman and former staffer for Sen. Reid, "recently came under fire after shutting down the agency's safety review of Yucca Mountain and after key safety recommendations were redacted, cut out, from a long-awaited NRC report." Now, CBS said, "The NRC Inspector General and Congress are now investigating the decision to shut down the safety review."

The AP (4/1, Daly) reports that Reps. Fred Upton (R-MI) and John Shimkus (R-IL), who are on the House Energy and Commerce panel that will be leading the investigation into the Administration's decision to halt plans for Yucca, "said there is no scientific or technical basis for withdrawing the application for Yucca Mountain." In a statement, they said, "The tragic events unfolding in Japan underscore the urgent

need for the United States to pursue a coherent nuclear policy to safely and permanently store spent nuclear fuel." A spokeswoman for the Department of Energy said its officials will work with the panel as they perform in their oversight capacity. Meanwhile, the NRC announced Thursday that "three US nuclear power plants need increased oversight from federal regulators because of safety problems or unplanned shutdowns."

In its "E2 Wire" blog, The Hill (4/1, Restuccia) reports the lawmakers went on to say in their statement, "The administration's move to shutter Yucca raises serious red flags," adding, "Despite the scientific community's seal of approval, extensive bipartisan collaboration, as well as nearly three decades and billions of taxpayer dollars spent, this administration has recklessly sought to pull the plug on the Yucca repository without even the sensibility of offering a viable alternative."

Reuters (4/1, Rampton, Rascoe) adds that the penal sent lists of detailed questions to Jaczko and Energy Secretary Steven Chu about the decisions to halt work on the waste repository. However, Rep. Shelley Berkley (D-NV) called the investigation a "political witch hunt." Meanwhile, during a House hearing, House lawmakers with oversight of the NRC's budget, questioned Jaczko about the decision. Rep. Mike Simpson (R-ID) said, "I firmly believe that contrary to what your counsel says, you're acting outside the law." E&E News PM (4/1, Howell) also covers the launch of the investigation.

Simpson also said of the NRC's decision, Platts (4/1, Sands) reports, "The chairman has made a decision unilaterally that I don't think he has the authority to make," adding, "I think they are making political decisions."

Covering both the House investigation and separate House hearing, the Las Vegas Review-Journal (4/1, Tetreault) reports that Reid spokesman Zac Petkanas said that the investigation does not come as a surprise, adding, "It is outrageous to suggest that Japan's nuclear power plant tragedy is a reason to resurrect the fiscally irresponsible and scientifically unsound Yucca Mountain project." Regarding Thursday's hearing and Rep. Simpson's claims that the NRC was acting outside the law, Jaczko responded that his actions were found to be legal and proper by the NRC's general counsel, and were consistent with the agency's budget policies. The Idaho Statesman (4/1, Barker) also covers Thursday's hearing.

Meanwhile, ClimateWire (4/1, Behr) reports that several witnesses told the Senate Appropriations Subcommittee on Energy and Water Development Wednesday that "the nuclear crisis in Japan provides an impetus for Congress to confront a failed national policy on dealing with spent fuel from US reactors." Massachusetts Institute of Technology professor Ernest Moniz "called for an accelerated transfer of spent

nuclear fuel rods from storage in water-covered pools at reactor sites to concrete and steel 'dry' casks," as well as the create of several regional storage facilities until a new waste management strategy can be put into place. David Lochbaum, head of the nuclear safety program for the Union of Concerned Scientists, also called for the faster transfer of spent fuel units from pools to dry cask storage.

Jaczkowski Responds To Claims, Concerns. In an interview aired on the CBS Evening News (3/31, story 7, 3:10, Hill), Chairman Jaczkowski said "the safety report was preliminary, a draft, and that he had nothing to do with the redactions." CBS Investigative Correspondent Armen Keteyian asked Jaczkowski, "Critics charge that you were simply doing the bidding of your former boss, Senator Harry Reid, a fierce opponent of this project." Jaczkowski responded, "It was a difficult decision, and because it is such a controversial program, but, again, it was one that was made in, I believe, the best interest of the agency." CBS (4/1, Keteyian) also carries this story on its website.

Greenwire (4/1, Soraghan) reports that during Thursday's hearing, Jaczkowski also said that "there's no meaningful difference in safety between submerging spent nuclear fuel in water and encasing it in concrete casks." Said Jaczkowski, "We don't have technical information that says it is safer to be in one or the other," adding, "The likelihood of anything happening is so small, it's hard to say that one is safer than the other. It's like [the odds of] winning the Powerball versus winning another lottery."

Jaczkowski Outlines Thresholds For Evacuation Zones Around Nuclear Plants. USA Today (4/1, Rubin, 1.83M) reports on questions Thursday at a Capitol Hill hearing from Rep. Nita Lowey (D-NY) about the NRC's current 10-mile evacuation zone around US plants. Lowey asked NRC Chairman Gregory Jaczkowski "whether his agency's plan to evacuate people within 10 miles of a US nuclear plant accident was adequate." Jaczkowski said "NRC's emergency preparedness is 'built on two thresholds.' One is a 'preplanned' evacuation" of those within 10 miles of a plant and the second is a 50 mile zone, in which the plan "would be to ensure that contaminated food supplies could be dealt with." Jaczkowski also said that in any situation, state and local governments would be expected "to take the appropriate protective action that could extend beyond' the 10-mile" zone.

Bloomberg News (3/31) adds that NRC chairman Jaczkowski "said the federal government would seek to evacuate residents within 50 miles of a power plant in the event of an accident similar to Japan's nuclear crisis."

Rep. Lowey Doubts Feasibility Of Evacuation In Case Of Indian Point Accident. On its website, CNN (4/1, Chernoff) examines the problem from a population perspective, noting that there are "25 nuclear reactors in the

United States located within 25 miles of cities with populations of at least 100,000 people." CNN adds that Indian Point Energy Center in Buchanan, New York is "25 miles from the limits of New York City and about 35 miles from midtown Manhattan." Rep. Lowey said, "There is no way that 21 million people within a 50-mile radius could evacuate," in the event of a catastrophe at Indian Point. CNN adds that Westchester County has detailed evacuation plans for the 10-mile radius around Indian Point, including "emergency routing, busing schoolchildren to safety and reception areas outside the 10-mile zone."

Japan's Nuclear Crisis Sparks New Urgency For Radiation Drugs. On the front page of its Business Day section, the New York Times (4/1, B1, Pollack) reports, Japan's "crisis has put a spotlight on some small biotechnology companies developing drugs to treat people exposed to radiation," many of the companies accelerating their efforts. Most of the companies are "working under contracts from the US government, aimed at treating people after a military or terrorist attack involving a nuclear or radioactive weapon." They want to "make their drugs available for use in Japan, but the government there has not ordered any." Moreover, the drugs "have not been approved by the Food and Drug Administration." Most of the drugs are "two to five years away from possible" approval; and even once approved "there would still be some slight uncertainty about how well they would work in people," FDA officials say.

NRC, EPA Radiation Detection Efforts Outlined. On his "Cosmic Log" blog for MSNBC (3/17) Alan Boyle wrote on efforts by the NRC, EPA and other agencies to beef up "their radiation-monitoring capabilities at home and abroad, even as they insist that significant amounts of fallout won't waft from Japan onto US territory." The EPA plans to add seven "monitors in Alaska, Hawaii and Guam to its RadNet radiation-tracking system, which operates about 100 air-sniffing stations nationwide." The US Air Force "is sending out a high-tech aircraft to sniff the air over Japan for radiation," while the NRC and the DOE's National Nuclear Security Administration "are also sending experts to Japan to help counter the growing crisis at Japan's Fukushima Dai-ichi nuclear plant complex."

NRC Criticized For Allowing Plants To Do Away With Hydrogen Recombiners. On its "Green" blog, the New York Times (4/1, Wald) reports that the NRC allowed reactor operators to "phase out" some equipment that eliminates explosive hydrogen gas, saying that it determined that at US plants, "containments were strong enough that the equipment was not needed or other methods would do." After Three Mile Island, the NRC required many reactors to "install 'hydrogen recombiners,'

which attach potentially explosive hydrogen atoms to oxygen to make water instead." The Times notes that the secondary containment at Fukushima Daiichi "blew apart when hydrogen detonated inside them." Nuclear critic Paul Blanch – who says he installed such equipment at Millstone Station – accused the NRC of having "gutted the rule" because the industry thought it too expensive, but NRC PAO Eliot Brenner, said that as the commission determined the equipment was "unnecessary."

Group Renews Call For Dry Cask Storage Of Spent Nuclear Fuel. The St. Cloud Times (3/18) reported, "Damage to Japan's Fukushima Daiichi Nuclear Power Station is raising unexpected alarms about the safety of spent fuel rods" stored in cooling pools inside reactor buildings, prompting an environmental group to "push for more outside storage in dry sealed casks." Opponents of new nuclear power in Minnesota argue "against outdoor storage of spent fuel at the state's two nuclear reactors in Monticello and Prairie Island near Red Wing." Union of Concerned Scientists Officials "renewed a call to put spent fuel rods into steel and concrete containers called dry casks rather than let them accumulate in the open water-filled pools that typically sit adjacent to reactors."

Japan Atomic Crisis Brings Shearon Harris Plant Under Scrutiny. On its website, WRAL-TV Raleigh, NC (4/1) reports that the Japan nuclear disaster "has magnified scrutiny on nuclear facilities all around the world, including the Shearon Harris plant in Wake County." Progress Energy, "the Raleigh-based utility that owns Shearon Harris, however, says nuclear facilities provide safe, reliable, cost-effective and clean energy for a growing number of customers." Three years ago, "Progress Energy submitted an application to the Nuclear Regulatory Commission to build up to two new reactors at the Shearon Harris facility." The article said "the application has not yet been approved and construction could take years, but opponents are already sounding the warning about what more nuclear reactors could mean for the area."

NRC Says US Plants Are Safe. China's Xinhua (4/1, Regencia) reports that NRC spokeswoman Viktoria Mitlyng said "that the plants in Illinois, in other states, and the rest of the country are safe," and have "stringent design requirements to begin with." She added, "Each nuclear power plant has to be able to withstand natural disasters such as earthquakes, tornadoes, floods to the highest level that is historically known in that area, plus a certain margin."

Officials Say Illinois Atomic Reactors Safe. The AP (4/1, Colman) reports, "Nuclear energy executives

assured state senators on Thursday that Illinois reactors are safe from natural disasters like the one that caused a crisis in Japan." According to AP atomic power "plants in Dresden and the Quad Cities are of similar design to the Fukushima plant, but officials told the Illinois Senate Energy Committee that the Illinois plants are safer." The officials said the safety plans of the plants "are continuously upgraded, while the plants in Japan may not have updated their precautions."

On its website, WICS-TV Springfield, IL (4/1) reports that Jonathon Monken, the head of the Emergency Management Agency, "points out that all Illinois nuclear plants are at least 250 miles away from the nearest fault line," and "that will protect reactors from earthquakes." The article said that "one concern for senators is a plan to dismantle the Zion nuclear plant in 10 years." The lawmakers are concerned "about transporting spent fuel to new storage facilities."

The Bloomington (IL) Pantagraph (3/31, Erickson, 39K) also covered the story, saying, "A day after trace amounts of radiation linked to the disaster in Japan were detected in Will and Sangamon counties, federal and state officials sought to reassure a Senate panel Thursday that a similar disaster is unlikely in Illinois." The state "leads the nation in the number of nuclear power plants with 11 reactors at six facilities, including Clinton and the Quad-Cities." But some weren't convinced about the safety of atomic plants. Linda Lewison of the Nuclear Energy Information Service "said the problems in Japan are an example of the dangers of relying on nuclear power."

Very Low Levels Of Radiation Found In Illinois. The AP (3/31) reported, "Very low levels of radioactive material that Illinois emergency officials believe are related to nuclear power reactors in Japan have been detected in Will County and Springfield." According to the Illinois Emergency Management Agency, "the levels pose no risk to Illinois residents." Officials say "radioactive iodine was found in Will County grass clippings."

IEMA Director Jonathon Monken said "the findings are not surprising because of traces of iodine have been identified in at least 15 other states, including Iowa," reported the Quad-City Times (3/31, Erickson, 50K). "These levels are very low and present no hazard to people in Illinois," Monken said in a statement. "We will continue to track the deposition of radiation in Illinois to ensure there is no impact on public health and safety," he added.

FPL, Regulators Discuss Expansion Plans For Turkey Point. The Palm Beach (FL) Post (4/1, Salisbury, 105K) reports, "Florida Power & Light Co. wants to expand the power capacity at its Turkey Point nuclear plant," and on Thursday, regulators and FPL officials "held their first face-to-face major technical meeting since the company submitted its

application." Jason Paige of the NRC said "the review and approval process typically takes about 15 months."

Calvert Cliffs Likely Safe From Tsunamis, Earthquakes. The Upper Marlboro Patch (3/31, Sears) reports, "A panel of University of Maryland nuclear experts said the United States is safe from radiation leaking out of Japan's Fukushima Daiichi plant, but disagreed on what the disaster would mean to the environment surrounding the facility." Atmospheric and oceanic sciences researcher Jeff Stehr said that "Alaska's Aleutian Islands might see slightly higher levels of radiation than normal, but in the continental US even the West Coast was at very little risk." The Patch notes, "Maryland's only nuclear power plant, Calvert Cliffs, is likely safe from earthquakes and tsunamis."

Constellation Withdrawal From CC3 Project Noted.

An article about nuclear loan guarantees by Platts (4/1) reports, that the head of the program, Jonathan Silver, said that the "DOE last year was very close to offering a conditional loan guarantee for the proposed Calvert Cliffs reactor in Maryland, but Constellation Energy pulled out of its partnership with French-owned EDF, saying DOE's credit subsidy fee for the project was too high." EDF still plans "to build the reactor and is looking for another project partner."

NRC Says Farley Plant Well-Maintained. The Dothan Eagle (3/31, Sailors) reported that the NRC "found few things to fault in the way Farley nuclear plant operated in 2010 and is planning only baseline inspections this year." Eddy L. Crowe, the NRC's senior resident inspector at Farley, said the "plant is very well maintained." Crowe said the "maintenance provided by Southern Nuclear Operating Co. keeps the plant running well within safety limits. ... 'If you took care of your car the way they take care of that plant, you'd drive it until you were tired of driving it.'"

Regulators Mull Financial Risk Of Costs Hikes To Plant Vogtle New Reactor Project. The AP (4/1) reports, "Utility regulators in Georgia are considering a proposal that would punish the state's largest power company if the cost of building a nuclear power plant rises sharply." AP says "Georgia Power urged the elected members of the Public Service Commission to reject the idea during a meeting Thursday."

The Augusta Chronicle (4/1, Jones, 64K) reports, "The Public Service Commission heard arguments today for and against a proposal to trim Georgia Power Company's profits if it lets construction costs on two reactors at Plant Vogtle exceed the \$6.4 billion budget by more than \$300 million." The commission is set to vote on the issue Tuesday. The paper says an "NRC safety review prompted by the ongoing disasters at three Japanese reactors could slow that approval

and result in design revisions based on lessons" from the disaster in Japan.

On its website and on the air, WSAV-TV Savannah (4/1) said "Georgia Power might face a loss in profits if the cost of building two new nuclear reactors goes way over budget." The TV station said "staff at the Georgia Public Service commission" says "the utility's shareholders should face more risk for potential cost over runs at Plant Vogtle."

The Atlanta Journal-Constitution (4/1, Newkirk, 213K) also covers the story, saying, "The PSC has delayed voting on a Vogtle risk-sharing measure for more than two years in the hopes that such a deal would be reached. In its absence, the staff's proposal will be on the table." The paper says "the staff wants to shave Georgia Power's allowed profit on the project if cost overruns top \$300 million, and boost those margins if the project beats its budget by the same amount."

Georgia Power's Jeff Wilson says "the plan would penalize the company for conditions beyond its control. And he says consumers are already protected by the commission's periodic review of costs," reports the AP (4/1, Stiers). "If our costs are not prudently spent then the commission won't approve those and we can't recover that, so as long as we're acting in a prudent fashion and spending based on what is approved by the commission than those costs are recoverable," says Wilson.

Japan Disaster Puts Georgia Power In "Uncomfortable Spotlight." The AP (4/1, Henry) reports, "An ongoing nuclear crisis in Japan put Georgia Power in an uncomfortable spotlight Thursday as it seeks permission to break ground on the first US nuclear power plant in a generation, a project the company has hoped will revive a long-dormant industry." The AP says the "struggle to prevent a full meltdown at the Fukushima Dai-ichi nuclear plant in Japan comes at a bad time for the subsidiary of the Atlanta-based Southern Co., which has been on the verge of securing permission to build two more nuclear reactors at Plant Vogtle in eastern Georgia." The NRC "is expected to make a final decision on the project later this year."

Hearing Into Georgia's Nuclear Safety Postponed.

On its website and on the air, WGCL-TV Atlanta (4/1) reported that the "House Energy Committee scrapped the meeting set for Thursday afternoon because of a busy schedule. The hearing had been called as Japanese authorities try to cool malfunctioning reactors at the Fukushima Dai-ichi nuclear plant in Japan." The TV station said "Rep. Don Parsons, who chairs the committee, said he tentatively plans to reschedule the session for April 13."

PSEG Increases Output At Two Salem Reactors. Bloomberg News (4/1, McClelland) reports, "US nuclear-power output was little changed as Public Service

Enterprise Group Inc. increased production at the Salem 1 and 2 reactors in New Jersey," according to the NRC. PSEG "increased output at the 1,174-megawatt Salem 1 to full power from 90 percent of capacity yesterday. The 1,130-megawatt Salem 2 was boosted to 90 percent of capacity from 86 percent yesterday."

Shumlin Chides Vermont Yankee Claiming Agreement On Power Deal. The AP (4/1) reports, Vermont Gov. Peter Shumlin "says the Vermont Yankee nuclear plant has got it wrong again in saying it has completed talks on a 10-megawatt power deal with the Vermont Electric Cooperative." Shumlin "compared Entergy's statement with comments from the co-op's CEO, David Hallquist, casting doubt on his board approving the power purchase from the nuclear plant." Entergy said it never claimed the deal was finalized and notes that its press release "said it was contingent on the co-op board's approval, an OK from state regulators, and Vermont Yankee continuing to operate after its current license expires next March."

VEC Tables Vote On Yankee Power Purchase Plan.

The Wall Street Journal (4/1, Malik) reports that after Entergy claimed Wednesday it has completed negotiations with the Vermont Electric Cooperative to sell it electricity from its Vermont Yankee plant, the utility said it may opt to withdraw its purchase offer because of safety concerns about nuclear energy. The VEC's 12-member board must first approve the deal and the Yankee plant must be given approval to operate past 2012, for the agreement to be realized, but VEC's chief executive David Hallquist said the board decided to defer its vote on the proposal until April 26.

More Inspection Work Ordered For Yankee Safety Valves. The Brattleboro Reformer (3/31 Stilts) reports on additional "review and inspection" ordered for Vermont Yankee, after Thomas Saporito of Renewable Electric Systems asked the NRC to shut down the plant until "an immediate NRC investigation and inspection of that plant could be performed" to determine whether "the plant's main steam safety relief valves were inoperable, due to leakage through the shaft to piston thread seals." On January 24, the NRC's Petition Review Board, denied Saporito's request "for immediate action to bring the nuclear plant in Vernon to a cold shutdown and to perform an immediate investigation." But the board met a week later to discuss Saporito's recommendation and "found it deserves additional review. 'NRC inspectors are reviewing this issue and the results of that inspection work will be documented in the first-quarter inspection report for Vermont Yankee,'" said NRC PAO Neil Sheehan.

Entergy Gives Up Bid To Sell Vermont Yankee. The AP (3/31, Curran) reports that Entergy, the "owner of the troubled Vermont Yankee nuclear plant can't find a buyer for

it, blaming 'political uncertainty' over its prospects for a state license to keep operating past 2012." Entergy said Wednesday that it's "giving up" on plans to sell the plant that it initiated in November. Yankee spokesman Larry Smith, said, "Although we received interest from a number of companies, the conclusion of the sale process, without a sale, was driven primarily by the uncertain political environment in Vermont." Smith said, "Entergy will evaluate any 'future opportunity for the plant should conditions change.'"

The Burlington (VT) Free Press (3/31, Hallenbeck) reports, "Potential buyers of the 39-year-old plant were scared off by uncertainty over the plant's ability to win state permission to keep operating, said Richard Smith, president of Entergy Wholesale Commodities. 'There were a variety of companies that expressed interest,' he said, with one company particularly pursuing the plant. 'They and their board had a lot of concern about the political uncertainty,'" but eventually decided against pursuing the plant.

The Dow Jones Newswires (3/31, Malik) reports that opposition to the plant has only grown since the nuclear crisis at Japan's Fukushima Daiichi nuclear plant.

TVA Explains Reactor Valve Problem At Browns Ferry.

The AP (4/1) reports, "The failure of a reactor coolant valve at the Tennessee Valley Authority's Browns Ferry Nuclear Plant [AL] months ago has raised questions about apparent violations of Nuclear Regulatory Commission requirements." According to AP, "NRC Atlanta region spokesman Joey Ledford said Thursday that the valve was stuck shut." TVA nuclear spokesman Ray Golden said Thursday "that the mechanical problem at Browns Ferry was discovered, repaired and reported during a Unit 1 refueling shutdown at the three-reactor plant and was never a safety threat," AP adds. The TVA "has been called to a Monday meeting in Atlanta to explain the safety significance of the valve failure," which was "discovered last fall."

Responders Prepare For Annual Brown's Ferry Exercise. The Moulton (AL) Advertiser (3/31, Grantham, 6K) reported that "first responders and law enforcement officers in Lawrence County are attending basic radiation training classes," although "there has not been a release of radiation at Brown's Ferry Nuclear Plant." The paper said the classes are routine and aren't related to the Japan nuclear disaster. Lawrence County TVA Planner Tammy Vinson said "the training is important so that everyone understands their role in case of an radiation release at Brown's Ferry."

Small Increase In Radiation Noted In Chattanooga.

On its website and on the air, WRCB-TV Chattanooga (4/1) reported, "The Tennessee Valley Authority says they have detected a very small increase in radiation levels in Chattanooga since the Japan nuclear disaster." The

bulletin noted that "Ray Golden from the TVA says with the Sequoyah plant nearby, the public utility monitors radiation levels in Chattanooga on a regular basis." Golden said "there is no way to say for certain that the radiation is from Japan," and that "there is no danger from the minute increase."

Coal Ash Radioactivity Examined. Energy Matters (3/31) reported, "Nuclear power reactors aren't the only source of radioactive waste. The ash left behind from burning coal is radioactive also." The article cited "a recent forecast" that noted "billions will be diverted from nuclear power investment into renewable energy technologies such as wind and solar as a direct result" of the Japan nuclear. "However, more investment could also go into coal, which would represent a big step backwards in the battle against climate change." Energy Matters that "in December of 2008, a containment wall holding back 40 acres of coal ash based sludge created by the" TVA's "coal-fired power plant in Kingston burst, spewing over 2 billion litres of waste over 400 acres."

In a letter to the editor in The Chattanooga (3/31), reader Ed Lindberg wrote that "the appalling events in Japan with daily reports of increased levels of released radiation have focused worldwide public attention on the safety of the nuclear power industry." Lindberg said there have been several mishaps in the nuclear industry both in the US and elsewhere. He cited some incidents involving TVA, including a 1983 incident in which "208,000 gallons of radioactive contamination was accidentally dumped into the Tennessee River at the Browns Ferry plant." Lindberg said "examination is prudent" because "potential and long lasting human health and environmental damage from an 'accident' at a nuclear could be catastrophic with long lasting harmful results."

GE Said 1980s Retrofit Made Mark 1 Containment System Stronger. AFP (3/17, Handley) reported that five of the "six reactors at Fukushima No. 1 nuclear plant are so-called Mark 1 boiling water reactor (BWR) models, developed by General Electric in the 1960s and installed in Japan in the 1970s." Critics in the 1970s charged that the "Mark 1's concrete containment shield, which surrounds the reactor vessel, was vulnerable to explosion caused by a buildup of hydrogen gas if the reactor overheated." GE Hitachi spokesman Michael Tetuan, "said there were 32 Mark 1 installations in the world, in addition to 23" in the US, and noted that the NRC ordered US reactor operators to "retrofit Mark 1 plants in the 1980s to strengthen the containment vessel."

Oconee Nuclear To Shut Down Reactor For Refueling. On its website, WSPA-TV Asheville, NC (4/1) reported, "Oconee Nuclear plans to shut down one of its three reactors for" refueling "and to convert from analog to digital."

Duke Energy said "the conversion has been planned for a long time and it will be the first in the nation." The Greenville (SC) News (3/31, Simon, 58K) also covered the news.

Perry Plant Has Features In Common With Stricken Fukushima Reactor. On its website, WEWS-TV Cleveland, OH (3/15, Haggerty) reported on the similarities and "many common features" shared by the Fukushima Daiichi nuclear plant and the "Perry plant in Lake County." Both units are General Electric boiling water nuclear reactors, though Todd Schneider with FirstEnergy said Perry plant is "somewhat different design," which evolved "from those plants in Japan." NRC spokeswoman Viktoria Mitlyng said, "Nuclear power plants in this country are designed to withstand natural phenomena such as earthquakes, floods, tornadoes," and she added that the NRC has "two inspectors who work at the plant everyday and live within the community."

The Grand Rapids (MI) Press (3/15, Ellison) reported NRC PAO Viktoria Mitlyng "said companies must document how their plants would withstand a disaster worse than the worst-case-scenario historical to the area, before they can get a license to build." In the Midwest, "we wouldn't have a tsunami, but there could be tornadoes, flooding or earthquakes," she said." She added, "Even if there's damaged fuel and there's a certain degree of meltdown, the containment buildings are designed and constructed in such a way that even a tsunami or huge earthquake will not compromise its integrity, and it will remain as a barrier."

Public Split On Nuclear Power In New Poll. A Quinnipiac University poll of 2,069 registered voters taken March 22-28 shows:

Nuclear Power

- Told, "The government is in the process of evaluating applications for building new nuclear power plants in the United States. Some say those applications shouldn't be approved because of safety concerns about nuclear power. Others say nuclear power plants can provide needed electric power safely," 48% said they "support" building new nuclear power plants; 45% said "oppose"; 7% don't know.
- 38% said they "support" "building new nuclear power plants" in their own town or city; 58% said "oppose"; 4% don't know.
- 38% said the nuclear crisis in Japan has made them "less likely" to support new nuclear construction in the US; 57% said "less likely"; 5% don't know.

Government Says No Concern Over Trace Levels Of Radiation Found In US Milk. ABC World News (3/31, lead story, 2:55, Boudreau) reported,

"With radiation still leaking from the reactors in Japan, tonight, there's growing concern in California if that radiation may end up in our milk supply." But the "levels of radioactive iodine detected in milk in Washington and California so far are minuscule. The government says 5,000 times lower than what the FDA considers a public health concern."

NBC Nightly News (3/31, lead story, 2:55, Williams) reported radiation from the "nuclear disaster in Japan" has been "detected in 15 states across the US, all the way from the West Coast to the East, and all the while we've been told these are minute, trace amounts that pose no harm to any of us." NBC (Costello) added, "Hi, Brian. The US has already halted imports of dairy products and produce from Japan, but radiation travels in the air, it falls on pastures and meadows and it appears to have been consumed already by American cows."

The CBS Evening News (3/31, story 5, 2:00, Blackstone) reported, "The amount of radioactive iodine measured in milk on the West Coast was so small that it did not rise above the normal background level of radiation. Still, it's the first evidence that radiation from Japan's damaged nuclear plant is making it directly into food produced in America." Blair Thompson, Washington Dairy Products Commission: "Radiation can be a scary word but I think it's important to remember that actually we live surrounded by radiation every single day."

Also on ABC World News (3/31, story 2, 0:55, Sawyer), Dr. Richard Besser said, "The milk is safe. As a doctor, as your friend, I can tell you, these levels of radiation are not harmful. I drank milk this morning as did my boys and there's no reason to stop based on this."

DOE Says Japanese Disaster Won't Derail Loan Guarantees. Platts (4/1, Wang) reports Jonathan Silver, head of the DOE's loan guarantee program told the House Appropriations Energy and Water Development Subcommittee on Thursday "that the Fukushima nuclear disaster in Japan will not derail the Obama administration's plan to help finance proposed reactors in Maryland, Texas and South Carolina" with loan guarantees, "provided Congress gives DOE the additional \$36 billion in loan guarantee authority that the Obama administration requested for fiscal 2012." Said Silver, "From an investment perspective, [the Fukushima incident] does not affect our timeline," adding, "It is too early to tell what the actual implications on the timeline will be, but I have every expectation we will be able to put that capital to work in a meaningful timeframe." He added that the "DOE is aiming with the loan guarantee program to support funding for at least two examples of four different types of nuclear reactor technologies."

Secretary Chu Discusses Nuclear Safety. When asked in an interview with NPR (4/1, Block) whether he can "assure the American people that the plants in this country are safe," Secretary Chu responded, "They are designed to be very safe," adding that "as with airplanes, oil wells and other complex machines, there's no '100 percent' safety guarantee." He added that following such a crisis, like the ongoing one in Japan, "you double down and say 'all right...[we] can make it safer.'" He said, "The nuclear industry is very concerned about these incidents," adding that the nuclear industry knows "it is in their best interests" to focus on safety.

President "Generous" In Recounting Of BP Spill Role, Chu Says. In its "44" blog, Politico (4/1, Lee) reports that during his NPR interview, Secretary Chu said that the President's account of his role in capping the BP oil spill was "not quite" accurate. Obama said Wednesday during his energy policy speech that Secretary Chu "essentially designed the cap that ultimately worked, and he drew up the specs for it and had BP build it, construct it." Chu said Thursday, "Well, that was very flattering of the president to say that," adding, "I mean, I think me and the science team played a role in a lot of the instrumentation that went into the cap, but I think the president was being generous."

NYTimes Reporter Offers Opinion On Nuclear Safety. Meanwhile, New York Times energy reporter Matthew Wald discussed the nuclear industry and its safety preparation with NPR (4/1), saying, "We're certainly prepared for some things we haven't predicted, but [we're not sure] what it is we're preparing for." Regarding nuclear waste storage, Wald said, "[Dry casks] are probably good for somewhere on order of 100 years," adding, "In that sense, it's not an urgent problem. But we don't, at this time, have a clear path forward on what to do after storage in casks."

Concrete Pump In Service At SRS MOX Plant Site Heading For Japan. The Augusta (GA) Chronicle (4/1, Pavey) reports, "The world's largest concrete pump, deployed at the construction site of the US government's \$4.86 billion mixed oxide fuel plant at Savannah River Site, is being moved to Japan in a series of emergency measures to help stabilize the Fukushima reactors." Jerry Ashmore, whose company is the concrete supplier for the MOX facility, said, "The bottom line is, the Japanese need this particular unit worse than we do, so we're giving it up." He added, "There are only three of these pumps in the world, of which two are suited for this work, so we have to get it there as soon as we can...Time is very much a factor." Company officials "have already notified Shaw AREVA MOX Services, which is building the MOX plant for the [NNSA], that the pump was being moved and will not be returned." Ashmore said, "It will be too hot to come back."

The AP (4/1) also covers this story, reporting that “two gigantic concrete pumps — described as the largest such equipment in the world — will soon be on their way to join the machinery being used to pour water on damaged reactors in Japan’s nuclear crisis, company officials said Thursday.” In addition to the pump currently at SRS, one from California will also be sent. Kelly Blickle, a spokeswoman at Putzmeister America which manufactures the equipment, said that “initially, the machines would be used to shoot water on the reactor...But a decision is made to encase a reactor in concrete — similar to a method used in the 1986 Chernobyl disaster — the machines would be capable of doing that as well.”

Japan Nuclear Crisis Could Speed Up Quest To Scrub CO2 From Fossil Fuel. Bloomberg News (4/1, Migliaccio, Van Loon) reports, “As the Fukushima crisis throws a question mark over nuclear energy use, many European countries are trying to accelerate the development of technology that cleans carbon dioxide emissions from conventional fuel plants.” Noting the growth of coal usage in places like China and India, European Union Energy Commissioner Günther Oettinger said at a carbon capture project inauguration in Italy, “If we can prove that this technology is safe and reliable, we will have a product that we can export in countries where coal production remains key.”

ANL Scientist, DOE Contractor Discuss Contamination Cleanup. In an article about the eventual cleanup of contaminated areas in Japan, Lawrence Boing, manager of special projects in the nuclear engineering division at Argonne National Laboratory, tells the New York Times (4/1, A10, Fountain), “Sooner is always better when you have something that can be driven down into soils.” Meanwhile, Dan Coyne, a vice president with CH2M-WG Idaho, which is cleaning up an DOE site in that state, “said that given the uncertainty at Fukushima, one approach might be to spray a chemical on the soil that would prevent the cesium from migrating further.” Coyne said, “Go and put a fixative on it, control the area, and save the remediation of that for a time when it fits your priorities.”

INL Builds Robot To Measure Radiation In Japan. Drawing coverage from local TV station KIFI-TV Idaho Falls, Idaho, the AP (4/1, York) reports, “The Idaho National Laboratory is building a robot to help officials in Japan pinpoint radioactive areas within the nuclear plant crippled in this month’s earthquake and tsunami.” INL science and engineering director David Miller said “the robot will be used to reduce the risk of a person being exposed to high levels of radiation.” Engineers at INL “are configuring a commercially available talon system so it can measure

radiation levels.” The DOE expects the robot will be ready and delivered next week.

Y-12 Plant Seismically Vulnerable. The Knoxville (TN) News Sentinel (4/1, Munger) reports, “Despite millions of dollars spent on upgrades, the 60-year-old production hub at the Y-12 nuclear weapons plant remains seismically vulnerable and could be severely damaged or disabled by a major earthquake. Sections of the 9212 complex, where bomb-grade uranium is processed, were built during World War II, and a federal spokesman at Y-12 said it’s not possible to bring the old facility up to today’s seismic standards,” which is one of the reasons for a new Uranium Processing Facility, according to the spokesman. NNSA spokesman Steven Wyatt explained in an email, “Safety analyses show that a major earthquake could result in significant structural damage and process failure,” adding, “We have analyzed this very carefully and have not identified any scenarios that would have an impact beyond a few meters from the facility.”

INTERNATIONAL NUCLEAR NEWS:

Workers Make Incremental Progress In Fukushima Nuclear Progress. As concerns grew that the scope of the radiation exposure from the Fukushima nuclear complex was growing, workers at the plant made some progress toward containing the damaged reactors at the site. The New York Times (3/31, Jolly, Wald, 950K) reports workers “made more incremental progress at Japan’s stricken Fukushima nuclear plant on Thursday, but troublingly high radiation readings at the plant as well as miles away reinforced fears that the disaster was far from ending.” On Thursday, workers “prepared more tanks for transferring the water from turbine buildings at Reactors 1, 2 and 3 in a quest to keep the radioactive water from flooding into the ocean.” But readings “taken in the sea near the plant showed that levels of radioactive iodine 131 had risen for another day, testing at 4,385 times the statutory limit, according to Hidehiko Nishiyama, deputy director general of the Nuclear and Industrial Safety Agency.” The Wall Street Journal (4/1, Obe, Hayashi, 2.06M) also reports the story.

Bloomberg News (4/1, Yamazaki, Maruta) reports, “Tokyo Electric Power Co. said test results may be incorrect that detected radioactive iodine about 10,000 times the safety limit in underground water at its Fukushima Dai-ichi nuclear plant.” Tepco “found the radioactive water near the No. 1 reactor turbine building while performing tests recommended by Japan’s Nuclear Safety Commission, according to a statement yesterday. The company later said those results and others may be wrong and it will re-examine the data.”

The CBS Evening News (3/31, story 4, 0:35, Hill, 6.1M) reported, "Water tested beneath the plant today showed radiation measuring 10,000 times the legal limit. And the levels in sea water have jumped again, now more than 4,000 times what's acceptable. For the first time, elevated radiation levels were found in beef. The meat came from a single cow near the Fukushima plant."

McClatchy (4/1, Makinen, Maugh) reports engineers "speculated that the radiation spikes may be coming from a partial meltdown of the fuel core of reactor No. 1. It appears that small segments of the melted fuel rods in that reactor are undergoing what is known as 'localized criticality,' emitting brief flashes of heat and radiation."

Japan Plans To Decommission Fukushima Complex. AFP (4/1, Griffith) reports Japan "said Thursday its crisis-hit nuclear plant must be scrapped, but currently had no plans to evacuate more people, despite calls for a larger exclusion zone around the crippled facility." Japan's Prime Minister Naoto Kan said, "in talks with the Japanese Communist Party leader, that the facility at the centre of the worst atomic accident since Chernobyl in 1986 must be decommissioned, Kyodo News reported." Officials have "previously hinted the plant would be retired once the situation there is stabilised, given the severe damage it has sustained including likely partial meltdowns and a series of hydrogen blasts."

The New York Times (3/31, Jolly, Wald, 950K) reports Tepco "has confirmed that Reactors 1, 2, 3 and 4 will have to be scrapped, and on Thursday Prime Minister Naoto Kan was quoted as saying that Reactors 5 and 6, which were far less damaged since they were already offline when the disaster struck, should also be decommissioned." The Financial Times (4/1, 448K) also reports the story.

Sarkozy Offers Technical Assistance. NBC Nightly News (3/31, story 2, 2:05, Cowan, 8.37M) reported French President Nicolas Sarkozy arrived in Japan today, "as the first diplomat to visit Japan since the crisis started. He offered not only his country's technical expertise but called for new international safety standards for nuclear plants in the wake of the disaster."

Japan Says No Plans To Widen Evacuation Zone. NBC Nightly News (3/31, story 2, 2:05, Cowan, 8.37M) reported, "New tests done by the International Atomic Energy Agency show that high levels of radiation have been found in the soil some 25 miles away from the plant." Officials "say the levels aren't high enough to cause acute radiation illness, they do exceed the standards designed to cut the risk of cancer. Japan's government spokesman said today that they are taking the IAEA's findings under advisement but have no immediate plans to widen the evacuation zone."

The Washington Post (4/1, Chandler, 572K) reports Japan, "under pressure from international groups, said

Thursday that it will increase monitoring and consider issuing new evacuation orders as potentially dangerous radiation levels spread farther from the Fukushima Daiichi nuclear power plant." At the "same time, monitoring concerns arose for workers at the stricken plant when its owner, Tokyo Electric Power Co., said it does not provide a personal radiation-monitoring device to every worker." Japan's chief government spokesman, Yukio Edano, "said the government will heed the United Nations nuclear agency's advice and step up its monitoring."

Most Residents Of Minamisoma Flee. The Los Angeles Times (4/1, Glionna, 657K) reports with "the ominous prospect of potentially deadly fallout from the stricken complex just 15 miles to the south, nearly two-thirds of" the agricultural city of Minamisoma's "71,000 residents have fled, with more following all the time." Those who remain "endure life in a no-man's land, facing growing fear and deprivation," and last week, the Japanese government "recommended that residents beyond 12 miles and within 18 miles also evacuate, an area that includes portions of Minamisoma." About "50,000 people had already departed before the 18-mile evacuation zone was established last week."

Cleanup Expected To Cost Several Billion Dollars. The Washington Post (4/1, Harlan, 572K) reports for the "past three weeks, survivors of Japan's earthquake and tsunami have been largely consumed with worries about their hour-to-hour existence." But now, government officials say, "with main roads cleared and temperatures thawing, survivors are returning by the thousands to sort through debris, claim their belongings and, in many cases, confirm firsthand that they have no possessions left." Japan's "northeastern coastline is a several-hundred-mile cleanup job," and the government "has promised to shoulder the full cost of debris removal – which could top several billion dollars, if the 1995 Kobe earthquake is anything to go by."

The New York Times (4/1, Fountain, 950K) reports, the Japanese government "now faces another problem spawned by the disaster: whether and how to clean up areas that have been heavily contaminated by radioactivity." Experts said the Japanese government "must also decide what to do about the cesium contamination in the village" of Iitate, "especially since radiation releases from the plant could continue for months."

More Radiation Exposure Treatments Available. The New York Times (4/1, Pollack, 950K) reports as radiation "spreads in Japan from crippled nuclear reactors, with workers at the Fukushima Daiichi nuclear plant potentially exposed to extremely hazardous levels, experts say that progress has been made in developing treatments for radiation poisoning," but "there is still much work to do." The crisis has "put a spotlight on some small biotechnology companies developing drugs to treat people exposed to radiation," some of which "are accelerating their efforts in light

of the problems in Japan." Most of the companies "are working under contracts from the United States government, aimed at treating people after a military or terrorist attack involving a nuclear or radioactive weapon."

Radiation Found In Groundwater Under Daiichi Plant. The AP (4/1) reports radiation "exceeding government safety limits has seeped into groundwater under a tsunami-crippled Japanese nuclear plant, according to the operator, but has not affected drinking supplies." But the leak "announced late Thursday could pose a long-term problem, however, and at the very least it is a concerning indicator of how far Tokyo Electric Power Co. is from bringing its plant under control."

Disaster Death Toll Rises To 11,417. The New York Times (3/31, Jolly, Wald, 950K) reports, "The death toll rose to 11,417, with another 16,273 people listed as missing, and hundreds of thousands have been displaced, including tens of thousands from the area around the nuclear plant." However, the "economic toll – including the damage to exports and international trade – defies a full reckoning."

Kan, Sarkozy Call For Tougher Nuclear Safety Standards. The Washington Times (4/1, Johnson, 77K) reports Japanese Prime Minister Naoto Kan "on Thursday joined French President Nicolas Sarkozy in calling for independent experts to help set tougher international safety standards for nuclear energy." In a joint press conference "after their meeting in Tokyo, the leaders of two of the world's largest nuclear power producers said safety issues will top the agenda at the Group of Eight summit in late May at Deauville, a French resort city." Kan said "Sarkozy, who chairs the G8 this year, had asked him to open the summit by speaking about Japan's post-tsunami nuclear crisis."

Bloomberg News (4/1, Sakamaki, Hirokawa) reports President Sarkozy "pledged support for Japan's Prime Minister Naoto Kan in containing the worst nuclear crisis in 25 years and called for strengthening international atomic power safety standards." Kan said he "appreciated France's offer of equipment and expertise and said he will discuss the impact from the crippled Fukushima Dai-ichi nuclear plant at the Group of Eight summit that Sarkozy will host in May."

France Reassessing Risks From Nuclear Plants. The New York Times (4/1, Bennhold, Jolly, 950K) reports although France "has avoided most of the global anti-nuclear backlash prompted by the Fukushima reactor crisis, there is a serious, if quiet, reassessing of the risks here in a country that obtains nearly 80 percent of its electricity from nuclear power." Even though "there is little talk about shifting away from the industry, comments this week by top French officials made it clear that there would be changes here that were likely to have an effect on the worldwide reckoning with nuclear power, given France's long history with the industry."

German Utility Challenges Merkel Order To Shutter Older Nuclear Plants. The AP (4/1, Baetz) reports German utility RWE AG "will challenge the government's decision to take older nuclear power plants temporarily off the grid in the wake of Japan's Fukushima disaster, a company spokeswoman said Thursday." RWE "deems the legal basis of Chancellor Angela Merkel's decision to shut down the plants for three months pending safety investigations to be insufficient, Annett Urbazcka said." RWE's spokeswoman "stressed the utility, based in Essen, is not opposed to safety investigations, but it doubts the legal basis of the decision that forced it to shut down its Biblis A plant near Frankfurt."

NYTimes Says Merkel Should Take Lessons From State Elections. In an editorial, the New York Times (4/1, 950K) says even after "pandering to voters' fears about nuclear power, the euro and NATO operations in Libya, Chancellor Angela Merkel of Germany got a shellacking in her Christian Democratic party's traditional bastion of Baden-Württemberg. We hope Mrs. Merkel, whose term runs until 2013, draws the right lessons and hews more closely to her own principles and Germany's larger interests."

China To Cut Target For Nuclear Power Capacity. Bloomberg News (4/1, News) reports China, "the world's biggest energy consumer, will cut its 2020 target for nuclear power capacity and build more solar farms following Japan's atomic crisis, said an official at the National Development and Reform Commission." The country "will reduce its nuclear capacity goal of 80 gigawatts, Ren Dongmin, the head of the economic planner's renewable energy development, said at a Beijing conference today, without giving a new target. The goal for solar-power capacity will increase from the current target of 20 gigawatts, he said."

Chileans More Suspicious Of Nuclear Power. Reuters (4/1, Gardner, Shumaker) reports that in the wake of the Fukushima Daiichi nuclear crisis in Japan, Chileans are less inclined to build nuclear power plants, given their country's susceptibility to earthquakes. Mining and Energy Minister Laurence Golborne said, "In the light of recent events, the Chilean people don't seem inclined to advance toward (nuclear energy)."

UAE Wants Update On Nuclear Plans. Reuters (4/1) reports the nuclear regulator of the United Arab Emirates has asked the Emirates Nuclear Energy Corp. (ENEC) whether it will update its nuclear reactor proposals in light of the disaster at the Fukushima Daiichi nuclear plant in Japan. William Travers, director general of the UAE's Federal Authority for Nuclear Regulation, said, "We understand that

ENEC has been following the developments since the tsunami struck Japan and is considering whether there are any implications for its planned units.”

Two Hurt In Letter Bomb Explosion At Swiss Nuclear Lobby Group. The New York Times (4/1, Cumming-Bruce, 950K) reports a letter bomb “exploded at the office of a Swiss nuclear industry lobbying group on Thursday, slightly injuring two employees, a police spokesman said.” The letter bomb “exploded at the fourth floor office of Swissnuclear in the northern town of Olten at 7:45 local time as personnel were opening the mail, Andreas Mock, a spokesman for the local police said.” Reuters (4/1) also reports the story.

Campbell Says South Korea Trade Pact Won't Permit Imports From North. The AP (4/1, Pennington) reports the top US diplomat “for east Asia said Thursday a proposed free trade agreement with South Korea is in America’s strategic interests, rejecting concerns it could provide a back door for imports from communist North Korea.” In a “testy exchange with” Rep. Brad Sherman, Assistant Secretary of State Kurt Campbell “defended the pact, which was completed by the US and South Korean governments in December but still requires congressional approval.” Campbell told a House of Representatives Foreign Affairs subcommittee “hearing on ‘Protecting American Interests in China and Asia’ that it is long-standing US policy to prohibit imports from North Korea, whose authoritarian regime has conducted nuclear and long-range missile tests in defiance of UN sanctions.”

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NUCLEAR REGULATORY COMMISSION NEWS CLIPS

FRIDAY, APRIL 1, 2011 7:00 AM EDT

WWW.BULLETINNEWS.COM/NRC

TODAY'S EDITION

Network, Cable TV News Coverage:

CBS: Energy-Yucca Mountain..... 2

NRC News:

Nuclear Industry Pins Hopes On Longtime Foe (WSJ) 3

NRC: 3 US Nuclear Plants Need Closer Review (AP)..... 3

3 US Nuclear Plants Need Increased Oversight (AP)..... 4

Regulators Say 3 US Nuke Plants Need Closer Look (FOX) 4

Green House Blog: NRC: Three US Nuclear Plants Need More Scrutiny (USAT)..... 4

NRC Increases Oversight Of Three US Nuclear Power Plants (BLOOM) 4

Six US Nuclear Plants Undergo Intensive Review: NRC (REU)... 5
Ongoing Reviews Find Three US Nuclear Reactors Warrant More Inspection, Oversight (DJNews) 5

NRC: Ft. Calhoun Needs Review (OMAHA)..... 5

NRC Targets Fort Calhoun Nuclear Plant For More Oversight (Lincoln Journal Star) 6

Fort Calhoun's Nuclear Plant Under Scrutiny (KETV)..... 7

NRC Puts Fort Calhoun On Watch List (KMTV) 7

Wolf Creek Nuclear Plant Needs Increased Oversight (KAKE).... 7

Wolf Creek Nuclear Plant Among Three In US That Need More Oversight, NRC Reports (KCS)..... 8

Robinson One Of 3 US Nuclear Plants Under Closer NRC Review (WPDE)..... 9

House Panel Probes Plan To Halt Yucca Nuke Site (AP) 9

House GOP Lawmakers Launch Yucca Mountain Investigation (HILL) 10

Lawmakers Probe Plan To Shelve Yucca Nuclear Dump (REU)11
Energy And Commerce Launches Investigation Into Yucca Closure (EPPM)..... 11

US House Lawmakers Blast NRC Chairman Over Yucca Mountain (PLATTS)..... 12

House Panel Investigates Plan To Halt Yucca Site (LVSRJ) 12

Simpson Grills Nuclear Regulatory Commission Over Yucca Mountain (IDASTM)..... 12

US Response To Japan's Crisis Should Be A New Spent Fuel Strategy, Senate Panel Is Told (CWIRE)..... 12

Yucca Mountain: Did Politics Trump Science? (CBS) 14

Spent Fuel Pools Just As Safe As Dry Casks – NRC Chief (GWIRE) 15

Nuclear Crisis Puts Evacuation Zones Under Scrutiny (USAT) . 16

Nuclear Crisis Evacuation Plan Outlined (BLOOM)..... 17

Nuclear Accident Evacuation Plans: Is The US Ready? (CNN) . 17

Dope and Glory (NYT) 18

Cosmic Log - US Boosts Radiation-sniffing System (MSNBC) .. 19

Green Blog: US Dropped Nuclear Rule Meant To Avert Hydrogen Explosions (NYT)..... 21

Japan Crisis Revives Minnesotas Spent Nuclear Fuel Debate (SCT) 21

Spent Nuclear Fuel Stored At Wake County Plant :: WRAL.com (WRAL) 22

Questions Raised Over US Midwest Nuclear Power Plants; Regulators Maintain They're Safe (XNA)..... 24

Nuclear Experts Say Ill. Not In Danger (CHIT/AP)..... 24

Nuclear experts say Ill. not in danger (AP)..... 25

Senators Hear Nuclear Plant Update (BLOOMP)..... 25

Illinois Detects Very Low Levels Of Radiation (CHIT/AP)..... 25

Trace Radiation Found Near Joliet (QUADCITY) 26

FPL, Regulators Talk Turkey Point Expansion (PALMBEACHP)26

Univ. Of MD Panel: US Safe From Fukushima Plant Radiation (Patch) 27

Fukushima Will Not Affect US Nuclear Loan Guarantee Program: DOE (PLATTS)..... 28

NRC: Farley Is "Well Maintained" (DE) 28

Regulators Weigh Financial Risk Of Ga. Nuke Plant (AP) 29

PSC Hears Pros, Cons To Vogtle Cost-containment Proposal (AUGC) 29

Cost Overruns On New Plant Vogtle Reactors, Who Should Pay? (WSAV)..... 30

Showdown Looms On Nuclear Risk-sharing (AJC) 30

PSC Could Check Vogtle Costs (GPB)..... 31

Japan Crisis Puts Georgia Power Under A Spotlight (AP) 31

Japan Crisis Puts Georgia Power Under Spotlight (WGCL)..... 32

US Nuclear Output Little Changed As PSEG Boosts Salem Reactors (BLOOM)..... 32

Gov. Shumlin: Vt. Yankee Owner Misspeaks Again (AP) 33

Vermont Utility Questions Use Of Nuclear Power (DJNews)..... 33

NRC To Review Vermont Yankee Safety Valves (BR)..... 33

Owner: No Buyer For Vermont Yankee Nuclear Plant (BOS) 34

Entergy: No Sale Of Vermont Yankee (BURFP)..... 34

Entergy Abandons Bid To Sell Vermont Nuclear Power Plant (WSJ/DJ).....	35	Japanese Nuclear Plant's Containment Vessels Remain Suspect As Radiation Levels Spike (MCT).....	52
TVA To Explain Browns Ferry Reactor Valve Problem (AP)	36	Japan PM Says Stricken Nuclear Plant To Be Scrapped (AFP)	53
The Moulton Advertiser > News > Responders Prepare For Annual Brown's Ferry Incident Exercise (MOULTADV)	36	Stabilising Nuclear Plant To Take Years (FT).....	54
TVA:Small Radiation Increase In Chattanooga Since Japan Disaster (WRCB)	37	Japan Pressed To Expand Evacuation Zone; New Safety Questions For Workers At Plant (WP)	54
Coal Ash - The Other Radioactive Waste (EM)	38	Anger And Abandonment In A Japanese Nuclear Ghost Town (LAT)	55
The Dangers Of The Nuclear Power Industry (CHATNOOG)	38	Along Japan's Northeastern Coast, Several Hundred Miles Of Cleanup (WP)	57
Reactor Design At Japanese Plant Raises Questions (AFP)	39	Cleanup Questions As Radiation Spreads (NYT)	58
Oconee Nuclear Will Shutdown One Reactor (WSPA).....	40	After Japan Crisis, New Urgency For Radiation Drugs (NYT)	59
FirstEnergy Details Differences Between Japanese Nuclear Plant And Perry Plant In Lake County (WEWS)	40	Japan Nuke Plant Leaks Radiation Into Groundwater (NYT/AP)	60
Scientists Debate Likelihood Of Nuclear Disaster (GRP)	41	Sarkozy, Kan See G8 Nuclear Safety Talks (WT)	62
Chu Discusses Push To Reduce Foreign Oil Reliance (NPR) ...	42	Sarkozy Pledges Japan Aid, Calls For Stronger Nuclear Safety (BLOOM)	63
Chu Demurs Obama's Compliment POLITICO 44 (POLITCO)	43	France To Assess Nuclear Risk And Safety Measures (NYT) ...	63
The Future Of Nuclear Energy In The US (NPR).....	43	German Utility Suing Government Over Nuclear Power (AP)	64
SRS Concrete Pump Heading To Japan Nuclear Site (AUGC)	44	Chancellor Merkel's Shellacking (NYT).....	64
Gigantic Concrete Pumps Will Be Airlifted From US To Japan To Help Respond To Nuclear Crisis (WP/AP)	45	China To Cut Nuclear Goal After Japan Crisis, Build Solar Farms (BLOOM)	65
The Nuclear Effect On Carbon Capture Plans (BLOOM)	46	Chileans Wary Of Nuclear Post-Japan (REU)	66
Cleanup Questions As Radiation Spreads (NYT)	47	UAE, Planning First Reactors, Wants To Learn From Japan Crisis (LAT/REU)	66
Lab Readies Radiation-detecting Robot For Japan (WASHEX)	48	Letter Bomb Injures 2 At Swiss Nuclear Office (NYT)	66
Y-12 Seismically At Risk (KNOXNS).....	48	Two Hurt In Parcel Bomb At Swiss Nuclear Lobby (REU).....	66
International Nuclear News:		US: SKorea Trade Pact Will Bar Imports From NKorea (AP)	66
Radiation Levels Rise Again At Nuclear Plant (NYT)	49		
Radiation Found In Groundwater At Japan Complex (WSJ)	51		
Japan Reviewing Water Tests Showing Iodine At 10,000 Times Limit (BLOOM).....	51		

NETWORK, CABLE TV NEWS COVERAGE:

CBS: Energy-Yucca Mountain. The CBS Evening News (3/31, story 7, 3:10, Hill) reported, "For more than 50 years a debate has raged over where to store radioactive nuclear waste in this country. And that debate has been reignited by the crisis in Japan. The solution was supposed to be here at a place called Yucca Mountain in Nevada, but the multibillion-dollar storage project has been shelved and as Chief Investigative Correspondent Armen Keteyian explains, a Congressional committee wants to find out why." CBS (Keteyian) added, "Nuclear waste, the radioactive guest on the doorstep of many of America's most populous cities. Nearly 70,000 tons from 104 reactors often piling up within 50 miles from cities like New York, Chicago, and San Diego. There was one site designed to hold all of our nation's nuclear waste and it's right here in the high desert of Nevada, at a place called Yucca Mountain. Today, the Federal government won't let our cameras anywhere near it. It's shut down, locked up, caught up in what critics charge is nothing more than pure politics. Gary Holis and Darrell Lacey are key officials in Nye County, Nevada. They want the waste at Yucca Mountain for the jobs and money it would bring." Darrell Lacy, Nye Co. Nuclear Waste Repository Project Office: "The people in this area are all fairly comfortable with Yucca Mountain. Many of them have worked at Yucca Mountain." Keteyian: "Four previous presidents funded safety reviews of the project but last year the Obama Administration kept its campaign promise." Unidentified speaker: "Barack Obama opposes opening Yucca." Keteyian: "And shut down Yucca Mountain. Now the Nuclear Regulatory Commission must decide if it wants to restart what is already a 25-year, \$14 billion project in the face of tough opposition, like that from Harry Reid, the Democratic Senate Majority Leader from Nevada." Jeffrey Lewis, PhD., nuclear safety expert: "If the US government wanted to do Yucca Mountain, it would have had to shove it down hear Reid's throat." Keteyian: "A former staffer for Senator Reid, Greg Jaczko, now chairs the NRC. Jaczko recently came under fire after shutting down the agency's safety review of Yucca Mountain and after key safety

recommendations were redacted, cut out, from a long-awaited NRC report. Three NRC staffers formally protested the decision to derail the safety review, charging it caused confusion, chaos, and anguish. Today, Jaczko told us the safety report was preliminary, a draft, and that he had nothing to do with the redactions. Critics charge that you were simply doing the bidding of your former boss, Senator Harry Reid, a fierce opponent of this project." Gregory Jaczko, chairman, NRC: "It was a difficult decision, and because it is such a controversial program, but, again, it was one that was made in, I believe, the best interest of the agency." Keteyian: "The NRC Inspector General and Congress are now investigating the decision to shut down the safety review. Still, nuclear waste is scattered across 35 states, and Yucca Mountain sits silent and empty. Armen Keteyian, CBS News, Nye County, Nevada."

NRC NEWS:

Nuclear Industry Pins Hopes On Longtime Foe (WSJ)

By Stephen Power

Wall Street Journal, April 1, 2011

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

NRC: 3 US Nuclear Plants Need Closer Review (AP)

By Matthew Daly

Associated Press, April 1, 2011

WASHINGTON – Three US nuclear power plants need increased oversight from federal regulators because of safety problems or unplanned shutdowns, the Nuclear Regulatory Commission said Thursday, although officials said all are operating safely.

NRC Chairman Gregory Jaczko said the three plants — in South Carolina, Kansas and Nebraska — "are the plants we are most concerned about" among the 65 US nuclear power plants in 31 states.

Jaczko did not identify the plants, but an agency spokesman said they are the H.B. Robinson nuclear plant in South Carolina, Fort Calhoun in Nebraska and Wolf Creek in Kansas.

An NRC spokesman said three reactors at the Oconee Nuclear Station in South Carolina had been on the watch list, but were removed two weeks ago after improved performance reviews.

The NRC stressed that all 104 US nuclear reactors operate safely, and that the heightened review of the three plants was routine.

"The NRC felt the three required significant additional oversight but continue to operate safely," said Scott Burnell, an agency spokesman.

All US nuclear plants are inspected frequently. If enough minor problems or issues are identified, a plant moves to a second level of inspection, Burnell said.

Items that aren't resolved in a reasonable time – or new items of higher significance – can move a plant to a third level of closer inspection and oversight. That is where the three plants in South Carolina, Kansas and Nebraska are listed, Burnell said.

The agency has two higher levels of concern for even more serious problems: one where senior NRC management becomes involved and a final level where a plant is shut down until officials determine it is safe to reopen. No US plants are currently listed in either category.

Jaczko told a House energy panel the NRC has very strong safety program. The panel was meeting to review the agency's budget and safety concerns in the wake of the nuclear crisis in Japan.

Rep. Ed Pastor, D-Ariz., said he was not worried about the NRC's safety program.

"What about the condition of the reactors?" he asked. "Are they safe enough?"

Jaczko said that "right now, we have very good performance from the actual reactors," but then said there were six reactors in need of more intensive review.

"Those are the plants we are most concerned about," he said. "With the exception of those six plants, the remaining plants are operating with safety margins, and again all of the plants are meeting our safety requirements."

Burnell and other agency officials said the six reactors Jaczko referred to included three at Oconee, which were recently taken off the watch list.

Nine of the 104 US reactors are listed in the second, minor level of concern, Burnell said.

3 US Nuclear Plants Need Increased Oversight (AP)

Associated Press, April 1, 2011

WASHINGTON – The Nuclear Regulatory Commission says three US nuclear power plants need increased oversight from federal regulators, although officials stressed that all are operating safely.

NRC Chairman Gregory Jaczko (YAHT-skoh) says the three plants – in South Carolina, Kansas and Nebraska – need more intensive review than other plants because of problems with safety systems or unplanned shutdowns.

Jaczko told a House subcommittee Thursday that the plants "are the ones we are most concerned about" among the 65 US nuclear power plants in 31 states.

Jaczko did not identify the plants, but an agency spokesman said they are the H.B. Robinson nuclear plant in South Carolina, Fort Calhoun in Nebraska and Wolf Creek in Kansas.

Regulators Say 3 US Nuke Plants Need Closer Look (FOX)

FOX News, April 1, 2011

Washington – The Nuclear Regulatory Commission said Thursday that three US nuclear plants which are currently operating safely must be reviewed.

"The NRC felt the three required significant additional oversight but continue to operate safely," spokesman Scott Burnell said, discussing the results of a review of all 104 US nuclear reactors ordered by President Barack Obama after the crisis at the Fukushima Daiichi complex in earthquake-stricken Japan.

Burnell said the review uncovered potential problems at the H.B. Robinson plant in South Carolina, Fort Calhoun in Nebraska and Wolf Creek in Kansas.

According to the NRC, these plants are rated at Level 3 in terms of their risk on a scale of 1 to 5, where Level 1 means the plant is functioning safely and well and 5 means that it needs to be closed.

Burnell spoke on Thursday shortly after NRC Chairman Gregory Jaczko appeared before a House subcommittee to explain the results of the recent plant inspections.

The Level 3 plants will receive a "more intensive review, from a safety perspective," the chairman told lawmakers. "The remaining plants are operating with(in) safety margins, and again all of the plants are meeting our safety requirements."

The NRC has "a very conservative system so we like to identify problems early," Jaczko said.

The United States currently has 104 nuclear reactors distributed among 65 plants in 31 states, all of which provide 20 percent of the nation's electricity.

Half of the reactors, a total of 52, have been in operation for between 30 and 39 years. Another 42 have been operational for between 20 and 29 years and 10 have been operating for between 10 and 19 years.

Over the last nine years, there have been no nuclear plants built in the United States.

Green House Blog: NRC: Three US Nuclear Plants Need More Scrutiny (USAT)

By Wendy Koch

USA Today, April 1, 2011

Three US nuclear power plants are operating safely but need increased oversight from federal regulators, the Nuclear Regulatory Commission's chief said Thursday.

They "are the ones we are most concerned about," NRC Chairman Gregory Jaczko told a House subcommittee, adding they need more review because of problems with safety systems or unplanned shutdowns, reports the Associated Press.

Jaczko did not identify the plants, but an NRC spokesman said they are the H.B. Robinson Nuclear Plant in South Carolina, Fort Calhoun Nuclear Generating Station in Nebraska and Wolf Creek Nuclear Operating Corporation in Kansas, according to AP.

At President Obama's request, the NRC announced last week that it would do a two-step safety review of the nation's 104 nuclear reactors at 65 power plants in 31 states in light of Japan's ongoing nuclear crisis. Since the March 11 earthquake and tsunami damaged nuclear reactors northeast of Tokyo, polls show US public support for nuclear power has fallen.

NRC Increases Oversight Of Three US Nuclear Power Plants (BLOOM)

By Jim Snyder

Bloomberg News, April 1, 2011

The Nuclear Regulatory Commission increased oversight of three US nuclear power plants, in Kansas, Nebraska and South Carolina, as part of a regular safety review.

The regulator found that the plants "required significant additional oversight, but continue to operate safely," said Scott Burnell, a commission spokesman. Chairman Gregory Jaczko told a House panel today that the plants are operating safely.

The plants are Fort Calhoun Nuclear Generating Station near Omaha, Nebraska, the Robinson Nuclear Plant in Hartsville, South Carolina, and Wolf Creek nuclear plant in Burlington, Kansas. Three unidentified reactors targeted for stepped up oversight were removed from the NRC list.

Power plants warrant additional oversight when safety issues identified by the regulator haven't been resolved within a reasonable amount of time or if the underlying issue is of "somewhat higher significance," the NRC said in a news release.

Six US Nuclear Plants Undergo Intensive Review: NRC (REU)

By Roberta Rampton

Reuters, April 1, 2011

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

Ongoing Reviews Find Three US Nuclear Reactors Warrant More Inspection, Oversight (DJNews)

By Tennille Tracy

Dow Jones Newswires, April 1, 2011

WASHINGTON -(Dow Jones)- US nuclear regulators are stepping up inspections at three US nuclear reactors--located in Nebraska, South Carolina and Kansas-- after determining in ongoing assessments that the facilities at these plants warrant more oversight than the rest of the nuclear fleet.

The three reactors, identified by the US Nuclear Regulatory Commission, could have multiple items of low-level concern or a few items of "higher significance," but they are still considered to be safe, said NRC spokesman Scott Burnell. The three reactors are known as Fort Calhoun in Nebraska, Robinson Unit 2 in South Carolina and Wolf Creek in Kansas, Burnell said.

The NRC grades nuclear reactors on a scale from one to five when determining performance levels, with Level 1 being good and Level 5 prompting a shut-down for poor performance.

The three reactors identified by the NRC have been rated a Level 3, known as having a "degraded cornerstone." In the past, some plants have wound up on this list by failing to resolve issues over air pockets in their emergency core cooling systems, Burnell said.

The reactors require "significant additional oversight but continue to operate safely," Burnell said.

The safety of US nuclear reactors has been called into question in recent weeks as explosions and radiation leaks at Japan's Fukushima Daiichi plant revealed weaknesses in nuclear plant technology and operations.

The existence of the Level 3 nuclear reactors in the US were highlighted Thursday after NRC Chairman Gregory Jaczko told House lawmakers at a hearing that "those are the plants that we right now are most concerned about."

The plants are undergoing a "more intensive review, from a safety perspective," Jaczko said, but he added that the commission has "a very conservative system so we like to identify problems early."

The Level 3 designation triggers more inspections by federal nuclear regulators, attention from senior management and additional oversight on the cause of the degraded performance.

A few months ago, there were six reactors on this Level 3 list. But the other three units--all of which are located at the Oconee Nuclear Station in South Carolina--have since made improvements.

There are 104 nuclear reactors operating in the US

Jaczko and other nuclear officials have confirmed the safety of these units on multiple occasions since the March 11 earthquake and tsunami in Japan.

Apart from the nuclear reactors on the Level 3 list, "the remaining plants in this country are operating well within our safety requirements," Jaczko said.

Jaczko said during the hearing that six reactors still remained on the Level 3 list. But NRC representatives later clarified that there were only three.

NRC: Ft. Calhoun Needs Review (OMAHA)

By Nancy Gaarder

Omaha World-Herald, April 1, 2011

The Nebraska nuclear reactor located 20 miles north of Omaha is one of three nationwide that federal regulators are "most concerned about," a US House subcommittee was told Thursday.

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, said regulators believe that three reactors – one each in Kansas, Nebraska and South Carolina – require heightened federal oversight.

The NRC identified those power plants as Fort Calhoun in Nebraska, Wolf Creek in Kansas and H.B. Robinson in South Carolina.

Officials said all are operating safely.

There are 104 reactors at 65 plants around the nation.

The three reactors discussed Thursday either have had problems with safety systems or unplanned shutdowns, and each has been placed in a category called “degraded cornerstone.” On an A-to-F grading system, it’s essentially the equivalent of a “C.”

Fort Calhoun is owned by the Omaha Public Power District and supplies the metro area with a significant share of its electricity.

Several years ago, Nebraska’s other nuclear station, Cooper, went for a significant period of time with a “D” rating due to problems that were more systemic than what is going on at Fort Calhoun. At great expense and effort, Cooper’s problems were corrected.

Last year, Fort Calhoun got into trouble over problems that became apparent following Missouri River flooding.

There was no imminent flood threat to the Fort Calhoun nuclear plant at that time, officials said.

However, significant flooding in the region prompted regulators to take a look at the reactor’s preparedness for substantially worse flooding.

At Fort Calhoun, the NRC concluded that a pump station located near the Missouri River could be at risk, despite the utility’s plan to use sandbags to protect it.

David Bannister, chief nuclear officer at OPPD, said the utility has addressed the problem by installing flood gates that don’t require sandbags to keep the water out.

“By and large, we’ve gotten out of sandbagging business,” Bannister said Thursday. “I’ll put our flood response procedures today up against any plant in the country.”

Both Bannister and NRC spokesmen said the issues at Fort Calhoun have not posed a risk to the public.

NRC Targets Fort Calhoun Nuclear Plant For More Oversight (Lincoln Journal Star)

Lincoln Journal Star, April 1, 2011

Fort Calhoun Nuclear Station, owned by the Omaha Public Power District, is one of three US nuclear power plants that will get increased oversight from regulators because of safety problems and unplanned shutdowns. The primary concern at the station 20 miles north of Omaha appears to be possible flooding.

The other two are the H.B. Robinson nuclear plant in South Carolina and Wolf Creek in Kansas, the Nuclear Regulatory Commission said.

Commission Chairman Gregory Jaczko said the three “are the plants we are most concerned about.”

The United States has 104 nuclear reactors at 65 nuclear power plants.

The NRC said all 104 reactors operate safely, and the heightened review of the three plants is routine.

“The NRC felt the three required significant additional oversight but continue to operate safely,” said Scott Burnell, an agency spokesman.

Fort Calhoun, on the Missouri River, is one of two nuclear plants in Nebraska. The other is Cooper Nuclear Station near Brownville, which is owned by the Nebraska Public Power District.

OPPD spokesman Jeff Hanson said Fort Calhoun has been on the NRC’s “degraded cornerstone” watch list for almost a year because of a potential flooding issue.

He said the utility has procedures in place to protect a water-pumping station near the Missouri River in case of a 100-year flood using sandbags, but they were not in writing.

“We did not have specific instructions on how to sandbag,” Hanson said.

During the past year, he said, OPPD installed floodgates to protect the pumping station.

Last year, the plant experienced some minor flooding when high water from the Missouri River caused a drain to back up. Hanson said the plant was never in any danger.

The NRC plans to inspect the plant soon, Hanson said, adding that Fort Calhoun will remain on the agency’s watch list for a year after the inspection.

All US nuclear plants are inspected frequently. If enough minor problems or issues are identified, a plant moves to a second level of inspection, Burnell said.

Items that aren't resolved in a reasonable time – or new items of higher significance – can move a plant to a third level of closer inspection and oversight. That is where the three plants in South Carolina, Kansas and Nebraska are listed, Burnell said.

Fort Calhoun's Nuclear Plant Under Scrutiny (KETV)

KETV-TV Omaha, NE, April 1, 2011

Fort Calhoun's nuclear power plant is one of three reactors across the country that federal regulators said they are most concerned about.

Nuclear Regulatory Commission officials said Fort Calhoun's reactor is operating safely, but it's still on the shortlist because they want to make sure it's prepared to handle major emergencies, like flooding.

Last year, federal regulators questioned the station's flood protection protocol. NRC officials said they felt the Omaha Public Power District should do more than sandbagging in the event of major flooding along the Missouri river.

OPPD officials said they have already made amends and added new flood gates.

"We updated our flood protection strategy and have tested and re-tested our new strategy. The issue is operationally resolved, and at no time was there a threat to public safety or was public health at risk," OPPD President and Chief Executive Officer Gary Gates said.

Gates said he expects the commission to remove Fort Calhoun from the list.

Sue Harsin said she just moved to the area and she was at first concerned about the possible health risks, but she talked to her neighbors who told her not to worry.

"We're not worried about it on a daily basis, we think it's very safe," Harsin said.

Harsin and her neighbors said the reactor has never been a big concern.

"I don't see much point in worrying about it. If I was worried about it, I guess I would move," said resident Ron Hansen.

NRC Puts Fort Calhoun On Watch List (KMTV)

By Carrie Murphy

KMTV-TV Omaha, NE, April 1, 2011

Omaha, NE - The Fort Calhoun Nuclear Plant is one of three US nuclear plants that need increased oversight, according to the Nuclear Regulatory Commission. The NRC says the review is routine and Fort Calhoun is operating safely.

The Fort Calhoun plant is operated by the Omaha Public Power District. OPPD spokesman Mike Jones says the NRC issued a "yellow finding" after an inspection of the plant in July, 2009. NRC inspectors told OPPD to make a number of changes to protect the plant from severe flooding. OPPD sits on the Missouri River, north of Omaha in Washington County. A "yellow finding" is a Nuclear Regulatory Commission flag that the plant operator needs to make improvements.

Since that 2009 inspection, OPPD has installed flood gates and increased sandbag protection at the plant. Those improvements were made in 2010 and reported to the NRC. OPPD is waiting for a followup inspection. Jones says it is normal for a plant to remain in "yellow" for one year after the initial review and the response.

NRC Chairman Gregory Jaczko said the three plants, including Fort Calhoun, "are the plants we are most concerned about". Jaczko told a House energy panel the NRC has very strong safety program. The panel was meeting to review the agency's budget and safety concerns in the wake of the nuclear crisis in Japan.

Next week, the NRC will hold a public meeting in Omaha to evaluate safety measures at Fort Calhoun. The meeting is open to the public. It begins at 6:00 p.m. April 6 at the Hilton Garden Inn, 1005 Dodge St., Omaha.

Wolf Creek Nuclear Plant Needs Increased Oversight (KAKE)

KAKE-TV Wichita, KS, March 31, 2011

The federal government is increasing its oversight over the state's only nuclear power plant. The Wolf Creek power plant near Burlington is one of three nationwide to require extra inspection, although the Nuclear Regulatory Commission says the plant has continued operating safely.

Wolf Creek has been operating for 26 years and this is the first time it has fallen into a category requiring extra inspection from the Nuclear Regulatory Commission, but management says it began fixing the problem before the NRC's report was even released.

The plant produces enough energy each day to power 800,000 homes, and those in charge say safety comes first.

"Achieving the highest level of safety is our objective. We're just not shooting to be in the middle of the pack, if you're not shooting to be the best you really have your sights set too low," said Wolf Creek CEO and President Matt Sunseri.

Its safety expectations are why Sunseri says the plant immediately took action after three of its 16 performance indicators showed levels for concern. Those indicators are what spurred increased oversight from the Nuclear Regulatory Commission.

The NRC has five levels of oversight, and the highest is "unacceptable performance." Wolf Creek is one of three plants to fall on the third level called, "degraded cornerstone."

"This is the first time that we've ever had performance indicators in this range so we're taking this seriously, obviously," said Sunseri.

The problems involve equipment performance, which in some cases caused the plant to have to shut down unexpectedly. But now, better maintenance and management have improved the situation, returning two out of the three performance indicators to normal.

"Really the people that work at the plant live in this community. So I know they want to operate the plant well, and we want to operate the plant safely," said Sunseri.

So Wolf Creek says it's using this experience to be better, in an industry already in the spotlight for safety standards.

"We are self critical and continuous learning is part of our culture, and that has helped the nuclear industry in general improve over the years," said Sunseri.

The other plants falling in the third level of NRC oversight are in South Carolina and Nebraska.

Wolf Creek Nuclear Plant Among Three In US That Need More Oversight, NRC Reports (KCS)

By Mike McGraw

Kansas City Star, April 1, 2011

The Wolf Creek nuclear power plant is among three in the United States that need more intensive oversight, the chairman of the Nuclear Regulatory Commission told Congress on Thursday.

NRC chairman Gregory Jaczko stressed that all 65 nuclear generating stations, which have a total of 104 reactors, are operating safely. But Jaczko said Wolf Creek and two others need a higher level of review because of continuing problems with safety systems and unplanned shutdowns.

Jaczko told a House Appropriations subcommittee that the three plants "are the ones we are most concerned about." The other two are the H.B. Robinson plant in Hartsville, S.C., and the Fort Calhoun plant near Omaha, about 180 miles northwest of Kansas City.

While acknowledging problems at the Wolf Creek plant, spokeswoman Jenny Hageman said the plant in Burlington, Kan., is fully cooperating with the NRC and shares a common goal to "protect the health and safety of the public."

"We take the NRC's assessment of our performance seriously," Hageman said, adding that two of three problem areas identified by the NRC have returned to normal.

She said the heightened reviews include increased NRC oversight, additional inspections and attention from senior management at the plant.

The Wolf Creek plant, about 100 miles southwest of Kansas City, is owned by KCP&L and Westar Energy. A third company, the Wolf Creek Nuclear Operating Corp., is responsible for its day-to-day operation.

An earlier NRC safety review had identified six plants in need of greater oversight: the three that remain on the list and three additional units at the Oconee, S.C., plant.

However, the Oconee site "has subsequently improved and is back to our normal level of oversight," said NRC spokeswoman Lara Uselding.

The Wolf Creek plant has had problems, most recently in August 2009, when the NRC said the operators failed to properly address issues caused by a loss of off-site power — the kind of event that contributed to the current crisis at Japan's Fukushima Dai-ichi plant.

The power loss was a momentary result of a series of severe lightning storms, Matt Sunseri, CEO of the Wolf Creek Nuclear Operating Corp., told The Kansas City Star.

"It lasted for seconds and came back on immediately, and there was never a threat to the public or the safety of the plant," Sunseri said. "In Japan you had a situation where events beyond imaginable occurred, and that is what made any kind of loss of off-site power very challenging."

A March 2011 report from the Union of Concerned Scientists, a nuclear power watchdog group, said the storm that cut power to the plant and caused additional problems prompted the NRC to cite the plant.

While backup systems operated correctly after the power loss, the NRC noted a "high pressure spike" in the essential service water pumps blew a 3/8 -inch diameter hole in the piping. Those pumps could be called on to cool the reactor core in an emergency, the Union of Concerned Scientists said.

The NRC noted that an internal study two years earlier had forecast such a breach, and noted that one had actually occurred in 2008. The NRC later sanctioned Wolf Creek for having failed to correct the problem.

"When you predict a safety problem and then have that prediction validated the following year, you have little excuse for continuing to ignore it," said David Lochbaum, director of the Nuclear Safety Program for the Union of Concerned Scientists.

Lochbaum said the NRC concerns have prompted what is called a "supplemental inspection" in which the commission "sends a team of inspectors to Wolf Creek to determine whether events over the past year were isolated events coincidentally occurring around the same time or were manifestations of deeper problems caused by budget cuts, loss of safety focus, or other reasons."

Contributing to Wolf Creek's power grid problems, the NRC found, was division of responsibility over the plant. Officials found Wolf Creek personnel had little responsibility for the plant's electrical switchyard, which actually rested with Westar Energy.

The Union of Concerned Scientists also noted that, according to NRC reports, there had been 31 power line interruptions since 2004, but that workers failed to enter 20 percent of them into the corrective action program.

Westar spokesman Mark Schreiber confirmed Thursday that Westar is responsible for the electrical switchyard and grid reliability. Schreiber added that Westar and Wolf Creek have since revised procedures to improve communications between the two groups.

Additional NRC concerns included the firm not adequately evaluating the damage caused by internal corrosion. Operators also failed to control the water level in the steam generator after a reactor shut down. The NRC classified both violations as within acceptable limits.

Uselding, the NRC spokeswoman, said the agency relies on four levels of nuclear plant oversight, with the fourth being the most serious.

Wolf Creek and the other two plants are at the third level, called "degraded cornerstone," which means that safety issues are not resolved in a reasonable amount of time, or there are new items "of somewhat higher significance."

Robinson One Of 3 US Nuclear Plants Under Closer NRC Review (WPDE)

By Victoria Spechko

WPDE-TV Florence, SC, April 1, 2011

Thursday, the chairman of the Nuclear Regulatory Commission, Gregory Jaczko, testified before a House subcommittee about three US nuclear power plants that are getting extra attention from federal regulators.

Jaczko told House members that three plants - in South Carolina, Kansas and Nebraska - are getting more intensive review because of problems with safety systems or unplanned shutdowns.

The South Carolina plant is HB Robinson in Hartsville.

We spoke with Joey Ledford, an NRC spokesman for Robinson's region. Ledford said the increased oversight mentioned in Washington Thursday by Jaczko is not in addition to what's already happening at the HB Robinson plant. Jaczko was just updating House members on what the NRC is currently doing.

The NRC was in Hartsville one week ago to share with residents how it's responding to three incidents at the Robinson plant in 2010.

The NRC told residents that although the plant operated in a manner that preserved public health and safety, the agency would increase oversight and conduct a series of inspections at the plant. NRC spokesman Rick Croteau said at the meeting that inspections could take place in late May or early June.

Jaczko stressed in Washington that the three plants are operating safely, but they are "the ones we are most concerned about" among the 65 nuclear plants in the US

House Panel Probes Plan To Halt Yucca Nuke Site (AP)

By Matthew Daly, Associated Press

Associated Press, April 1, 2011

WASHINGTON – A House energy panel said Thursday it is investigating the Obama administration's decision to halt plans to bury the nation's nuclear waste in Nevada.

The investigation by the Republican-led Energy and Commerce panel focuses new attention on the Yucca Mountain nuclear repository 90 miles from Las Vegas.

Reps. Fred Upton, R-Mich., and John Shimkus, R-Ill., said there is no scientific or technical basis for withdrawing the application for Yucca Mountain, the only permanent storage site in the US designated for spent nuclear fuel.

"The tragic events unfolding in Japan underscore the urgent need for the United States to pursue a coherent nuclear policy to safely and permanently store spent nuclear fuel," Upton and Shimkus said in a statement.

Yucca Mountain has been endorsed by many scientists and lawmakers from both parties, and US officials have spent decades and billions of dollars developing the site, yet "this administration has recklessly sought to pull the plug on the Yucca repository without even the sensibility of offering a viable alternative," the lawmakers said. Upton chairs the energy panel, while Shimkus heads a subcommittee on the environment and economy.

A spokeswoman for the Energy Department said officials will work with committee leaders as they perform their oversight role.

Opponents of Yucca Mountain have said they are concerned about possible contamination, and the Obama administration said it would not consider the site and would look for alternatives.

News of the investigation came as the Nuclear Regulatory Commission said three US nuclear power plants need increased oversight from federal regulators because of safety problems or unplanned shutdowns.

NRC Chairman Gregory Jaczko said the three plants — in South Carolina, Kansas and Nebraska — "are the plants we are most concerned about" among the 65 US nuclear power plants in 31 states. All US plants are operating safely, Jaczko said.

An agency spokesman said the plants under review are the H.B. Robinson nuclear plant in South Carolina, Fort Calhoun in Nebraska and Wolf Creek in Kansas.

Spokesman Scott Burnell said three reactors at the Oconee Nuclear Station in South Carolina had been on the watch list, but were removed two weeks ago after improved performance reviews. He emphasized that all 104 US nuclear reactors operate safely, and that the heightened review of the three plants was routine.

"The NRC felt the three required significant additional oversight but continue to operate safely," he said.

All US nuclear plants are inspected frequently. If enough minor problems or issues are identified, a plant moves to a second level of inspection, Burnell said.

Items that aren't resolved in a reasonable time — or new items of higher significance — can move a plant to a third level of closer inspection and oversight. That is where the plants in South Carolina, Kansas and Nebraska are listed, Burnell said.

The agency has two higher levels of concern for even more serious problems: one where senior NRC management becomes involved and a final level where a plant is shut down until officials determine it is safe to reopen. No US plants are currently listed in either category.

Nine of the 104 US reactors are listed in the second, minor level of concern, Burnell said.

At a hearing Thursday of an energy subcommittee, GOP lawmakers repeatedly blasted the plan to halt the Yucca Mountain project, calling it blatantly political. Senate Majority Leader Harry Reid, D-Nev., has been a relentless opponent of the Yucca Mountain site, and Obama promised during the 2008 presidential campaign that he would look for other ways to address the disposal of highly radioactive waste from commercial nuclear power plants.

"Probably the four most expensive electoral votes ever cast in this country were the four Nevada votes in 2008" for Obama, said Rep. Mike Simpson, R-Idaho. "They cost us approximately \$12 billion in shutting down Yucca Mountain, or the attempt to shut down Yucca Mountain."

Simpson and other critics say the Obama administration is violating a federal law that designates Yucca Mountain as the leading candidate for waste disposal.

"I firmly believe that you are acting outside the law," Simpson told Jaczko.

Jaczko replied that the commission's lawyer disagrees with that interpretation, adding that the NRC has approved a budget for the next fiscal year that does not include any money for Yucca Mountain.

"Commission approval of a budget doesn't mean diddly. What matters is what passes Congress," Simpson retorted.

Last year, the Energy Department filed a motion with the NRC to withdraw its application for Yucca Mountain. The commission has not ruled on that motion, but the Energy Department has gone ahead with dismantling the project.

South Carolina and Washington state are among those suing the president and other federal officials to try to restart plans to ship spent nuclear fuel to Yucca Mountain.

House GOP Lawmakers Launch Yucca Mountain Investigation (HILL)

By Andrew Restuccia

The Hill, April 1, 2011

Top House Republicans are launching an investigation into the Obama administration's decision to abandon plans to store the country's nuclear waste at Yucca Mountain in Nevada.

House Energy and Commerce Committee Chairman Fred Upton (R-Mich.) and Rep. John Shimkus (R-Ill.), the chairman of the panel's environment subcommittee, said Thursday the investigation will focus on the administration's motivations for ending funding for the project and withdrawing its license.

There was "no scientific or technical basis for withdrawing the application," the lawmakers alleged in a statement.

"The administration's move to shutter Yucca raises serious red flags," Upton and Shimkus said. "Despite the scientific community's seal of approval, extensive bipartisan collaboration, as well as nearly three decades and billions of taxpayer dollars spent, this administration has recklessly sought to pull the plug on the Yucca repository without even the sensibility of offering a viable alternative."

And the GOP lawmakers said the ongoing nuclear crisis in Japan is a reminder that the country must designate a permanent repository for nuclear waste.

"The tragic events unfolding in Japan underscore the urgent need for the United States to pursue a coherent nuclear policy to safely and permanently store spent nuclear fuel," the lawmakers said in the statement.

Upton and Shimkus sent letters Thursday alerting Energy Secretary Steven Chu and Nuclear Regulatory Commission Chairman Gregory Jaczko of the investigation. The letters also requested detailed information about the officials' role in the decision to abandon Yucca Mountain.

Congress approved Yucca Mountain as the country's nuclear waste repository in 1982. But the project has been mired by years of delay and opposition from Nevada lawmakers, including Senate Majority Leader Harry Reid (D-Nev.).

Lawmakers Probe Plan To Shelve Yucca Nuclear Dump (REU)

By Roberta Rampton And Ayesha Rascoe

Reuters, April 1, 2011

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

Energy And Commerce Launches Investigation Into Yucca Closure (EETM)

By Katie Howell

E&ENews PM, April 1, 2011

House Republicans are launching a formal investigation into the Energy Department's decision to shut down the Yucca Mountain nuclear waste repository.

House Energy and Commerce Chairman Fred Upton (R-Mich.) and Rep. John Shimkus (R-Ill.), chairman of the Subcommittee on Environment and the Economy, today told Energy Secretary Steven Chu and Nuclear Regulatory Commission Chairman Gregory Jaczko that the committee was investigating the agency's decision to withdraw the license application for a permanent nuclear waste storage site in Nevada.

"The administration's move to shutter Yucca raises serious red flags. Despite the scientific community's seal of approval, extensive bipartisan collaboration, as well as nearly three decades and billions of taxpayer dollars spent, this administration has recklessly sought to pull the plug on the Yucca repository without even the sensibility of offering a viable alternative," the lawmakers said in a statement.

Development of the permanent nuclear waste storage facility at Yucca Mountain has been a contentious political issue for decades. Democrats have pushed to close the site, and the Obama administration pulled its support for the project and submitted a filing last year with NRC to withdraw its application.

But NRC's Atomic Safety and Licensing Board said DOE could not pull the application unless Congress directed otherwise and questioned whether the department acted on safety concerns or because of a "matter of policy" (E&ENews PM, June 29, 2010).

DOE appealed the board's decision to NRC, and the commission is in the process of making its recommendation.

Meanwhile, the regulatory body ordered a closeout of a staff review of the application in its budget request for the current fiscal year.

Upton and Shimkus are concerned that there "was no scientific or technical basis for withdrawing the application."

"Yucca Mountain must be featured prominently in our nuclear future – the stakes are too high for politics to interfere with the permanent and safe storage of spent nuclear fuel," the lawmakers said.

Upton and Shimkus are asking Chu and Jaczko to explain their actions surrounding the license application withdrawal and the subsequent NRC review of the decision.

[Click here to read the letter to Jaczko.](#)

Click here to read the letter to Chu.

US House Lawmakers Blast NRC Chairman Over Yucca Mountain (PLATTS)

By Derek Sands

Platts.com, April 1, 2011

The head of the Nuclear Regulatory Commission has flouted the law and has politicized his agency in delaying a decision on the license for the long-planned national nuclear waste repository at Yucca Mountain, Nevada, a key House lawmaker said Thursday.

Idaho Republican Mike Simpson, a member of the House of Representatives subcommittee that decides the NRC's budget, blasted NRC Chairman Gregory Jaczko for holding up a decision on the Department of Energy's license application.

"The chairman has made a decision unilaterally that I don't think he has the authority to make," Simpson. "I think they are making political decisions."

DOE under the Bush administration filed a license application for the Yucca Mountain repository with the NRC in 2008. But with the change of administration, Energy Secretary Steven Chu decided to terminate the project, and moved to withdraw that license application last year.

Jaczko in October halted considerations over the Yucca Mountain license application, saying that the agency did not request funds for for the process in fiscal 2011. Critics, including Simpson, charge that the agency is still under the fiscal 2010 budget because Congress has not yet approved the 2011 request.

Jaczko defended his actions at the hearing, saying that his general counsel has determined that it is within the law and within NRC procedures.

In addition, Jaczko said that he was barred from discussing the commission's deliberations.

"The actions we are taking as a body are consistent with the law," he said.

DOE is subject of a lawsuit from several states and localities over the decision to terminate the Yucca Mountain project.

--Derek Sands, derek_sands@platts.com

House Panel Investigates Plan To Halt Yucca Site (LVSRJ)

By Steve Tetreault

Las Vegas Review-Journal, April 1, 2011

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

Simpson Grills Nuclear Regulatory Commission Over Yucca Mountain (IDASTM)

By Rocky Barker

Idaho Statesman, April 1, 2011

Idaho Republican Rep. Mike Simpson today said the Nuclear Regulatory Commission was snubbing Congress by terminating licensing of the Yucca Mountain Nuclear Waste site in Nevada.

"Chairman (Gregory) Jazko is purposefully defying the will of Congress and acting unilaterally to waste billions of taxpayers dollars," said Simpson, chairman of the House Appropriations Energy and Water Subcommittee. "It is very frustrating to me and to most Members of Congress that this type of manipulation is happening at the Nuclear Regulatory Commission, and we intend to make sure Chairman Jazko is held to account for his actions and that the requirements of federal law are fulfilled."

Simpson made his comments at a subcommittee hearing where both Jazko and Department of Energy Acting Undersecretary of the Office of Nuclear Energy, Pete Lyons testified on the budget. Both Jaczko and Lyons said US reactors are currently safe.

In addition, the NRC is conducting additional reviews of all licensed nuclear power plants and DOE is reviewing all of its licenses, including Idaho's Advanced Test Reactor.

US Response To Japan's Crisis Should Be A New Spent Fuel Strategy, Senate Panel Is Told (CWIRE)

By Peter Behr

ClimateWire, April 1, 2011

The nuclear crisis in Japan provides an impetus for Congress to confront a failed national policy on dealing with spent fuel from US reactors, witnesses told a Senate subcommittee yesterday.

Massachusetts Institute of Technology professor Ernest Moniz called for an accelerated transfer of spent nuclear fuel rods from storage in water-covered pools at reactor sites to concrete and steel "dry" casks. Secondly, Moniz said, the federal government should create several regional facilities to store the containers for an extended period until a new strategy for managing nuclear waste fuel can be put in place – a position he and MIT colleagues have argued for since before the emergency at Japan's Fukushima Daiichi nuclear complex.

Black smoke rising from reactor No. 3 at the Fukushima Daiichi nuclear complex. Photo courtesy of Flickr.

"The Fukushima problems with spent fuel pools co-located with reactors will undoubtedly lead to a re-evaluation of spent fuel management strategies," Moniz told members of the Senate Appropriations Subcommittee on Energy and Water Development.

"We should really think hard about consolidated storage, presumably at federal reservations," Moniz said.

"I agree with you," replied Sen. Dianne Feinstein (D-Calif.), the subcommittee chairwoman.

Congress voted to create a permanent spent fuel repository at Yucca Mountain, Nev., and the Energy Department has spent \$10 billion on research and construction of the facility. But under pressure from Senate Majority Leader Harry Reid (D-Nev.), the Obama administration has shelved the project.

The Energy Department seeks to withdraw "with prejudice" the government's license application submitted to the Nuclear Regulatory Commission – a decision that Yucca Mountain project supporters are challenging in the US Circuit Court of Appeals for the District of Columbia.

Temporary storage for a century?

Having no permanent waste fuel repository in sight, the NRC has concluded that spent fuel may be safely stored at reactor sites for as long as a century, if necessary. Feinstein challenged Nuclear Regulatory Commission Chairman Gregory Jaczko on that conclusion at yesterday's hearing.

"We must begin to rethink how we handle spent fuel," Feinstein. "I'm amazed at the idea of storing it there for 100 years."

Two other witnesses before Feinstein's subcommittee, representing the nuclear industry and one of its frequent critics, differed on the implications of the reactor crisis on the safety of spent reactor fuel stored at the 104 US nuclear power plants. But both agreed it was time to confront the stalemated issues surrounding the spent fuel.

"For unfathomable reasons, reactor fuel is considered benign after it is taken out of a reactor but before it is placed in a repository," said David Lochbaum, head of the nuclear safety program for the Union of Concerned Scientists. While irradiated fuel inside reactors is protected by multiple layers of shielding and redundant systems for preventing the overheating of fuel rods and release of radioactive contamination, spent fuel pools are typically covered with sheet metal roofs, "like that in a Sears storage shed," he said.

One of the spent fuel pools at the top of Fukushima reactor No. 4 suffered a hydrogen explosion and lost all or most of its cooling water during the emergency, permitting the fuel units to ignite and release radioactive elements into the atmosphere through the shattered metal roof.

"The irrefutable bottom line is we have utterly failed to properly manage the risk from irradiated fuel stored at our nations' nuclear power plants," he said. He, too, called for faster transfer of fuel units from pools to dry cask storage, after the required five- or six-year initial cooling period in the water-filled pools. Systems and procedures to deal with spent fuel pool accidents for must strengthened, as well, he said.

Lack of national policy found troublesome

William Levis, president and chief operating officer of PSEG Power LLC, a New Jersey-based nuclear plant operator, said that US spent fuel pools are safe – an assurance stressed earlier to the subcommittee by Jaczko.

Cask storage is an expensive option. Jaczko said the NRC does not set a maximum time that fuel rods must be moved out of the pools, but regulates the fuel units' placement in the pools.

After Feinstein expressed frustration and bewilderment over why US nuclear plant operators hadn't shifted more fuel from pools to dry casks, Levis said the reason wasn't the industry's reluctance.

"It's really our lack of a national strategy of what we're going to do with it," he said. The NRC reviews and approves designs for dry cask storage containers, which typically encase spent fuel in sealed metal cylinders surrounded by a concrete or metal outer shell. Casks in use today typically are designed for storage at the reactors, or to be transported to other storage sites. But no casks have been designed for permanent disposal in an underground repository, a National Research Council report notes.

"We want to limit the number of times we have to handle used fuel," Levis said.

Alex Flint, senior vice president of the Nuclear Energy Institute, said he is hearing more Senate and House members focusing on the need for a spent fuel strategy, following the Japanese crisis. He said the push is not necessarily to reopen the

debate over Yucca Mountain – although nuclear power advocates in the Republican Party are eager to resume that battle. "I'm hearing an emphasis on the whole federal used fuel program," he said.

As the Japanese crisis began following the March 11 earthquake and tsunami, the first wave of concern that members of Congress heard about at home was about the safety of US reactors, he said. Now that concern has evolved into a focus on spent fuel issues, he said.

Martez Norris, executive director of the Nuclear Waste Strategy Coalition, formed to support completion of the Yucca Mountain project, was recently in Washington speaking to members of Congress and staffs about the nuclear waste issue. "Members of Congress in the past – knowing they had spent fuel on reactor sites in their districts – had not spoken up to say we need to move it, or centralize it in storage," she said. The Japanese disaster is beginning to change that response.

A \$35 billion failure

"The impression we got is that it's beginning to get their attention. We hope so," she said. The primary complaint by Norris and the coalition of state and utility company officials centers on the deadlock regarding the Yucca Mountain site, and the fact that utilities are required by law to pay \$760 million to the government every year to fund a permanent federal storage program that does not exist. Since the payments began, the federal government has collected more than \$35 billion from the industry, minus the \$10 billion spent on the Yucca Mountain facility, Norris estimates.

Moniz, in his testimony, said the utility payments should fund creation of centralized federal spent fuel storage sites – not permanent repositories – which could be used initially for wastes from the government's nuclear weapons program. That step could be followed by transfers of spent reactor fuel, assuming that success with the military program built public confidence in the strategy, he said.

Moniz, a former undersecretary of Energy, is a member of the Blue Ribbon Commission on America's Nuclear Future, appointed by President Obama to devise alternatives to the Yucca Mountain plan. Moniz and MIT colleagues have said centralized storage of fuel in dry casks is the right interim move while research continues on long-term approaches.

They range from new, safer materials to encase reactor fuel to waste processing approaches that would separate short- and long-lived radioactive elements, with separate treatments for each. The commission is due to make its first report this summer. The research could take decades.

The commission is likely to put the issue squarely before Congress, said Brian O'Connell, director of the nuclear waste program at the National Association of Regulatory Utility Commissioners, a plaintiff in the Yucca Mountain lawsuit opposing the Obama administration's decision to cancel the project.

"There is an expectation that the commission will endorse central or regional storage," at least for the nine decommissioned nuclear reactor sites where everything is gone except for the leftover spent fuel casks, he said.

"Everything that the Blue Ribbon Commission is likely to recommend will require modification of the law," he added.

Yucca Mountain: Did Politics Trump Science? (CBS)

By Armen Keteyian

CBS, April 1, 2011

For more than 50 years, the debate has raged over where to store radioactive nuclear waste in this country. The solution was supposed to be at Yucca Mountain in Nevada. But the multi-billion storage project has been shelved. CBS News chief investigative correspondent Armen Keteyian reports a congressional committee wants to find out why.

Is there nuclear waste in your state?

Nuclear waste is the radioactive guest on the doorstep of many of America's most populous cities. There are nearly 70,000 tons from 104 reactors nationwide, often piling up just 50 miles from cities like New York, Chicago, and San Diego.

In the high desert of Nevada, Yucca Mountain was one site designed to store all of our nation's waste. But today, the government won't let CBS News cameras anyone near the site. It's shut down, locked up, and caught up in what critics charge was nothing more than pure politics.

Gary Hollis and Darrell Lacey are key officials in Nye County, Nevada. They want the waste - for the jobs and money it would bring.

Lacy, director of community development, said, "the people in this area are all fairly comfortable with Yucca Mountain. Many of them have worked at Yucca Mountain."

Four previous presidents funded safety reviews of the project. But last year, the Obama administration kept its campaign promise and shut down Yucca Mountain.

Now the Nuclear Regulatory Commission (NRC) must decide if it wants to re-start what is already a 25-year, \$14 billion project - in the face of tough opposition - like that from Harry Reid, the Democratic Senate Majority leader from Nevada.

Nuclear safety expert Jeffrey Lewis said, "if the US government wanted to do Yucca Mountain, it would have to shove it down Harry Reid's throat."

A former staffer for Sen. Reid, Greg Jaczko now chairs the NRC. Jaczko recently came under fire after shutting down the agency's safety review of Yucca Mountain and after key safety recommendations were redacted – cut out – from a long-awaited NRC report.

Three NRC staffers formally protested the decision to "derail" the safety review - charging it caused "confusion, chaos and anguish..."

Today, Yaczko told us the safety report was "preliminary, a draft" and that he had nothing to do with the redactions.

Responding to critics who charge that he was simply doing the bidding of his former boss, Sen. Reid, Jaczko said, "it was a difficult decision because it is such a controversial program but it is one that was made in I believe the best interests of the agency."

The NRC Inspector General and Congress are now investigating the decision to shut down the safety review. Still nuclear waste is scattered across 35 states while Yucca Mountain sits silent, and empty.

Spent Fuel Pools Just As Safe As Dry Casks -- NRC Chief (GWIRE)

By Mike Soraghan

Greenwire, April 1, 2011

The top US nuclear regulator said today there's no meaningful difference in safety between submerging spent nuclear fuel in water and encasing it in concrete casks.

"We don't have technical information that says it is safer to be in one or the other," Nuclear Regulatory Commission Chairman Gregory Jaczko told a House Appropriations subcommittee.

"The likelihood of anything happening is so small, it's hard to say that one is safer than the other. It's like [the odds of] winning the Powerball versus winning another lottery."

Nuclear activists and some congressional Democrats have warned that the Japan nuclear disaster shows the NRC has allowed a dangerous situation to exist for years with the storage of spent nuclear fuel.

Sen. Dianne Feinstein (D-Calif.) said Tuesday that the NRC should look at requiring nuclear plants to encase spent fuel in "dry" concrete containers instead of allowing it to remain in pools for years (Greenwire, March 30).

She complained that some nuclear fuel being stored in water was placed there in 1984.

Jaczko told Feinstein the NRC will be renewing its inquiry into the safety of spent fuel pools. But he stressed that his agency's regulations are strong and assured senators on the panel that the pools can safely store the spent fuel for up to 100 years.

The NRC requires spent fuel to be kept in pools for some time after it is removed from a reactor core. But it imposes no limit on how long the fuel can stay in the ponds before being moved to more hardened containers.

In the United States, most spent fuel remains on site at nuclear plants because the country has not developed a facility to store it. Congress and other federal entities have been debating for years whether to build a long-term storage facility at Yucca Mountain, Nev.

The United States has 71,862 tons of the waste, according to a recent analysis by the Associated Press.

Three-quarters of that waste is stored in water-filled cooling pools like those at the Japanese plant, stored outside the thick concrete containment barriers that block the release of radioactive material in an accident. The rest is encased in "dry casks" constructed of steel and thick concrete.

Jaczko also told the Energy and Water Subcommittee that his agency has enough money to conduct safety reviews in the wake of the Japan nuclear crisis and continue licensing nuclear reactors.

"We have the resources to continue with the licensing procedures," Jaczko said. "Right now, we're continuing to move forward with the licensing issues that we have."

Rep. Denny Rehberg (R-Mont.) told Jaczko he worries about a shift similar to what he called "the overreaction in the Gulf," referring to a permitting slowdown in the Gulf of Mexico after the BP PLC spill last year.

"I don't want to see this come to a halt as a result of something that happened somewhere else," Rehberg said.

Jaczko didn't address the situation in the Gulf, which is at the center of a finger-pointing match between congressional Republicans and the Obama administration. Republicans say Obama is hampering domestic production, and the administration has accused industry of sitting on leases and permits.

Some congressional Democrats have called for a moratorium on license renewal and new license reviews for US reactors until the problems in Japan are better understood. But the Obama administration is opposed to halting the license reviews.

About half of the US reactors have already received license renewals for an additional 20 years of operation. NRC is currently conducting a two-pronged safety review as a result of the crisis at Japan's Fukushima Daiichi reactor, Jaczko said.

There is a 90-day review that he termed a "quick look" to see if there are any immediate changes suggested for the United States as a result of the overheating reactor. A six-month review, he explained, will seek to determine "what really are the causes of the challenges in Japan."

He said the NRC is "cataloging" the costs of its responses to the Japan crisis, but doesn't expect to have to ask for more money in a supplemental appropriations request.

"I don't foresee that now," Jaczko said, "but it's very much evolving situation."

Rep. Nita Lowey (D-N.Y.) pressed Jaczko on the safety of the Indian Point nuclear reactor near New York City, where some residents and elected officials are pushing for closure of the plant. Jaczko rejected the criticism.

"We believe Indian Point is safe," Jaczko said. "In the very unlikely event something would happen, the right steps would be taken to protect the nearby population."

Nuclear Crisis Puts Evacuation Zones Under Scrutiny (USAT)

By Rita Rubin, Usa Today

USA Today, April 1, 2011

The detection of excessive radiation in a village 25 miles northwest of the damaged Fukushima nuclear facility is raising questions about whether Japan's recommended evacuation zone is adequate and whether standards for evacuations will be adequate in any US accident.

At a hearing Thursday on Capitol Hill, Rep. Nita Lowey, D-N.Y., asked Nuclear Regulatory Commission Chairman Gregory Jaczko whether his agency's plan to evacuate people within 10 miles of a US nuclear plant accident was adequate.

Jaczko said NRC's emergency preparedness is "built on two thresholds." One is a "preplanned" evacuation of those living within 10 miles of a plant. The second threshold is 50 miles from a plant. Within that zone, he said, the plan would be to ensure that contaminated food supplies could be dealt with.

But, he added, "in any situation it is up to state and local governments ... to take the appropriate protective action that could extend beyond" the 10-mile evacuation zone.

The International Atomic Energy Agency, the United Nation's nuclear watchdog, found one of its criteria for evacuation had been exceeded in a "relatively small area" in the Japanese village of Iitate, which is twice as far from the Fukushima plant as outer limits of the 12-mile evacuation zone recommended by Japanese authorities.

More cautious than the Japanese authorities, the NRC advised Americans within 50 miles of the plant to leave after it was damaged by a quake and tsunami.

Lake Barrett, a Rockville, Md., nuclear consultant and former NRC engineer, called 50 miles "too much."

"This is a very severe accident in Japan. It's not a health catastrophe," Barrett said. "Say you were Japanese in this zone (12 to 50 miles from the Fukushima plant) and you see your American neighbor packing up his children in the car. (You might think) maybe your government's not telling you the truth."

Barrett said he lived within 10 miles of Pennsylvania's Three Mile Island nuclear facility for four years to help with cleanup after a partial meltdown there in 1979. "I saw what the evacuation did to people," he said. "The psychological harm did far more damage than the health risks."

But NRC spokesman Eliot Brenner defended his agency's recommendation of a wider evacuation from around the Fukushima plant.

"In an accident of this magnitude, the situation is still very much in flux," Brenner said. "Were this to have happened on this scale in the United States, that (50-mile evacuation) is what we'd be looking at."

Edwin Lyman, a senior scientist at the Union of Concerned Scientists, a group based in Washington, D.C., questioned whether the NRC has planned adequately for wider evacuations around US nuclear facilities.

"There's absolutely no evidence that the authorities would be able to expand evacuation zones in the United States spontaneously," Lyman told reporters Thursday.

Meanwhile, officials with Tokyo Electric Power Co. said Thursday that radioactive contamination in groundwater nearly 50 feet underneath a Fukushima reactor had been measured at 10,000 times the government health standard. A spokesman said the company didn't think any of the drinking water supply had been affected.

And Japan's health ministry on Thursday said it ordered more tests after a cow slaughtered for beef more than 40 miles from the Fukushima nuclear plant was found to have radioactive contamination slightly higher than the legal limit. The cow's total cesium level was only about 2% above that limit.

Nuclear Crisis Evacuation Plan Outlined (BLOOM)

Bloomberg News, March 31, 2011

WASHINGTON — Nuclear Regulatory Commission chairman Gregory Jaczko said the federal government would seek to evacuate residents within 50 miles of a power plant in the event of an accident similar to Japan's nuclear crisis.

Jaczko made the comment in prepared testimony yesterday before a Senate Energy and Natural Resources Committee panel.

After the tsunami-ravaged reactors at the Fukushima Daiichi complex, Japanese officials ordered a 12-mile evacuation zone.

US officials, including Jaczko, urged US citizens stay at least 50 miles from the site.

Jaczko also testified that nuclear-reactor waste can be safely stored in spent-fuel pools at US reactors for at least 100 years.

Pools used to keep the spent fuel cool are "very robust structures," he said.

Senator Dianne Feinstein, a California Democrat and chairwoman of the Energy and Water spending subcommittee, was not convinced.

"We lack a comprehensive national policy to address the nuclear fuel cycle, including management of nuclear waste," said Feinstein.

Keeping spent fuel rods covered with water has been one of the most difficult challenges for the firefighters and emergency workers trying to halt the emission of radiation from the Fukushima site.

Boiling water in the pools has released radioactive clouds several times.

Nuclear Accident Evacuation Plans: Is The US Ready? (CNN)

By Allan Chernoff

CNN, April 1, 2011

(CNN) – If a serious nuclear accident were to happen in the United States, would we be able to evacuate to safety? That question now appears more than academic and all too realistic as the Japanese try to limit the release of deadly radiation from the crippled Fukushima Daiichi nuclear plant.

The chances of a severe accident are extremely remote, according to the US Nuclear Regulatory Commission, but in light of the Japanese accident, the possibility must be considered.

It is a particularly apt issue for those living near a nuclear power plant. Millions do. There are 25 nuclear reactors in the United States located within 25 miles of cities with populations of at least 100,000 people. Another 98 cities of that size are 50 miles or closer to a nuclear power plant. (To see how far you live from a nuclear facility, [click here](#).)

Major city centers in the vicinity of nuclear reactors include: Charlotte, North Carolina, 15 miles from the McGuire facility; Rochester, New York, 17 miles from the Ginna plant; Omaha, Nebraska, 18 miles from the Fort Calhoun reactor; and Miami, 25 miles from Turkey Point.

The plant near the largest population center in the country is Entergy's Indian Point Energy Center in Buchanan, New York. Two reactors operate about 25 miles from the limits of New York City and about 35 miles from midtown Manhattan. About 310,000 people live within 10 miles of the plant; more than 20 million live within 50 miles of it.

"There is no way that 21 million people within a 50-mile radius could evacuate," says Rep. Nita Lowey, D-New York.

Some residents near Indian Point are particularly concerned they could suffer health consequences in an accident.

"I don't think we'd be able to evacuate sufficiently," said Michael Crawford, a resident of Peekskill, New York, just two miles from the power plant. "Everyone is panicking, and out of the panicking you're going to get people leaving at the same time."

Westchester County, where the plant is located, has detailed plans for evacuating a 10-mile radius around Indian Point, as the Nuclear Regulatory Commission requires for all such facilities. Westchester's plan includes emergency routing, busing schoolchildren to safety and reception areas outside the 10-mile zone. The exodus would occur gradually, with those closest to the nuclear plant leaving first.

"When we plan our evacuations, the evacuation may initially be for the people living in a two-mile ring and a five-mile downwind span. If the conditions worsen and we need to move more people, then we may move to a five-mile ring and a 10-mile downwind span," said Tony Sutton, commissioner of Westchester County Emergency Services. The county forecasts it would take about nine and a half hours for the 310,000 residents to leave the 10-mile zone.

Westchester officials regularly hold drills at an underground facility, where they practice responding to various crisis scenarios. The Federal Emergency Management Agency monitors the exercise.

While detailed plans are in place for 10-mile evacuations, the crisis in Japan is of another dimension. The US has instructed Americans within 50 miles of the crippled Daiichi Fukushima nuclear plant to evacuate. NRC Chairman Gregory Jaczko has told Congress that's what he would advise for a comparable situation in the United States.

"It's a complete game-changer. We would have to go back to the drawing board tomorrow, and work day and night with multiple agencies, multiple jurisdictions," Westchester County Executive Rob Astorino said.

Astorino added that his office has been questioning the NRC about its advice in Japan because the county is not prepared for evacuation beyond a 10-mile zone around the plant.

In spite of Jaczko's warning for Americans in Japan, Indian Point's operators say they do not envision a crisis as severe as the one at Fukushima, which has six reactors, compared with two in Buchanan.

"There's not a scenario that we have where the dose rates or the radiation would require an evacuation of New York City that has been at least identified up to this point," said Joseph Pollock, vice president of operations at Indian Point Energy Center.

While New York City's Office of Emergency Management is prepared for numerous catastrophes, it does not plan exclusively for evacuating in response to a major accident at Indian Point.

"Plans are there to move people, but plans are not specific to Indian Point. It's an all-hazard plan," said Chris Gilbride, press secretary of New York's Office of Emergency Management.

Dope and Glory (NYT)

By Timothy Egan

New York Times, April 1, 2011

Opening Day of the major league baseball season finds Barry Bonds in criminal court, with the bloated head, a passel of lawyers and testimony about how steroids shrink one part of a man but inflate another.

Justin Sullivan/Getty Images

Barry Bonds arriving at federal court for his perjury trial. The spectacle in windowless Courtroom 10 is as tawdry as a spring day on fresh-cut grass is lovely. A few days ago, a former mistress of the home run king testified that his testicles shrank and he experienced what used to be called "loss of essence."

Another day it was an equipment manager saying, yes, his head did expand in size. This was followed by four players saying they took performance-enhancing drugs linked to Bonds's former trainer.

All of this is to determine whether Bonds lied to a grand jury about taking steroids while clubbing more home runs than any man ever to play in the bigs. His lawyers claim he did the supplements, but didn't know what they were. Sort of like what half the baseball world chose to believe during the sport's equivalent of the housing bubble.

For a fan in need of a fantasy outlet, it's much better to focus this weekend on the Rams from Virginia Commonwealth. They are in college basketball's Final Four for all the reasons that Bonds long ago stopped experiencing. If they win it all by Monday, according to the estimable Nate Silver's modeling, they will become the one — as in 1-in-17,611 chance. Only two people among nearly 6 million correctly picked this Final Four in the ESPN bracket challenge.

On the best days — and Opening Day is one of them — we love sports for the improbable. Everything else in life seems rigged or routine. Those kids from Virginia were not even supposed to be in the tournament — they had to play a "prove it" game just to get into the 68-team dance. Then, they beat University of Southern California, Georgetown, Purdue, Florida State and Kansas to make the Final Four.

Jamie Squire/Getty Images Joey Rodriguez celebrated during Virginia Commonwealth's game against Kansas.

One story among many shines from the rise of the Rams: their five-foot-10-inch guard, Joey Rodriguez, said he would probably be working at Home Depot now had Coach Shaka Smart not persuaded him to come back and chase the dream for another year.

By contrast, there is the surly Bonds, who gives nothing to a fan. He has said that the last time he "played" baseball, instead of getting paid to work at the game, was in college. During his joyless march to erase Hank Aaron's home run record, everyone was in on the charade. He looked the part of an aging athlete who made a pact with his chemist, and played the charmless antihero that jaded lovers of the game find appealing.

This Federal courtroom has heard testimony about "wife cities" and "girlfriend cities" — a place like Miami for the mistress and a less exotic locale for the one who wears the ring. And just how did Bonds finally break up with his mistress, Kimberly Bell? "He told me to disappear," she testified. Also, he threatened "to cut my head off and leave me in a ditch," she said.

His trial will not answer the big questions, nor make peace with an ugly past. Why did the baseball nation look the other way while Mark McGwire and Sammy Sosa and Alex Rodriguez did the unfathomable? Why did we let idols cheat for so long? The answer, in large part, is in the stands, where it can cost \$200 for a family ritual.

The jury here, dressed in West Coast casual, looks alternately bored and riveted. They glance at Bonds, who yawns during the technical testimony, appears fidgety at other times. The glare of high ceiling lights reflects off his shiny bald head, the size of which has already been subject to much expert testimony. Outside of the batter's box, he could be just another 46-year-old man in need of a nap.

You can wonder if this is the best use of Federal prosecutors, since Bonds, if found guilty, stands to do only a few months' jail time for perjury, based on prior convictions in this area.

Still to come is Roger Clemens, one of the best ever to throw a baseball, facing charges of perjuring himself before Congress. And Lance Armstrong, the best ever to ride a bike, is a target of a federal grand jury looking at the shadows of doping in cycling.

Bonds and Clemens are hard to love. But Armstrong — that's a tougher case, even though he too is no family-values role model. He beat cancer, and then got back in the saddle and won one of the most grueling contests in all of sports, repeatedly. His book "It's Not About the Bike" is a great read, far beyond the quality of the genre.

Whenever I start to drag while slogging up a long hill on my bike, I think of Armstrong beating the Italians in the mountains. As a fighter for cancer patients, he's circulated more than 70 million Livestrong wristbands.

But some former associates say he cheated, a charge he has repeatedly denied.

This Opening Day, there's a brighter sports story — just down Market Street from this grim Federal courthouse. The Giants of San Francisco are defending a World Series title. Their ace is Tim Lincecum, a lithe man-boy who looks all of 16 years old, and gets torque for his fastball from a routine his dad taught him back in Seattle. He's the anti-Bonds, and not just because he's skinny enough to slip through a sewer grate if he doesn't watch it.

There's a saying about myths of the American West, and it applies to sports as well: when truth and legend collide, print the legend. With Bonds, truth from a courtroom may help us see the phony mythology that came out of a down-and-dirty era.

With a straw-thin Giants pitcher and those unlikely hoopsters from Virginia Commonwealth, the truth is the legend — something to believe in on Opening Day.

Cosmic Log - US Boosts Radiation-sniffing System (MSNBC)

US boosts radiation-sniffing system

By Alan Boyle

MSNBC, April 1, 2011

Federal agencies are beefing up their radiation-monitoring capabilities at home and abroad, even as they insist that significant amounts of fallout won't waft from Japan onto US territory.

At home, the Environmental Protection Agency said it's adding seven monitors in Alaska, Hawaii and Guam to its RadNet radiation-tracking system, which operates about 100 air-sniffing stations nationwide. Putting in those extra stations "allows us to gather data from a position closer to Japan," EPA said in an online question-and-answer guide.

Looking beyond America's borders, the US Air Force is sending out a high-tech aircraft to sniff the air over Japan for radiation. The Nuclear Regulatory Commission and the Department of Energy's National Nuclear Security Administration are also sending experts to Japan to help counter the growing crisis at Japan's Fukushima Dai-ichi nuclear plant complex.

The NRC and the NNSA have teams who track how hazardous materials spread through the atmosphere, based on computer modeling and other methods. It was the NRC's revised analysis that led to today's advisory telling Americans to evacuate the area within 50 miles (80 kilometers) of the Fukushima reactors.

White House spokesman Jay Carney acknowledged that the NRC's advice goes far beyond what the Japanese government is telling its own citizens — that is, for residents to evacuate the area within a 12-mile (20-kilometer) radius of the plant, and to take shelter if they're within 19 miles (30 kilometers).

"The advice the Japanese government is giving, based on information it has, is different from the advice that we would be giving if this incident were happening in the United States of America," Carney said. "It is not about the quality of information. It is about the standards set by the Nuclear Regulatory Commission here in the United States and the kind of advice it would be giving should this incident happen in the United States."

For what it's worth, the NRC calls for protective action when projected doses exceed 10 millisieverts (1 rem) or 50 millisieverts (5 rem) to the thyroid. Radiation levels at the damaged plants rose as high as 400 millisieverts per hour.

How the calculations are made

The NRC's analysts make detailed calculations to work out what the potential radiation exposure would be at various distances.

"Usually these calculations are very specific," NRC spokeswoman Viktoria Mitlyng told me. "You have to consider the particular radioisotope, and at what concentration it's going to occur, and what distance it is going to travel, and whether it's going to travel at all toward the United States. ... The farther away you are from the radiation source, the less impact it's going to have."

Commercial sales of Geiger counters are, um, hot in the United States — but EPA's RadNet provides a much more reliable read when it comes to detecting radioactive fallout if it ever comes across the Pacific. The radiation-monitoring network not only sniffs the air, but also samples drinking water, milk and precipitation. The first elements of the system were set up back in 1959, even before the EPA was created, to monitor US military nuclear testing.

You can check the EPA's archived radiation readings for your own locale by clicking through an online database, or reviewing the quarterly data journals. By the way, radiation measurements for Japan are available via this Web page.

Pentagon watches radiation, too

The Department of Defense is keeping close tabs on radiation levels in the Fukushima area and beyond — not only because it has thousands of people working on the humanitarian relief effort, but also because of the potential risk to 50,000 military personnel in Japan and the impact on military installations in the Pacific.

Air-monitoring equipment on the aircraft carrier USS George Washington detected low levels of radioactivity while the ship was in port at Yokosuka in Japan, a military spokesman said Tuesday. On another carrier, the USS Ronald Reagan, 17 helicopter crew members had to be decontaminated with a soap-and-water scrubdown after returning from search-and-rescue duty. Potassium iodide pills, which can guard against the uptake of radioactive iodine, were issued to some of those crew members, the Defense Department said.

The radioactive plume from Fukushima's reactors can't be detected by satellites in orbit, but it can be tracked by the US Air Force's Constant Phoenix WC-135 jets, which are designed to monitor airborne fallout from nuclear weapons tests. Constant Phoenix came into play after the 1986 Chernobyl nuclear disaster in Ukraine to sample the air over the Atlantic. "Most recently, WC-135 was used to detect seismic events associated with North Korea's claim of a nuclear test in October 2006 and again in May 2009," an Air Force spokesman, Maj. Chad Steffey, told me in an e-mail.

Steffey confirmed that a Constant Phoenix WC-135 would be sent to sample the air wafting from Japan, in response to a Japanese government request. The planes would be brought from Offutt Air Force Base in Nebraska. Steffey said he didn't yet have details about the timing of the operation.

Speaking on condition of anonymity, a senior US defense official told NBC News that Constant Phoenix's involvement was "absolutely" a significant event. "We are using it to help out a nation," the official said. "It's significant."

Extra credit: I sent the NRC's Viktoria Mitlyng some questions asking how the agency comes up with its projections for radiation exposure, and here are the answers she sent back:

Q: Are there computer models that are run to figure out how material is dispersed, or how specific radionuclides could affect residents at given distances?

A: Yes, the NRC uses a particular model for determining dispersal analysis for radionuclides from nuclear power plants.

Q: Given the distance from Japan to US territories, is it a given that there will be no effect?

A: The NRC uses the limit of 1 rem [10-millisievert] dose limit to the whole body to recommend evacuation. It is highly unlikely that radiation can reach the US from Japan and result in this type of exposure.

Q: What levels of emission would cause concern, based on what's known about radioactive particulates and their dispersal?

A: The NRC recommends evacuation at 1 rem dose limit to the whole body. Models are run with varying sets of data and the results are analyzed to determine what kinds of response if any is warranted to protect public health.

Q: What sorts of resources and personnel are engaged in this sort of analysis?

A: Trained health physicists and other experts have been monitoring the situation in Japan at the NRC's Headquarters Operations Center around the clock since the beginning of the crisis in Japan.

Update for 1:50 a.m. ET March 17: The New York Times reports that the Comprehensive Test Ban Treaty Organization, a U.N. agency based in Vienna, has drawn up a simulation showing the progress of Fukushima's radioactive plume across the Pacific. Assuming that the plume began to rise on Saturday, and assuming that the radiation levels were detectable, the readings might be picked up in Alaska's Aleutian Islands today (Thursday) and in Southern California late Friday, the Times reported.

However, this projection is based merely on a reading of the weather patterns between Japan and the United States, and how those patterns might disperse material in the plume. Officials at the test ban agency made clear that this was not a prediction that radiation would be detected at any particular level. Rather, the projection was meant as guidance for atmospheric monitoring stations. Over the next few days, air-sniffing authorities should have a better fix on Fukushima's radioactive releases.

Green Blog: US Dropped Nuclear Rule Meant To Avert Hydrogen Explosions (NYT)

By Matthew L. Wald

New York Times, April 1, 2011

The Nuclear Regulatory Commission has allowed reactors to phase out some equipment that eliminates explosive hydrogen, the gas that blew up the outer containments of three reactors at the Fukushima Daiichi in Japan. The commission says it judged that at the American plants, the containments were strong enough that the equipment was not needed or other methods would do.

After the Three Mile Island accident in 1979, many reactors were required to install "hydrogen recombiners," which attach potentially explosive hydrogen atoms to oxygen to make water instead. At Three Mile Island, engineers learned that hot fuel could interact with steam to give off hydrogen. That caused the plant's reactor to suffer a hydrogen explosion, although it did not seriously damage its containment. By contrast, the secondary containments at Fukushima Daiichi blew apart when hydrogen detonated inside them.

The change in commission policy was pointed out this week by a nuclear safety critic, Paul M. Blanch, who said that he had been involved in installing such equipment at Millstone 3, a nuclear reactor in Waterford, Conn.

"Post-Three Mile Island, they were considered very important to safety," Mr. Blanch said. He accused the Nuclear Regulatory Commission of having "gutted the rule" because the industry wanted to save money.

But Eliot Brenner, a spokesman for the commission, said that as the commission analyzed its rules to determine which ones actually improved safety and which did not, it had found the equipment was unnecessary.

More than half the American reactors have applied to drop the hydrogen recombiners from their technical specifications, but many of those plants still keep them operable nonetheless, according to the commission.

Commission officials said they have allowed reactors to rely on simpler, easier-to-maintain equipment instead of the recombiners.

Indian Point 2 and 3, in Buchanan, N.Y., and Millstone 2 and 3 in Waterford, Conn., are among the reactors that were allowed to delete hydrogen recombiners from their formal "technical specifications," the government list of equipment that must be inspected, tested and maintained within certain limits for the reactor to be allowed to operate.

But James F. Steets, a spokesman for Indian Point, said that Units 2 and 3 there each had two recombiners and that one alone could eliminate all the hydrogen in a major accident.

Millstone 2 and 3, near New London, are in the same category; the equipment should still be operable, but having it in working order is no longer a condition required by the license, said Kenneth A. Holt, a spokesman for Dominion, which owns the reactors now.

The Nuclear Regulatory Commission said that it changed the rules in 2003 as part of an "ongoing effort to risk-inform its regulations," meaning adjust its rules to reflect actual risk to reactors. At issue were "design basis accidents" and "severe" accidents, which are worse.

"They weren't needed for design basis accidents and they didn't help with severe accidents," Mr. Brenner said.

Depending on the type of reactor, the commission now requires a variety of other precautions. General Electric models of the type used at Fukushima, which are also common in the United States, must pump their primary containments full of nitrogen gas instead of air, for example.

Because hydrogen requires that oxygen be in the air to detonate, this "inerting" of the primary containments is a way of preventing explosions. And some plants have to have "igniter systems" that would burn off hydrogen before it could build up.

The recombiners and a great deal of other equipment and safety procedures will be re-examined as part of a 90-day review that the commission is conducting after the Fukushima accident, Mr. Brenner said.

Japan Crisis Revives Minnesotas Spent Nuclear Fuel Debate (SCT)

St. Cloud Times, April 1, 2011

Damage to Japan's Fukushima Daiichi Nuclear Power Station is raising unexpected alarms about the safety of spent fuel rods that are stored in pools of water inside the reactor buildings, and it has caused one environmental group to push for more outside storage in dry sealed casks.

The call is surprising because for years, opponents of the expansion of nuclear power in Minnesota have argued against outdoor storage of spent fuel at the state's two nuclear reactors in Monticello and Prairie Island near Red Wing.

Both plants have indoor storage pools, and outdoor steel-lined casks were added in recent years because the plants were running out of indoor storage capacity.

The issue was critical because Xcel Energy, which owns both plants, wants to operate them for an additional 20 years beyond their original 40-year licenses.

An Xcel official on Thursday contended the dire situation in Japan is unlikely to occur here.

On Wednesday, Gregory Jaczko, chairman of the US Nuclear Regulatory Commission, told Congress that a storage pool in reactor No. 4 at the Fukushima plant had little or no water and that the exposed fuel rods may be heating up and emitting radioactivity.

The overheating problem could be exacerbated because the plant's operators included all the reactor's hotter fuel rod assemblies in the pool during a refueling outage in November and December to prepare for maintenance.

Officials at the Union of Concerned Scientists, an independent watchdog group, on Thursday renewed a call to put spent fuel rods into steel and concrete containers called dry casks rather than let them accumulate in the open water-filled pools that typically sit adjacent to reactors.

There is a risk with dry-cask storage, they said during a news conference in which they criticized Nuclear Regulatory Commission inspections.

But the potential danger pales compared with the risks associated with collecting large numbers of spent fuel rods in pools, where they are at risk of overheating if the pools lose their water, said Edwin Lyman, a scientist for the group's global security program.

"What we're facing now is an acute public health risk from spent fuel pool failure, and all other issues are secondary," Lyman said.

Though spent fuel is not as hot as the fuel inside the reactors, there is so much more of it at any nuclear plant in Japan and the US, the group said.

Japan, like the United States, allows nuclear plants to store spent fuel on-site — common practice in the US because it has no permanent storage facility.

The NRC rejects the concerns, spokeswoman Viktoria Mittyng said. "They are both safe, and it's not an either-or question," she said.

The indoor pools, which have mechanical arms that swing the fuel rods from the reactor vessels to the pool, have been used since the beginning of nuclear power with no major safety issues resulting in radiation release in the US, she said.

Japanese officials disputed Jaczko's assertion that the No. 4 reactor's spent fuel pool is empty, noted Terry Pickens, Xcel Energy's director of nuclear policy.

Even if the pools did lose their water, it would take days or even weeks for the fuel rods to build up enough heat to crack their protective shells and spew radioactive gas, depending on the age of the fuel rods, he said.

The utility sees no need now to change its procedures but will study the Japanese experience for lessons once it is over, he said.

"We did the same after Three Mile Island and Chernobyl," Pickens said.

The Monticello nuclear power plant has 484 fuel assemblies in its single reactor, with each assembly holding 100 fuel rods, Pickens said.

But the spent fuel pool currently holds 1,480 assemblies, 148 of which are currently removed from the core for a scheduled refueling that will last until May, he said.

Outdoors, the plant has 10 dry steel-lined casks that sit inside thick concrete containers resting on concrete pads, and each cask contains 61 assemblies, he said.

Prairie Island's twin reactors have 252 fuel assemblies, each holding 179 fuel rods, while its spent fuel pool contains 1,159 assemblies, Pickens said.

The plant has 29 outdoor storage casks, each holding 40 assemblies, and it has been authorized by the state for a total of 64 casks in order to continue to operate until 2034, he said.

Spent Nuclear Fuel Stored At Wake County Plant :: WRAL.com (WRAL)

WRAL-TV Raleigh, NC, April 1, 2011

NEW HILL, N.C. — The nuclear disaster unfolding in Japan after an earthquake that damaged reactors at the Fukushima Daiichi power plant has magnified scrutiny on nuclear facilities all around the world, including the Shearon Harris plant in Wake County.

Progress Energy, the Raleigh-based utility that owns Shearon Harris, however, says nuclear facilities provide safe, reliable, cost-effective and clean energy for a growing number of customers. Twenty percent of North Carolina's electricity comes from

nuclear generation. President Obama said Wednesday that nuclear power will play an important role in the country's future energy policy.

North Carolina is home to five nuclear reactors – two, owned by Duke Energy, are located near Charlotte. Progress Energy owns three – Shearon Harris and two in Southport, near the coast.

The Harris plant's 526-foot cooling tower is a visible landmark in the area, but opponents to Progress Energy's proposal to build two new reactors at the site are concerned about what is lurking unseen at the plant.

They raise concerns about the large amounts of radioactive waste stored at the plant. Progress Energy, however, points to the plant's safety track record and the lack of other viable options for spent fuel storage.

The future of nuclear power in North Carolina is uncertain, but the ripples from Japan's crisis are stretching far around the globe and will pose challenges for the credibility and success of the nuclear industry for years.

Nuclear plant presence could grow with Wake County

The Shearon Harris nuclear plant, built in 1987 in the then-rural southwest corner of Wake County, near New Hill, is an impressive sight. Built with 24 million pounds of reinforced steel and enough concrete to construct a four-lane highway from Raleigh to Greensboro, it is Progress Energy's newest nuclear reactor.

It can provide power to more than a half million homes and businesses.

Mike Hughes, a spokesman for Progress Energy, said the plant was built with natural disasters in mind, though the chances for an earthquake or tsunami in the Carolinas are slim.

Reactor 1, as it's called, is protected from earthquakes, tornadoes, hurricanes and "man-made issues such as terrorist acts," Hughes said.

In the 24 years since the plant was built, the population in Wake County has exploded. About 55,000 people now live within 10 miles of the plant and more than two million live in a 50-mile range.

The plant is looking to grow as well.

In February 2008, Progress Energy submitted an application to the Nuclear Regulatory Commission to build up to two new reactors at the Shearon Harris facility.

The application has not yet been approved and construction could take years, but opponents are already sounding the warning about what more nuclear reactors could mean for the area.

North Carolina's nuclear waste

Environment North Carolina, a research and advocacy group based in Raleigh that aims to protect the state's air, water and open spaces, is calling for more investigation into the storage of spent fuel before proceeding with new reactor construction.

"We shouldn't be considering new nuclear reactors at Shearon Harris," said Environment North Carolina's director, Elizabeth Ouzts. "The nuclear power is just not worth the risk."

According to data provided to the Nuclear Energy Institute, North Carolina is home to the fifth largest store of spent nuclear fuel in the nation, with almost 3,800 tons. Only Illinois, South Carolina, Pennsylvania and New York have more spent fuel stored within their borders.

It's not clear how much of that waste is actually at Shearon Harris, but until 2008, Progress Energy shipped in spent fuel from three of its other reactors to Shearon Harris' cooling pools.

"One reason the Shearon Harris plant is such a concern is that it is said to have more spent fuel rods than any other plant in the country contained in cooling pools," Ouzts said. "That's a real concern because that's not the best, safest way to store nuclear waste."

Spent fuel rods, which are radioactive, are long metal tubes where used uranium material is stored after the nuclear fission process is complete. That process is what creates nuclear energy.

After the fission process, the used uranium material must be cooled and stored.

The Harris plant is equipped with four cooling pools where rods are kept under at least 20 feet of water. Three are in use. If their expansion proposal is approved, the plant will have to come up with additional storage for spent fuel, Hughes said.

He added that the federal government promised to build a safe storage area for spent fuel in Nevada's Yucca Mountain in 1998.

That never happened.

"The federal government is 13 years in arrears on fulfilling that contract," Hughes said.

Still, Hughes said Harris has more than adequate safe storage for the life of the existing plant.

But nuclear opponents point to federal Nuclear Regulatory Commission records that show the plant has been cited five times for safety-related violations since 1998.

Hughes defended Shearon Harris' safety record.

"It's been a very, very safe plant," he said.

Japan's problems are far away, but lessons hit close to home

Though the risk of a catastrophic earthquake like the one that rocked Japan and sent a tsunami cascading onshore, killing an estimated 18,000 people and wiping out entire villages, is quite low, Hughes said it puts the nuclear industry in the spotlight.

"We're always under the microscope in the nuclear industry. That's to be expected," Hughes said. "The microscope is quite refined and very focused these days."

The most serious earthquake recorded in the Carolinas rocked Charleston, South Carolina, in 1886.

State geologist Ken Taylor said the likelihood of a high-magnitude quake near the Harris plant to release radioactive material into neighboring communities isn't even on the radar.

"There are fault lines out there, but these fault lines haven't moved in millions and millions of years," Taylor said.

Questions Raised Over US Midwest Nuclear Power Plants; Regulators Maintain They're Safe (XNA)

By Ted Regencia

Xinhua, April 1, 2011

CHICAGO, March 15 (Xinhua) – Chicago is more than 6,000 miles from Tokyo, but as news of a possible nuclear meltdown in Japan continue to dominate the headlines, the inevitable questions about safety of Illinois and other Midwest nuclear power plants, are being raised.

A spokesman of the US Nuclear Regulatory Commission (NRC) told Xinhua "that the plants in Illinois, in other states, and the rest of the country are safe."

This developed as the watchdog group Nuclear Energy Information Service (NEIS), accused the power company Exelon of "hiding their dirty laundry," when it comes to its record of safety violations in Illinois.

"The plants in the US have stringent design requirements to begin with," Viktoria Mitlyng told Xinhua. "Each nuclear power plant has to be able to withstand natural disasters such as earthquakes, tornadoes, floods to the highest level that is historically known in that area, plus a certain margin."

In the case of Illinois, the strongest earthquake ever recorded, according to the Chicago Tribune, happened 200 years ago at the New Madrid Seismic Zone between the states of Illinois and Missouri.

There are 25 reactors in the Midwest, 11 of them in Illinois and situated in six nuclear power plants, according to Mitlyng. Two regulators are assigned in each of plant serving as agency's "eyes and ears" making sure that plant operators "are adhering to the regulations."

Nuclear Experts Say Ill. Not In Danger (CHIT/AP)

By Zachary Colman, Associated Press

Chicago Tribune, April 1, 2011

SPRINGFIELD, Ill.

Nuclear energy executives assured state senators on Thursday that Illinois reactors are safe from natural disasters like the one that caused a crisis in Japan.

Nuclear plants in Dresden and the Quad Cities are of similar design to the Fukushima plant, but officials told the Illinois Senate Energy Committee that the Illinois plants are safer. Their safety plans are continuously upgraded, while the plants in Japan may not have updated their precautions, the executives said.

"It's understandable that many Americans are asking if the events of Japan impact us and whether they should be concerned about our own nuclear plants," said Susan Landahl, Midwest senior vice president for Exelon Nuclear. "I have full confidence that the Illinois plants are safe, as well as the rest of our plants in the United States."

The head of the Emergency Management Agency added that all Illinois nuclear plants are at least 250 miles away from the nearest fault line. Director Jonathon Monken said that will protect reactors from earthquakes.

Some senators remained wary about nuclear power despite those assurance.

"I'm really undecided on this," said Sen. David Koehler, D-Peoria. "Before the Japan tragedy I was of the opinion that ... we ought to be looking at state-of-the-art nuclear development because it is carbon-free. I guess I wonder now."

One concern for senators is a plan to dismantle the Zion nuclear plant in 10 years. They worried about the safety of transporting spent fuel to new storage facilities.

Linda Lewison, secretary of an anti-nuclear group called Nuclear Energy Information Service, said the cost and dangers of radioactive waste argue for switching to renewable energy.

Illinois' six power plants produce the most nuclear energy in the country and accounts for one-tenth of the nation's nuclear power.

AP-WF-03-31-11 1902GMT

Nuclear experts say Ill. not in danger (AP)

Associated Press, April 1, 2011

SPRINGFIELD, Ill. (AP) – Nuclear energy experts say Illinois reactors are safe from natural disasters like the one that caused a crisis in Japan.

Officials from the nuclear industry addressed the Illinois Senate Energy Committee on Thursday. They testified that Illinois nuclear plants are continuously upgraded, while the plants in Japan may not have updated their safety precautions.

The head of the Emergency Management Agency points out that all Illinois nuclear plants are at least 250 miles away from the nearest fault line. Jonathon Monken says that will protect reactors from earthquakes.

One concern for senators is a plan to dismantle the Zion nuclear plant in 10 years. They worry about transporting spent fuel to new storage facilities.

Senators Hear Nuclear Plant Update (BLOOOMP)

By Kurt Erickson

Bloomington Pantagraph, April 1, 2011

SPRINGFIELD – A day after trace amounts of radiation linked to the disaster in Japan were detected in Will and Sangamon counties, federal and state officials sought to reassure a Senate panel Thursday that a similar disaster is unlikely in Illinois.

Illinois leads the nation in the number of nuclear power plants with 11 reactors at six facilities, including Clinton and the Quad-Cities.

Mark Satorius, regional administrator of the US Nuclear Regulatory Commission, told members of the Senate Energy Committee that potential threats – natural and man-made – have been addressed in both the original design of the facilities, as well as ongoing upgrades that have been made to the plants.

"These are all taken into account," Satorius said.

Illinois Emergency Management Agency Director Jonathon Monken said Illinois' system of monitoring and inspections will keep the public safe in the event of problems. And, he said minute levels of Iodine 131 linked to the ailing Fukushima nuclear plant pose no risk to Illinoisans.

"It has no public safety impact," Monken said of the trace amounts that were found this week in grass clipping in Will County and in an air sample taken on Springfield's south side.

Exelon Corp., which operates all of Illinois' nuclear plants, also gave its plants a clean bill of health.

"I have full confidence the Illinois plants are safe," said Exelon Chief Operating Officer Susan Landahl.

Not everyone was convinced Illinois should continue down a nuclear path.

State Sen. David Koehler, D-Peoria, said he had been a supporter of nuclear power until the problems surfaced with the plant in Japan.

"I wonder now," Koehler told his colleagues.

Linda Lewison of the Nuclear Energy Information Service said the problems in Japan are an example of the dangers of relying on nuclear power.

On Monday, Lewison's group will meet with Gov. Pat Quinn to try and convince him to invest in renewable energy sources such as wind and solar, rather than allow Illinois to continue to rely on nuclear power.

"I think we have great resources in this country and we just have to start using them," Lewison said.

Illinois Detects Very Low Levels Of Radiation (CHIT/AP)

Associated Press, April 1, 2011

Very low levels of radioactive material that Illinois emergency officials believe are related to nuclear power reactors in Japan have been detected in Will County and Springfield.

The Illinois Emergency Management Agency says the levels pose no risk to Illinois residents. Authorities say radioactive iodine was found in Will County grass clippings and in an air sample collected at the department's Springfield radiochemistry lab.

IEMA director Jonathon Monken says the department will continue to track any radiation in Illinois to make sure there isn't a threat to public health and safety. That includes monitoring air, milk, egg and grass samples from around Illinois.

Elevated levels of radiation also have been identified in at least 15 other states.

Trace Radiation Found Near Joliet (QUADCITY)

By Kurt Erickson

Quad-City Times, April 1, 2011

SPRINGFIELD — Small levels of radioactive materials believed to be related to the troubled Fukushima nuclear power reactors in Japan have been detected by state emergency officials.

In an announcement Wednesday afternoon, the Illinois Emergency Management Agency said the levels pose no risk to Illinois residents.

The trace amounts of radioactive iodine were found in grass clippings collected in Will County and in an air sample collected at IEMA's radiochemistry lab in Springfield.

IEMA Director Jonathon Monken said the findings are not surprising because of traces of iodine have been identified in at least 15 other states, including Iowa.

"These levels are very low and present no hazard to people in Illinois," Monken said in a statement. "We will continue to track the deposition of radiation in Illinois to ensure there is no impact on public health and safety."

The Will County grass clippings were collected by an IEMA team that was in the field last week as part of a safety drill related to the Exelon-owned nuclear power plant in Dresden.

The air samples were collected outside the agency's lab on Springfield's south side. The iodine detected in the samples is 200,000 times lower than the regulatory limit for effluent from nuclear power plants.

Similar trace amounts also have been detected in DuPage County, according to the Daily Herald in Arlington Heights.

Monken said the state has ramped up its monitoring program since the earthquake and tsunami led to problems with the Japanese nuclear power plant. The enhancements include analyzing air, milk, egg and grass samples from around the state.

FPL, Regulators Talk Turkey Point Expansion (PALMBEACHP)

By Susan Salisbury

Palm Beach Post (FL), April 1, 2011

Florida Power & Light Co. wants to expand the power capacity at its Turkey Point nuclear plant, and Thursday, regulators and FPL engineers held their first face-to-face major technical meeting since the company submitted its application.

The review and approval process typically takes about 15 months, said Jason Paige of the Nuclear Regulatory Commission's office of reactor regulation.

The workshop meeting in Rockville, Md., is part of a long process during which NRC officials will scrutinize every aspect of the proposal to boost output 15 percent at two of Turkey Point's reactors. FPL is seeking to increase each unit's licensed core power level to 2,644 megawatts from 2,300 .

Proposed upgrades at Turkey Point overlooking Biscayne Bay south of Miami and at FPL's St. Lucie nuclear plant on Hutchinson Island will cost an estimated \$2 billion to \$2.3 billion, FPL spokesman Michael Waldron said.

Work on the upgrade has begun at Turkey Point during a planned refueling outage. The increase in output will be accomplished primarily by modifications to existing plant equipment, FPL said in reports filed with the NRC.

"By investing in our existing plants today, we are helping ensure that we can meet our customers' long-term energy needs in an affordable, reliable, environmentally friendly way," Waldron said.

Thursday, 15 engineers from the Nuclear Regulatory Commission and six from FPL discussed pipes, valves, pumps, turbines, waste disposal, target cool-down temperatures and more during a four-hour session.

One topic was "shine doses," the industry term for the amount of radiation a person might receive from being on site. NRC staff members said they wanted actual numbers, not just a statement that the shine dose is so small it is undetectable.

NRC staff asked what FPL plans to do to make sure nuclear waste does not pile up and become a "shine consideration."

Liz Abbott, FPL's director of EPU licensing and regulatory interface, said the utility will respond fully to the requests.

"It is a great opportunity for us to better understand your questions and how we should go about responding to them," Abbott said.

The license application is expected to be filed in the Federal Register within a month, and then the public will have 30 days to comment, Paige said.

In 2006, the Florida Legislature enacted a law to encourage nuclear power development by allowing power companies to recover some of the costs during construction, rather than making them wait until completion.

The typical 1,000-kilowatt-hour customer is paying 33 cents a month for costs associated with Turkey Point's units 6 and 7, two new reactors scheduled to start producing electricity by 2022 and 2023.

Univ. Of MD Panel: US Safe From Fukushima Plant Radiation (Patch)

By Bryan P. Sears

Upper Marlboro Patch, April 1, 2011

COLLEGE PARK — A panel of University of Maryland nuclear experts said the United States is safe from radiation leaking out of Japan's Fukushima Daiichi plant, but disagreed on what the disaster would mean to the environment surrounding the facility.

Jeff Stehr, an atmospheric and oceanic sciences researcher, has helped form projections of the path of the plume of radioactive particles coming from the plant, which was damaged by a 9.0 earthquake and the resulting tsunami on March 11. He said Alaska's Aleutian Islands might see slightly higher levels of radiation than normal, but in the continental US even the West Coast was at very little risk.

"We're not really looking at a big deal for us," Stehr said. "We're very, very far away."

The discussion came on the heels of news of high levels of radiation in the seawater around the damaged Fukushima plant.

On Sunday, state health officials said that they were monitoring air, water and food supplies for signs of radiation, but said that was no reason for concern.

Mohamad Al-Sheikhly, an engineering professor on the panel, said that was not cause for panic because the vastness of the Pacific Ocean would dilute radiation and the Japanese have method for retrieving uranium from water.

But Donald Milton, a professor at the Maryland Institute for Applied Environmental Health, warned of "bio-concentration." He said some radioactive elements, like Cesium, tend to concentrate in water and move up the food chain rather than dissipating.

"What's going to be really important is the monitoring of fish and mollusks," Milton said.

The panel was moderated by Carol Rogers, professor of journalism, and also included Bill Dorland, professor of physics, Nate Hultman, professor of public policy, and John Steinbruner, professor of public policy.

The panel agreed that the US nuclear community could learn from the Fukushima crisis.

Dorland said that Tepco, which operated the Fukushima plant, was warned years earlier that the area around the plant had a history of tsunamis. He said the plant had been built to withstand a tsunami of 6.5 meters but the one that took out its backup power March 11 reached 14 meters.

Maryland's only nuclear power plant, Calvert Cliffs, is likely safe from earthquakes and tsunamis. The US Geological survey reports that there has never been an earthquake centered in Washington, D.C., in recorded history.

But more mundane weather conditions have caused problems at Calvert Cliffs. Last year, the plant's general manager, Thomas Trepanier, warned employees about declining maintenance after melting snow leaked through the roof and shorted out one of the reactor's electrical distribution boxes. One of the plant's five backup generators then failed, causing the Nuclear Regulatory Commission to issue a rare "white" finding.

Dorland said he was unfamiliar with the incident, but that any reactor should be built so that both the primary and secondary power sources for cooling could not be knocked out by the same event.

"If snow is an issue there, and both the primary and secondary power are vulnerable to snow, then that's a design flaw," he said.

Hultman said the incident in Japan would likely affect US nuclear policy and regulation and noted that Germany had shut down several of its older nuclear plants in light of the crisis.

Steinbruner said that all nuclear plants could be made safer than they are now by sacrificing some efficiency, but it would require an "entirely different configuration of the industry."

New, safer reactor designs are on the way, Al-Sheikhly said, including a Westinghouse AP 1000 model with a passive safety system that eliminates the possibility of a meltdown due to operator error. He also touted advanced gas-cooled reactors that are smaller and safer, relying on liquid helium for cooling, rather than water.

But Dorland noted that many of the problems at Fukushima came not from the reactors themselves, but from spent nuclear fuel sitting outside the containment units in cooling ponds. That led Milton to note that the US had not found any viable solutions for storing nuclear waste in the long term, despite setting aside \$24 billion to build a permanent facility.

"Even if we come up with reactors that are inherently safe, can we deal with the waste they produce?" Milton asked.

Fukushima Will Not Affect US Nuclear Loan Guarantee Program: DOE (PLATTS)

By Herman Wang

Platts.com, April 1, 2011

The head of the US Department of Energy's loan guarantee program said Thursday that the Fukushima nuclear disaster in Japan will not derail the Obama administration's plan to help finance proposed reactors in Maryland, Texas and South Carolina.

Jonathan Silver told a House of Representatives' subcommittee that DOE still intends to support the three projects with loan guarantees, provided Congress gives DOE the additional \$36 billion in loan guarantee authority that the Obama administration requested for fiscal 2012.

"From an investment perspective, [the Fukushima incident] does not affect our timeline," Silver told the Energy and Water Development Subcommittee of the House Appropriations Committee. "It is too early to tell what the actual implications on the timeline will be, but I have every expectation we will be able to put that capital to work in a meaningful timeframe."

House Republicans, while generally supportive of nuclear power, have cautioned that federal agencies may face budget cuts in coming years, as fiscal hawks are calling for slashing government spending.

Silver said DOE last year was very close to offering a conditional loan guarantee for the proposed Calvert Cliffs reactor in Maryland, but Constellation Energy pulled out of its partnership with French-owned EDF, saying DOE's credit subsidy fee for the project was too high. EDF still intends to build the reactor and is looking for another project partner.

"All other things being equal, we would expect to be able to move that project forward once the financing mechanisms are able to be met," Silver said.

NRG and Toshiba are also pursuing a loan guarantee for its South Texas Project, and South Carolina Electric & Gas has applied for a loan guarantee for its VC Summer plant.

DOE has said it needs \$36 billion in additional nuclear loan guarantee authority, on top of the approximately \$10.2 billion in existing authority it still has remaining, in order to fund all of those projects. Last year, DOE issued an \$8.3 billion loan guarantee to Southern Co. to finance two reactors in Georgia.

Silver said DOE is aiming with the loan guarantee program to support funding for at least two examples of four different types of nuclear reactor technologies.

As for the Fukushima disaster, caused by a March 11 tsunami that knocked out cooling systems at the Daiichi nuclear power plant, Silver said while DOE is supportive of nuclear power, companies applying for nuclear loan guarantees will have to demonstrate their safety as a condition of their financing.

"The process for any applicant, including the nuclear applicants, to receive a loan first stops at the conditional commitment, which is an intent to make a loan that is dependent on the applicant completing whatever requirements are necessary," Silver said. "Among the many [requirements] is a permit to build the structure from the Nuclear Regulatory Commission. We rely on their work and experts to ensure the safety."

—Herman Wang, herman_wang@platts.com

NRC: Farley Is "Well Maintained" (DE)

By Jimmy Sailors

Dothan Eagle, April 1, 2011

The Nuclear Regulatory Commission found few things to fault in the way Farley nuclear plant operated in 2010 and is planning only baseline inspections this year.

"The plant is very well maintained," said Eddy L. Crowe, the NRC's senior resident inspector at the plant 18 miles southeast of Dothan.

Crowe said his job is to preserve the safety margin requested by the NRC when a plant is built. Those margins, depending on the components involved, can be up to twice what the agency requires in nuclear plant designs.

"We want it to be safe even beyond what it's designed for," Crowe said Thursday during a meeting with representatives of the company that operates the plant.

The plant's two reactor units received their operating licenses in 1977 and 1981, but Crowe said the maintenance provided by Southern Nuclear Operating Co. keeps the plant running well within safety limits.

"Obviously, it won't be pristine brand new, but it's very close to that," Crowe said. "If you took care of your car the way they take care of that plant, you'd drive it until you were tired of driving it."

The NRC will require the operator to start an aging management program in 2017, when the plant turns 40, to do inspections above and beyond what it's doing now, Crowe said. License renewals were issued for both units in May 2005. The operating licenses on the units expire in 2037 and 2041.

The assessment on Thursday included follow-ups on two “white” issues the NRC addressed beginning in 2008 and 2009. The NRC uses color-coded inspection findings that range from “green,” which has low safety significance, to “white,” “yellow” and “red.”

One “white” finding, issued in July 2009, concerned about 150 of the estimated 3,900 people living in the plant’s 10-mile emergency planning zone who did not have home alert radios provided by the plant. The radios are used to notify and give instructions to the public in the event of a problem at the plant.

The other concerned two run failures of an emergency diesel generator on unit 1. That problem was identified in March of 2008.

The generator is part of the backup system that would respond in the event of an accident. Crowe said the finding is monitored for 36 months and, if nothing else happens, should not be in the annual assessment next year.

The NRC licenses and regulates 104 commercial nuclear power plants, which supply about 20 percent of the electricity in the US

Regulators Weigh Financial Risk Of Ga. Nuke Plant (AP)

Associated Press, April 1, 2011

ATLANTA (AP) - Utility regulators in Georgia are considering a proposal that would punish the state's largest power company if the cost of building a nuclear power plant rises sharply.

Georgia Power urged the elected members of the Public Service Commission to reject the idea during a meeting Thursday. The commissioners could vote on the issue Tuesday.

PSC staff members say the proposal is needed to more closely align the company's interests with the public as it seeks to build two more nuclear reactors at Plant Vogtle near Waynesboro. The first two reactors built at Plant Vogtle were badly over budget.

Under the plan, Georgia Power could earn more money from the new reactors if it kept building costs below \$5.8 billion. If building costs exceed \$6.4 billion, regulators would lower its earnings.

PSC Hears Pros, Cons To Vogtle Cost-containment Proposal (AUGC)

By Walter Jones

Augusta Chronicle, April 1, 2011

ATLANTA – The Public Service Commission heard arguments today for and against a proposal to trim Georgia Power Company's profits if it lets construction costs on two reactors at Plant Vogtle exceed the \$6.4 billion budget by more than \$300 million.

The commission votes on the matter Tuesday.

The company's lawyer, Kevin Green, told the five commissioners that it would be unfair to penalize company investors for how the costs turn out if Georgia Power is trying its best to keep them in line.

“A properly drafted risk-sharing agreement should be based on the conduct of the company, not just results,” he said.

If the company is doing its best and the project still winds up over budget, investors shouldn't suffer, he said.

So far, 18 months into construction, the project is on schedule and within budget. But construction of the first two reactors at the plant in 1987 and 1989 totaled \$8.9 billion, greatly overshooting the \$615 million budget.

At the time, the commission disallowed \$1.2 billion in costs, forcing the company's investors to pick up those costs without adding them to electricity rates.

The commission still has authority to disallow any costs on the current project that it concludes are unneeded, something insiders call “the death penalty.” The commission staff is recommending another option that's less drastic which would merely roll back the profit margin on certain costs.

For example, if the current project wound up \$900 million over budget, the company's profit over the 40-year life of the reactors would be \$9.7 billion compared to the \$10 billion projection without the overage penalty, according to PSC staff attorney Jeffrey C. Stair. The proposed risk-sharing mechanism would have a small impact on a larger sum, he argued.

“What you've got before you is a reasoned, moderate proposal,” he said.

Observers blame the massive cost overruns for the first two reactors on repeated federal directives to tear down work that had been partially completed in order to implement revised safety designs. The nearly endless changes discouraged utilities from building any commercial reactors for the next three decades.

To prevent similar problems now, the US Nuclear Regulatory Commission has announced it won't issue any changes once it grants a permit for new reactors. Georgia Power expects the NRC to grant permits for the Vogtle reactors before year end.

An NRC safety review prompted by the ongoing disasters at three Japanese reactors could slow that approval and result in design revisions based on lessons from the earthquake and tsunami that triggered Japan's problems. However, the staff risk-sharing proposal would not penalize Georgia Power investors for costs created by regulatory changes.

Cost Overruns On New Plant Vogtle Reactors, Who Should Pay? (WSAV)

By JoAnn Merrigan

WSAV-TV Savannah (GA), April 1, 2011

Georgia Power might face a loss in profits if the cost of building two new nuclear reactors goes way over budget. Staff at the Georgia Public Service commission say the utility's shareholders should face more risk for potential cost over runs at Plant Vogtle.

Georgia Power is currently trying to get permission to build two new reactors. The company's share of the project is said to be \$6.1 billion dollars. PSC Staff propose that if building costs come in below 5.8 billion dollars that Georgia Power could earn more money in what's termed the ROE (return on investment) which is approved by the Public Service Commission. Staff proposes however, that if the costs of the reactors exceed \$6.4 billion dollars, that regulators could lower the ROE, essential meaning that the company's earnings can be lowed.

PSC Staff say ratepayers and shareholders should share the risk burden. According to staff, "the Company is exposed to very little uncertainty while earning significant profits. In contrast, the ratepayer bears significant risk and benefit is uncertain. Current ratemaking results in complete misalignment or no alignment of ratepayer interest and shareholder interests."

Jeff Wilson from Georgia Power told me that there are already a number of risk factors in place and we don't want to be unfairly penalized for results beyond our control."

Wilson says the company can't control every factor of construction that might result in ultimately higher costs.

But Clare McGuire from Georgia Watch says "I am incredulous to the fact that Georgia Power thinks that no risk sharing is necessary which seems pretty unfair to its rate payers since they're already paying billions and billions to construct these new units."

McGuire says the ROE was 11 percent at Georgia Power's last rate case and that even if the utility's profits were lowered, "they would still be making a profit," she told me.

Georgia Power customers have been paying a fee of more than three dollars per month since January, which goes to pay for interest charges on the financing of the nuclear reactors.

A decision on all this is expected next week by the Public Service Commission.

Showdown Looms On Nuclear Risk-sharing (AJC)

By Margaret Newkirk

Atlanta Journal-Constitution, April 1, 2011

A proposal to trim Georgia Power profits if its Vogtle nuclear construction project goes too far over budget is headed for a state Public Service Commission vote next week.

The PSC had hoped to be voting on a deal struck between its staff and Georgia Power, but that hasn't happened.

The PSC has delayed voting on a Vogtle risk-sharing measure for more than two years in the hopes that such a deal would be reached. In its absence, the staff's proposal will be on the table.

The staff wants to shave Georgia Power's allowed profit on the project if cost overruns top \$300 million, and boost those margins if the project beats its budget by the same amount.

Kevin Greene, a Troutman Sanders attorney representing Georgia Power, suggested in a meeting Thursday that the company will take the PSC to court if it approves the staff plan Tuesday.

Georgia Power is building the new reactors in partnership with the state's city-owned power companies and electric co-ops. The total price estimate is between \$12 billion and \$14 billion. Georgia Power's portion is \$6.1 billion, as approved by the PSC.

Georgia Power customers are paying the project's financing costs now. They'll pay for the construction costs after the reactors are finished in 2016 and 2017.

The project is under budget so far. But heavy construction begins late this year or early next.

PSC staff has pushed for a risk sharing mechanism since 2009. Attorney Jeff Stair said the intent is to more closely align company interests with those of ratepayers. Under the staff plan, he said, a \$900 million cost overrun would reduce the company's reactor profits over 30 years from \$10 billion to \$9.7 billion. Cost overruns stemming from safety, efficiency or regulatory changes would be exempt.

Georgia Power says state law already protects ratepayers. The PSC can keep the utility from charging customers for any costs "imprudently" incurred.

The company also said accounting rules would force it to post a one-time loss of all lost profits over the reactors' lifetime, if its allowed return was cut. Stair protested that the company raised the issue at "long past the 11th hour" and outside of the public process: "The company has had two years to evaluate this proposal. The first time we heard of this issue was two days ago."

PSC Could Check Vogtle Costs (GPB)

By Melissa Stiers

Georgia Public Broadcasting, April 1, 2011

State regulators are considering a plan to protect energy consumers. It has to do with potential cost-over runs on Georgia Power's 14 billion dollar expansion of Plant Vogtle.

The advocacy staff of the Public Service Commission proposed the plan. It would limit how much Georgia Power can charge customers for cost overruns. PSC spokesman Bill Edge says it ties the company's profits to its ability to come in at cost.

"If the certified costs exceeds 300 million dollars, Georgia Power would have a reduced return on equity or opportunity to earn a profit. On the other hand if it goes the other way 300 million dollars under budget, Georgia Power would have an increased return on equity," says Edge.

But Jeff Wilson with Georgia Power says the plan would penalize the company for conditions beyond its control. And he says consumers are already protected by the commission's periodic review of costs.

"If our costs are not prudently spent then the commission won't approve those and we can't recover that, so as long as we're acting in a prudent fashion and spending based on what is approved by the commission than those costs are recoverable," says Wilson.

The elected PSC will vote on it next Tuesday.

Japan Crisis Puts Georgia Power Under A Spotlight (AP)

By Ray Henry

Associated Press, April 1, 2011

ATLANTA — An ongoing nuclear crisis in Japan put Georgia Power in an uncomfortable spotlight Thursday as it seeks permission to break ground on the first US nuclear power plant in a generation, a project the company has hoped will revive a long-dormant industry.

The struggle to prevent a full meltdown at the Fukushima Dai-ichi nuclear plant in Japan comes at a bad time for the subsidiary of the Atlanta-based Southern Co., which has been on the verge of securing permission to build two more nuclear reactors at Plant Vogtle in eastern Georgia. The US Nuclear Regulatory Commission is expected to make a final decision on the project later this year.

But the accident prompted questions about nuclear safety and financial risks from state officials — including those who have been firm supporters of expanding nuclear power.

"With the events that happened in Japan, it seems like the risk of (cost) overruns has increased," Public Service Commissioner Tim Echols told the company during a meeting.

State lawmakers have asked a Southern Co. executive to testify before the House Energy Committee about the safety of its two nuclear plants in Georgia. The hearing, originally set for Thursday, was delayed until April 13. Rep. Don Parsons, the committee chair, said he doesn't have specific safety concerns but expected his colleagues will want to ask about plant security plans and preparedness for natural disasters.

"It just has to do with what's going on in Japan," Parsons said. "It either has raised or might raise questions from people in Georgia."

The nuclear industry has made the expansion of Plant Vogtle a test case to demonstrate the viability of its latest technology, including Westinghouse Electric Co.'s AP1000 reactor. President Barack Obama last year announced his administration would help finance the project by providing \$8 billion in federal loan guarantees.

Then came a March 11 earthquake and tsunami that disabled the cooling systems at the Japanese plant, leading to suspected meltdowns of nuclear fuel, explosions and radioactive releases. A less severe 1979 accident at the Three Mile Island nuclear plant in Pennsylvania proved a serious blow to a nuclear industry that was already struggling amid a poor economy and high interest rates.

PSC members debated Thursday a carrot-and-stick proposal intended to pressure Georgia Power into keeping its construction costs for the Plant Vogtle expansion under control. The commission could vote on the issue Tuesday.

Under the plan, Georgia Power could earn more money from the new reactors if it keeps building costs below \$5.8 billion. If building costs exceed \$6.4 billion, regulators would lower its earnings.

Eye-popping cost overruns plagued the first two reactors built at Plant Vogtle, which started commercial operation in 1987 and 1989. Those reactors were originally budgeted at under \$1 billion. The final bill was nearly \$9 billion — and electric customers paid for bulk of it.

"As the construction costs go up, the company earns more money," said Pandora Epps, director of the commission's internal consultants unit. "So some would say there's a disincentive to try and hold the costs down."

Georgia Power wants the plan rejected, calling it illegal and unfair since the firm says it could be penalized for factors beyond its control.

"We're getting wrapped around the axle here trying to figure out how to put in place an incentive mechanism to incent the company to do the right things when, so far, to date I think everything indicates it's doing the right things," Georgia Power attorney Kevin Greene told the commission. "It's under budget. It's on schedule."

Under existing law, the elected members of the PSC can bar Georgia Power from passing along what it calls imprudently incurred construction costs to electric customers, although those decisions are made by the elected commissioners on a case-by-case basis. The staff proposal would dock the utility's earnings for higher-than-expected construction costs even if those costs are ultimately allowed by the commission.

PSC staff attorney Jeffrey Stair said the proposal would not punish Georgia Power if safety regulators change the rules governing nuclear power plants, resulting in higher construction costs. Acting at the president's request, the NRC is conducting a review of nuclear safety following the March 11 earthquake and tsunami in Japan.

"If the company is, in fact, so confident that these units are coming in at \$6.1 billion, why do they oppose a mechanism that won't even have any effect unless the plant goes above \$6.4 billion?" Stair said.

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Japan Crisis Puts Georgia Power Under Spotlight (WGCL)

WGCL-TV Atlanta, April 1, 2011

A hearing into the safety of Georgia's nuclear power plants was cancelled Thursday afternoon.

The House Energy Committee scrapped the meeting set for Thursday afternoon because of a busy schedule. The hearing had been called as Japanese authorities try to cool malfunctioning reactors at the Fukushima Dai-ichi nuclear plant in Japan.

Rep. Don Parsons, who chairs the committee, said he tentatively plans to reschedule the session for April 13.

The Atlanta-based Southern Co. operates two nuclear power plants in Georgia. Two of its reactors are at Plant Vogtle near Waynesboro. It also operates two reactors at Plant Hatch in Baxley. The reactors at Plant Hatch are similar to those at the crippled plant in Japan, which has struggled to avoid a full meltdown since a March 11 earthquake and tsunami. .

US Nuclear Output Little Changed As PSEG Boosts Salem Reactors (BLOOM)

By Colin McClelland

Bloomberg News, April 1, 2011

US nuclear-power output was little changed as Public Service Enterprise Group Inc. (PEG) increased production at the Salem 1 and 2 reactors in New Jersey, the Nuclear Regulatory Commission said.

Power generation nationwide increased by 86 megawatts from yesterday to 83,762 megawatts, or 82 percent of capacity, according to a report today from the NRC and data compiled by Bloomberg. Eighteen of the nation's 104 reactors were offline.

Public Service increased output at the 1,174-megawatt Salem 1 to full power from 90 percent of capacity yesterday. The 1,130-megawatt Salem 2 was boosted to 90 percent of capacity from 86 percent yesterday.

The plant is about 18 miles (29 kilometers) south of Wilmington, Delaware.

Exelon Corp. (EXC) determined more repairs are needed on the reactor vessel head of the 1,164-megawatt Byron 1 unit in Illinois, the NRC said in a report.

The reactor, which has been shut for refueling and maintenance since March 14, is 85 miles west of Chicago. The 1,136-megawatt Byron 2 is operating at 96 percent of capacity.

Exelon is also reviewing an auxiliary feedwater system configuration on both units that "significantly degrades plant safety," according to an NRC report.

A similar condition was being examined at Exelon's Braidwood plant, which has two reactors about 54 miles southwest of Chicago, the agency said. Both units are operating at full power, together producing about 2,300 megawatts.

A control rod malfunction occurred during a test at Duke Energy Corp. (DUK)'s McGuire 2 reactor in North Carolina, the NRC reported.

The unit will remain in cold shutdown until troubleshooting and repairs are completed, the agency said. The 1,100-megawatt unit has been closed for refueling and maintenance since Feb. 28.

The 1,100-megawatt McGuire 1 is operating at full power. The plant is 15 miles north of Charlotte.

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.

Gov. Shumlin: Vt. Yankee Owner Misspeaks Again (AP)

Associated Press, April 1, 2011

MONTPELIER, Vt.

Gov. Peter Shumlin says the Vermont Yankee nuclear plant has got it wrong again in saying it has completed talks on a 10-megawatt power deal with the Vermont Electric Cooperative.

At a news conference Thursday, Shumlin pointed to a statement released by the plant's owner, Entergy Corp., talking up the power deal with the Johnson-based co-op. He compared Entergy's statement with comments from the co-op's CEO, David Hallquist, casting doubt on his board approving the power purchase from the nuclear plant.

But Entergy counters that it never said the deal had been finalized. The company's press release said it was contingent on the co-op board's approval, an OK from state regulators, and Vermont Yankee continuing to operate after its current license expires next March.

Vermont Utility Questions Use Of Nuclear Power (DJNews)

By Naureen S. Malik

Dow Jones Newswires, April 1, 2011

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

NRC To Review Vermont Yankee Safety Valves (BR)

By Josh Stilts

Brattleboro Reformer, April 1, 2011

BRATTLEBORO – Officials say safety valves at Vermont Yankee nuclear power plant need more review and inspection.

In a letter to the Nuclear Regulatory System, dated Jan. 14, Thomas Saporito, executive director of Renewable Electric Systems, said he was concerned about the safe operation of Yankee and in his petition asked that the reactor be put into a cold shutdown mode of operation until an immediate NRC investigation and inspection of that plant could be performed.

"You ensure that all nuclear safety-related systems are properly operational in accordance with the licensee's technical specifications and NRC license," the letter states.

On Jan. 24, the Petition Review Board, a quasi-judicial branch of the NRC, met to discuss Saporito's requests and denied the request for immediate action to bring the nuclear plant in Vernon to a cold shutdown and to perform an immediate investigation.

Director of the Office of Nuclear Regulation Eric Leeds, in a letter to Saporito, wrote that the review board didn't find any urgent public health and safety concerns that would warrant an immediate shutdown and investigation.

A week later the petition review board met again, this time to discuss Saporito's recommendation that the plant's main steam safety relief valves were inoperable, due to leakage through the shaft to piston thread seals.

Neil Sheehan, spokesman for the NRC, wrote in an e-mail to the Reformer that the PRB acceptance does not mean the members agree with Saporito's concerns, but rather that the board found it deserves additional review.

"NRC inspectors are reviewing this issue and the results of that inspection work will be documented in the first-quarter inspection report for Vermont Yankee," Sheehan wrote.

Three of the actuators for the plant's four safety relief valves were found to be leaking during last April's refueling outage, causing two of the valves "to be considered inoperable," according to a licensee event report submitted to the NRC, Dec., 22.

In an analysis completed on Oct. 25, Yankee engineers tested the valves and identified leakage involving the nitrogen-gas powered actuators that can be used to open the valves and concluded, "there was firm evidence that the condition may have existed for a period of time great than allowed by the technical specifications."

"What this means is that the automatic depressurization system may not have worked, which would have forced the high pressure coolant injection system into use," wrote Amie Gundersen in an e-mail to the Reformer earlier this year. Gundersen, of Fairewinds Associates, Inc., was a member of the Public Oversight Panel that was tasked by the state Legislature to review a reliability study of the plant.

Gundersen wrote that it was troubling because the HPCI had a pin-hole leak in a 1-inch drain line that was discovered in September 2010. Even though the hole was later fixed, the problem occurred during a time when the safety valves were leaking.

"The multiple components that failed are like the relief valve on top of a pressure cooker," he wrote.

Last week the NRC issued a new license for Vermont Yankee to operate past its original 40-year license from 2012 to 2032.

The issuance was temporarily put on hold following the earthquake and tsunami that crippled the safety systems of a set of nuclear reactors in Fukushima on March 11.

Gov. Peter Shumlin stated he found it "puzzling" that the NRC issued the license during the aftermath of the earthquake in Japan.

"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," he stated.

The issuance of the renewed operating license is the culmination of an NRC review process, that began with Entergy's submission of the application for a 20-year license extension on Jan. 27, 2006.

"The Yankee license renewal application has had more than five years of review, a safety evaluation, an environmental assessment and a hearing that lasted for several years," said Sheehan, when the license was approved. "This application has received as much scrutiny as any license renewal proposal we have considered to date."

In addition to the NRC extension, Entergy must also receive a certificate of public good from the state of Vermont, something, Shumlin has repeatedly said the state will not grant to Entergy. Last year the state Senate voted 26-4 against the continued operation of the plant.

Owner: No Buyer For Vermont Yankee Nuclear Plant (BOS)

By John Curran

Boston Globe, March 31, 2011

The owner of the troubled Vermont Yankee nuclear plant can't find a buyer for it, blaming "political uncertainty" over its prospects for a state license to keep operating past 2012.

New Orleans-based Entergy Corp., which announced plans in November to shop the plant, said Wednesday that it's giving up on a potential sale, at least for now, even though the US Nuclear Regulatory Commission just granted the plant a 20-year license renewal.

"Although we received interest from a number of companies, the conclusion of the sale process, without a sale, was driven primarily by the uncertain political environment in Vermont," said spokesman Larry Smith. "The plant's strong operating performance was attractive to potential buyers; the political uncertainty was not."

Entergy will evaluate any "future opportunity for the plant should conditions change," said Smith, who said the decision to end the hunt for a buyer wasn't related to the ongoing nuclear crisis at the Fukushima Dai-ichi nuclear plant in Japan.

The political uncertainty is Vermont's status as the only state with a law giving it a say in nuclear plant relicensing. Last year, the state Senate voted against allowing the plant to operate past 2012.

The 38-year-old plant, which sits on the banks of the Connecticut River in the southeastern Vermont town of Vernon, has been plagued by leaks of radioactive tritium into soil and groundwater surrounding it. Entergy contends that it is fit to keep operating.

Democratic Gov. Peter Shumlin, who wants it shut down, says it's no surprise Entergy couldn't find a buyer.

"The plant and its operators have had numerous issues – cooling tower collapses, a transformer fire, leaked tritium, and misinformation about the underground piping – and I have no confidence in the continued operation of the plant or in its owners," he said.

In making the announcement, Entergy said it had completed work on a 20-year agreement to sell Vermont Yankee power to customers of Vermont Electric Cooperative, Inc.. But that's contingent on the plant staying open past March 2012.

Entergy: No Sale Of Vermont Yankee (BURFP)

By Terri Hallenbeck, Free Press Staff Writer

Burlington (VT) Free Press, March 31, 2011

Entergy Corp. has failed in its efforts to sell the Vermont Yankee nuclear power plant or come to an agreement on the future price of power with the state's largest utilities, but did reach a potential power deal with the state's third-largest electric company, Vermont Electric Cooperative Inc., Entergy officials said Wednesday.

Potential buyers of the 39-year-old plant were scared off by uncertainty over the plant's ability to win state permission to keep operating, said Richard Smith, president of Entergy Wholesale Commodities.

"There were a variety of companies that expressed interest," he said, with one company particularly pursuing the plant. "They and their board had a lot of concern about the political uncertainty up here. They eventually decided not to pursue the sale."

Without a sale of the plant, Entergy was unable to reach a power deal with Central Vermont Public Service Corp. and Green Mountain Power Corp, Smith said, but did reach a deal with VEC to sell power for 4.9 cents per kilowatt hour for the first year of a 20-year contract that Entergy will use as a selling point for keeping the plant running.

GMP would not agree to similar price unless the plant had new owners, GMP spokeswoman Dorothy Schnure said.

"Our reading was that it was going to be very difficult to get Vermont approval with Entergy owning the plant," she said. Gov. Peter Shumlin has said he does not trust Entergy Corp. after a series of issues at the plant, including tritium leaks and misinformation plant officials supplied the state related to those leaks.

Schnure indicated that negotiations, which have been going on for more than three years, had reached the end of the line. "Those were the conditions we had," she said.

Entergy's inability to sell the plant or reach an agreement with the larger utilities is a blow to its already faint hopes of winning approval from the state to operate the plant another 20 years. Entergy, however, will use its proposed deal to sell VEC power for a relatively low power price as leverage in trying to persuade Vermonters that the state can't afford not to keep the plant running.

Entergy would sell power to VEC for 4.9 cents per kilowatt hour for the first year of a 20-year contract and then for prices tied to market price thereafter. The deal is subject to approval of VEC's board of directors. The price is below the current market price and below the 6-cent starting price utilities recently agreed to pay for Hydro-Quebec power.

The deal is contingent, however, on the Vermont plant's continued operation after March 2012, and that's a big if.

The plant's license to operate expires then and though Entergy recently received a 20-year license extension from the federal Nuclear Regulatory Commission, it lacks state permission to keep operating. The Vermont Senate voted last year against allowing the state Public Service Board to consider granting permission.

Plant officials are hoping the proposed deal with VEC spurs renewed debate in the Legislature, but legislative leaders have been firmly against it. Shumlin, who as Senate leader last year led the fight against Vermont Yankee, has argued that the plant has reached the end of its lifespan and must be shut down.

The governor characterized Entergy's failure to sell the plant as an indication the plant is unworthy. "It is not surprising that Entergy could not find a buyer for Vermont Yankee. The plant and its operators have had numerous issues – cooling tower collapses, a transformer fire, leaked tritium, and misinformation about the underground piping – and I have no confidence in the continued operation of the plant or in its owners," Shumlin said in a statement.

John Herron, president, chief executive officer and chief nuclear officer of Entergy Nuclear, said the plant's ability to operate at 94 percent capacity — one of the highest rates among nuclear power plants in the country — is an indication it's in good shape that can keep running. "It's not an aging plant," he said.

Smith wouldn't say what Entergy would do if the Legislature doesn't grant approval, although many have speculated the situation could end up in court. "At this point in time, we're working on trying to get legislative approval. Then we'll think about other options. I'm not going to get into those," he said.

Entergy needs to make commitments toward refueling the plant by July if it is to keep operating after 2012, he said.

Immediately after Entergy announced the deal Wednesday afternoon, those who support the plant were touting the 4.9-cent VEC price.

William Driscoll, vice president of Associated Industries of Vermont, called it "a dramatic illustration of how much Vermont stands to lose if the Governor and the legislative leadership continue to block the Public Service Board from doing its job and making a decision on allowing the plant to operate for another 20 years."

Entergy Abandons Bid To Sell Vermont Nuclear Power Plant (WSJ/DJ)

By Naureen S. Malik, Dow Jones Newswires

Wall Street Journal, March 31, 2011

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

TVA To Explain Browns Ferry Reactor Valve Problem (AP)

By Bill Poovey

Associated Press, April 1, 2011

CHATTANOOGA, Tenn. (AP) -- The failure of a reactor coolant valve at the Tennessee Valley Authority's Browns Ferry Nuclear Plant months ago has raised questions about apparent violations of Nuclear Regulatory Commission requirements.

NRC Atlanta region spokesman Joey Ledford said Thursday that the valve was stuck shut. Although there is a separate reactor cooling system, there are scenarios when "this particular system would need to be operable," he said.

An NRC statement said TVA has been called to a Monday meeting in Atlanta to explain the safety significance of the valve failure that TVA and the NRC discovered last fall during a shutdown of the Unit 1 reactor at the Browns Ferry Plant near Athens, Ala. The statement said the valve "would have been unable to fulfill its safety function if it had been needed."

David Lochbaum, nuclear program director for the Union of Concerned Scientists, said Thursday that for most accidents the valve problem was inconsequential but not in a fire.

"Had there been a fire at the plant there would have been an inability to cool the core," Lochbaum said in a telephone interview. "Had there been a fire, the fire would have taken out all the backups."

Lochbaum, who previously worked at the Browns Ferry plant and last week testified before congressional panels about the industry, said the valve failure was not TVA's fault but was due to testing procedures used at all nuclear plants. He said the testing method used to show that the valve is not working correctly will change.

"It is something TVA will do different and probably everybody else will do differently," Lochbaum said.

TVA nuclear spokesman Ray Golden said Thursday that the mechanical problem at Browns Ferry was discovered, repaired and reported during a Unit 1 refueling shutdown at the three-reactor plant and was never a safety threat. Golden said there are separate reactor cooling systems. He said the valve that circulates cooling water in and out of the reactor was "sort of stuck in the closed position."

Golden said the valve failure could result in increased NRC oversight at TVA's historically problem-plagued plant.

Ledford said the Monday meeting would give the NRC "an opportunity to get their side of what happened." He said the NRC would issue a response within a few weeks of the meeting. Ledford said the NRC doesn't regularly impose civil penalties on nuclear plant operators, but the cost of any increase in NRC inspections is paid by the operator.

The NRC statement said the meeting is to discuss "apparent violations of NRC requirements linked to the failure of a low pressure coolant injection valve."

Ledford said the Monday meeting about the valve failure is not related to the NRC's review of all nuclear plants following the nuclear emergency in Japan.

Golden said past problems at the Browns Ferry Plant have at times led to extra NRC scrutiny. The plant is internationally known in the industry as the site where a worker using a candle to check for air leaks in 1974 started a fire that disabled safety systems.

TVA had allowed a recent media tour at the plant, which has a reactor design similar to the reactors in Japan that malfunctioned after a magnitude 9.0 earthquake and tsunami. TVA has said the Browns Ferry Plant was designed to withstand a 6.0-magnitude quake. The Knoxville-based utility's nuclear plants in Tennessee -- Watts Bar at Spring City and Sequoyah at Soddy-Daisy -- are designed to withstand a 5.8-magnitude quake.

TVA, the country's largest public utility, supplies power to about 9 million people in Tennessee, Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia.

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The Moulton Advertiser > News > Responders Prepare For Annual Brown's Ferry Incident Exercise (MOULTADV)

Responders prepare for annual Brown's Ferry incident exercise

By Ginger Grantham

Moulton (AL) Advertiser, April 1, 2011

Yes, first responders and law enforcement officers in Lawrence County are attending basic radiation training classes.

No, there has not been a release of radiation at Brown's Ferry Nuclear Plant.

Some people may think the classes are being taught because of the events unfolding at the nuclear plant in Fukushima, Japan. But that nuclear disaster is not the reason for the classes. The classes are part of an exercise put on every year at this

time. The exercise is part of the plan on how to react to a radiation release at Brown's Ferry. That the exercise coincides with the event in Japan is just bad timing.

One class was held at the EMA building in Moulton. On Tuesday night, the class was held at the Town Creek Volunteer Fire Department. It was attended by Town Creek emergency responders, Lawrence County deputies and a few firefighters from neighboring counties.

For almost everyone there, the class conducted by Kevin Hicks, senior radiation physicist for the Alabama Department of Public Health, was simply a review.

In the first session, Hicks went over the different kinds of radiation and what can be done to protect responders from radiation. He also explained how exposure to radiation is treated. He pointed out that exposure and contamination are not the same thing. A person who has been exposed to radiation is not contaminated and cannot expose anyone else to radiation.

Contamination occurs when radioactive material is deposited on an individual's body or clothing. When that happens, a person has to be decontaminated. This usually means removing clothing and showering with mild soap.

One of the dangers of exposure to radiation is that radiation is absorbed by the thyroid. Filling the thyroid with non-radioactive iodine in the form of KI or Potassium Iodide prevents absorption of radioactive iodine.

"People should not just go out, get this medication and take it without being informed about it," Hicks said. "Local health departments have stockpiled KI for emergencies. But if you are allergic to shellfish, you cannot take KI. People need to know that."

Hicks pointed out people are exposed to natural forms of radiation on a daily basis. It can come from rocks, soil, trees, the sun and even outer space. People are exposed to radiation during medical procedures such as x-rays and other diagnostic tests.

Some of the sources of radiation are surprising. Hicks held up an orange ceramic plate of Fiesta Ware. When he put it near a radiological survey meter, the machine registered radiation.

"The orange color in the glaze comes from uranium," he said.

He also pointed out the plate he used was older. New Fiesta Ware does not use uranium in its glazes anymore.

One of the main points of the class was to refresh responders on how to use individual dosimeters so they will know how much exposure to radiation they have received when in the field in the event of an actual radiation leak.

These small devices look like fat writing pens and clip to clothing. They are reset every time a responder goes into the field.

Lawrence County TVA Planner Tammy Vinson said the training is important so that everyone understands their role in case of a radiation release at Brown's Ferry.

"If there is a danger of contamination to people, Moulton Fire Department will set up a reception center for people and other fire departments will help man the center," she said.

These classes are just the beginning of the exercise. On May 5, law enforcement officers will be driving the evacuation routes along with Federal Emergency Management representatives.

On May 25, a practice full-scale radiation release exercise will be held. The response to the practice will be examined and adjusted if needed.

Then on June 15 the practice exercise will be repeated. This time it will be a graded exercise by the Alabama Department of Emergency Management. Vinson said that while the exercise is held every year, the graded exercise is held every two years.

TVA: Small Radiation Increase In Chattanooga Since Japan Disaster (WRCB)

WRCB-TV Chattanooga, TN, April 1, 2011

CHATTANOOGA (WRCB) – The Tennessee Valley Authority says they have detected a very small increase in radiation levels in Chattanooga since the Japan nuclear disaster.

Ray Golden from the TVA says with the Sequoyah plant nearby, the public utility monitors radiation levels in Chattanooga on a regular basis.

Golden tells Channel 3 they have detected trace levels of radiation, but there is no way to say for certain that the radiation is from Japan, nearly 5,500 miles away.

He says some radiation is naturally occurring and weapons testing around the globe can also cause small increases locally. But he says the timing could coincide with the Japan disaster.

TVA says the radiation detected in our area is only a fraction of what is dispersed from a chest X-ray.

They say the reason the extremely small level is even detectable is because of the sophisticated equipment used at TVA sites.

Japan's crisis has led TVA officials to reevaluate their "what-if plans" and prepare for multiple disasters happening simultaneously.

Golden wants to stress that there is no danger from the minute increase.

Coal Ash - The Other Radioactive Waste (EM)

Energy Matters, April 1, 2011

Nuclear power reactors aren't the only source of radioactive waste. The ash left behind from burning coal is radioactive also.

A recent forecast predicted that billions will be diverted from nuclear power investment into renewable energy technologies such as wind and solar as a direct result of the nuclear crisis in Fukushima, Japan. However, more investment could also go into coal, which would represent a big step backwards in the battle against climate change.

Investors may see coal as a safer bet, but nothing could be further from the truth in terms of real safety. The mining and burning of coal aren't the only environmentally damaging aspects of the fossil fuel. Coal ash, also known as fly ash, is a problem too. Coal ash contains arsenic, lead and mercury - all incredibly toxic substances.

Coal ash also needs to be stored safely. In December of 2008, a containment wall holding back 40 acres of coal ash based sludge created by the Tennessee Valley Authority's coal-fired power plant in Kingston burst, spewing over 2 billion litres of waste over 400 acres.

Added to all these risks, kilogram for kilogram, coal ash released from a power plant delivers more radiation than nuclear waste shielded via water or dry cask storage according to an article on Scientific American

Radioactive elements such as uranium and thorium occur in minute amounts in coal in its natural state; but when coal is burned, uranium and thorium in the resulting fly ash are concentrated at up to 10 times their original levels. A study of people living in close proximity to a coal fired power plant found radiation doses were equal to or higher than doses for people living around nuclear power facilities.

While the chances of experiencing negative health effects from radiation in relation to nuclear and coal-fired power plants are slim; the article reports they are higher if you live close to a coal fired power generation station. However, that's little comfort for the people living near the Fukushima plant who have been evacuated - and the latest reports indicate the evacuation area may be increased.

"Clean coal", a term some consider an oxymoron, doesn't offer any answers to toxic fly ash waste either - in fact, it takes more coal to generate "clean coal" based electricity because of the extra energy required.

So which is really safer - coal or nuclear power? Likely neither as each have major impacts, both immediate and lingering. The only safe path to a clean power future still seem to be via renewable energy sources.

The Dangers Of The Nuclear Power Industry (CHATNOOG)

The Chattanooga, April 1, 2011

The appalling events in Japan with daily reports of increased levels of released radiation have focused worldwide public attention on the safety of the nuclear power industry. This examination is prudent. Potential and long lasting human health and environmental damage from an "accident" at a nuclear could be catastrophic with long lasting harmful results.

The history of the nuclear industry both worldwide and in the United States has not been accident free. That fact compounded by poor planning and procedures for handling, storage and transport of radioactive wastes make one take pause. A recent revelation of contractor neglect and failure regarding an electrical wiring issue at a TVA nuclear reactor is news in Tennessee. Such occurrences make one take pause to consider if there are other yet to be discovered hidden weaknesses in the build of these nuclear facilities. It is frightening to think design or construction flaws could be discovered during an event placing unendurable stress resulting in a failure at a facility.

The history of nuclear plant safety in Tennessee is less than sterling. It merits recalling that going back to nineteen seventy-five, a fire due to negligence at the TVA Browns Ferry reactor (a technician searching for air leaks with a lighted candle) resulted in \$100 million in damage including burned out electrical controls; the cooling water temperature reached "dangerous levels" before the plant could be shut down.

In 1981, an inexperienced Auxiliary Unit Operator opened a valve that led to the contamination of eight men with 110,000 gallons of radioactive coolant sprayed into the containment building of the TVA Sequoyah 1 plant.

In 1983, 208,000 gallons of radioactive contamination was accidentally dumped into the Tennessee River at the Browns Ferry plant. These are events in the TVA system alone. The unfortunate reality of the situation regarding accidents at nuclear plants as the result of an "accident" in the plant systems can be terrible. When matched with an event like the earthquake in Japan the potential for damage to land and life could be ruinous.

Our physical location, Tennessee, is in an area with a history of earthquake activity recorded as far back as early to mid nineteenth century through the twenty-first century. In 2008, the Federal Emergency Management Agency (FEMA) said a serious earthquake in the New Madrid seismic zone could result in "the highest economic losses due to a natural disaster in the United States." The New Madrid seismic zone is located in West Tennessee and Arkansas. A second nearby area of earthquake activity is the East Tennessee Seismic Zone. This is a thirty-mile wide 185-mile long corridor from Alabama to Virginia going through East Tennessee (including Chattanooga) that is the "second most active seismic zone east of the Rocky Mountains." This seismic zone has recorded 44 felt earthquakes since 1982. These facts are worth consideration in light of the existence of nuclear plants, presence of radioactive waste, the handling, transportation and processing of radioactive materials in areas having such geological history.

Also there is a plant at Oak Ridge, that is reported in the Chattanooga Times Free Press to have plans to import radioactive waste materials from Europe for processing. These hazardous materials would be transported, processed and handled in Tennessee with risk potential of exposure to the environment and to people during the cycle of transporting, handling and processing of this radioactive waste material that originates overseas. Why should we import risk?

The consideration of risk from accident from mishandling or natural disaster is further complicated by TVA's intent to use the plutonium containing MOX fuel in some of its reactors. Plutonium is a substance with potential for horrible results should plutonium-containing material due to whatever cause be released in quantity into the environment. It is worth pondering that MOX is used in one or more of the Japanese reactors currently having serious trouble.

It is worth noting that immediately following the problems with the reactor in Japan, the public relations/propaganda/marketing machinery in this country supporting the nuclear industry and the politicians supported by it, began to put out "information." The purpose of this "information" was to tell the public how needed and "safe" nuclear power plants in America are. The resulting potential catastrophe from an accident due to whatever reason could be horrific. There is a very great deal of money on the table on the part of the nuclear industry, related industries, power companies, and the politicians with an interest in a nuclear future to consider the sources of information aggressively favorable to expansion of nuclear generated power and handling of radioactive wastes unbiased truth.

It would seem wise to consider unacceptable a risk of any part of our country being poisoned by radioactive contamination or populated with even one radiation induced cancer victim. Is a promise of safety from those with a history of potentially deadly accidents giving a promise of cheap power a trust gamble worth taking when mixed with the possibility of an accident being compounded by the capricious chance of natural disaster? There is a great pile of money on the table; the bet at that table is our safety. We cannot at this time be guaranteed that on this matter everything will be all right.

Mr. Lindberg fails to point out that every circumstance he cites regarding problems at TVA's nuclear plants was the result of human error....just as the problems in Japan are the result of "an act of God." If anyone wants to know the design/construction/justification of TVA's nuclear plants, read the Environmental Impact Statements each of which was made available for public review and comments before being finalized.

There is always an anti-TVA activist lurking in the shadows waiting for an opportunity to jump and show their ignorance by failing to do their homework. One rarely, if ever, hears them praising TVA for the second lowest power rate in the nation because of our blessed electric power generating system....hydro, coal and nuclear. Thank you FDR. And thank you, TVA. Keep it coming.
Charlotte Parton

Reactor Design At Japanese Plant Raises Questions (AFP)

By Paul Handley

AFP, March 17, 2011

WASHINGTON — The US-made reactors at Fukushima are coming under close scrutiny as experts point to flaws in their original design and the lack of a safety feature that the nuclear industry is only now starting to address.

Five of the six reactors at Fukushima No. 1 nuclear plant are so-called Mark 1 boiling water reactor (BWR) models, developed by General Electric in the 1960s and installed in Japan in the 1970s.

In the 1970s, criticism amplified that the Mark 1's concrete containment shield, which surrounds the reactor vessel, was vulnerable to explosion caused by a buildup of hydrogen gas if the reactor overheated.

The original design "did not take into account the dynamic loads that could be experienced with a a loss of coolant," Dale Bridenbaugh, who quit as a GE engineer in 1975 over the alleged problem, told ABC News on Wednesday.

Blasts attributed to hydrogen have occurred at four of the Fukushima units, and the containment vessels at the No. 2 and No. 3 reactors have reportedly been damaged but not apparently ruptured.

A partial meltdown of the fuel rods has occurred in the Nos. 1, 2 and 3 reactors but the information from Fukushima – while sketchy – indicates the steel shells surrounding the reactors themselves have not been breached, say French safety agencies.

Michael Tetuan, spokesman for GE Hitachi Nuclear Energy, the current GE unit developing and selling nuclear plant technology, said there were 32 Mark 1 installations in the world, in addition to 23 in the United States.

The US Nuclear Regulatory Commission (NRC) ordered US operators to retrofit Mark 1 plants in the 1980s to strengthen the containment vessel, he said.

"We shared that with our customers overseas ... but I can't tell you if they did indeed retrofit," he said.

"We understand that all of the BWR Mark 1 containment units at Fukushima Daiichi also addressed these issues and implemented modifications in accordance with Japanese regulatory requirements."

"Two potential safety concerns were identified for the GE Mark 1 design," Viktoria Mittyng, a spokeswoman for the NRC, explained.

First was the ability of the torus – a donut-shaped unit at the reactor base – to withstand a high volume of steam that would be diverted to it during an accident.

The second issue was the unit's ability to vent the containment unit to prevent a build-up of hydrogen.

The NRC required the torus units to be reinforced, and hardened vents – to safely vent any gas buildup – were installed as well.

"These changes were implemented at all GE Mark 1 plants and inspected by the NRC," she said, referring to US plants.

Questions are also being asked about another aspect of the Mark 1 design, namely the location of cooling tanks which hold highly radioactive spent fuel rods.

They are placed outside the protection of the containment vessel.

These pools are now the source of intense anxiety in Fukushima, because pumps designed to circulate and top up the water that cools the immersed rods failed in the tsunami generated in the quake.

"At least two spent fuel pools at the Fukushima plant have caught fire and are releasing radiation into the atmosphere," said Edwin Lyman, a physicist and expert in nuclear plant design at the Union of Concerned Scientists (UCS), an NGO on nuclear safety.

"(...) The United States has 31 boiling-water reactors with similarly situated spent fuel pools that are far more densely packed than those at Fukushima and hence could pose far higher risks if damaged," Lyman said on Wednesday to the Senate Environment and Public Works Committee.

He called on US operators to withdraw some of the rods and place them in dry storage casks in order to reduce the heat load.

In Paris, Olivier Gupta, deputy director general of France's Institute for Radiological Protection and Nuclear Safety (IRSN), said the location of the fuel-rod pools outside the containment vessel was common to "many nuclear reactors, including in France."

"It's something that has been taken into account for new-generation reactors and will be modified," said Marie-Pierre Comets of another French watchdog agency, the Nuclear Safety Authority (ASN).

Oconee Nuclear Will Shutdown One Reactor (WSPA)

WSPA-TV Asheville (NC), April 1, 2011

Oconee Nuclear plans to shut down one of its three reactors for refueling and to convert from analog to digital.

The conversion has been planned for a long time and it will be the first in the nation according to Duke Energy.

The company says it cannot confirm the dates of the outage, however the Greenville News reports it will be this weekend.

Duke Energy says the conversion will make the system even more reliable.

FirstEnergy Details Differences Between Japanese Nuclear Plant And Perry Plant In Lake County (WEWS)

By Dan Haggerty

WEWS-TV Cleveland, OH, April 1, 2011

The Fukushima nuclear power plant and the Perry Plant in Lake County have many common features. Both plants were built by General Electric and both use boiling water nuclear reactors., Visit Newsnet5.com for breaking news in Cleveland, Ohio from WEWS. Get updated news, weather and sports for the Cleveland & Akron local area online from ABC TV's local affiliate in Cleveland, Ohio, WEWS

NORTH PERRY, Ohio - The Fukushima nuclear power plant and the Perry plant in Lake County have many common features. Both plants were built by General Electric and both use boiling water nuclear reactors.

"The Perry plant is a somewhat different design," said Todd Schneider with FirstEnergy. "It evolved from those plants in Japan."

Schneider said Perry has a larger containment unit and underground backup fuel tanks. Reports from Japan said its containment units are failing and its above-ground backup fuel tanks were washed away by tsunami waters.

"Nuclear power plants in this country are designed to withstand natural phenomena such as earthquakes, floods, tornadoes," said Viktoria Mityng with the Nuclear Regulatory Commission.

Mityng would not comment on the design or regulations maintained in Japan, but sent NewsChannel5 the latest assessment documents of the Perry Plant.

"We have two inspectors who work at the plant everyday and live within the community," said Mityng. "Their job is to be regulators; the eyes and ears at the plant."

The NRC assessment said Perry "met all cornerstone objectives," and ranks among the highest scoring nuclear facilities in the US

Scientists Debate Likelihood Of Nuclear Disaster (GRP)

By Garret Ellison

Grand Rapids Press, March 15, 2011

GRAND RAPIDS — Radiation spewing from a crippled nuclear power plant in northeastern Japan forced people there to stay indoors today and prompted concern in the US as some legislators called for a halt on construction of new nuclear plants.

As the world watched the unfolding catastrophe at the plant in Japan's Fukushima province, energy systems professor Matt Heun held a pair of seminars at Calvin College on Monday in which he addressed the issues.

In Heun's seminar, chemistry professor Ken Piers suggested there are opportunity costs to consider when constructing safety features such as radiation filters for a "very rare event."

"Should we spend the money on things like better evacuation systems in case there is a gas release?" he asked.

"The thing about disasters is, you never seem to anticipate the actual failure mode that causes them, by definition," Heun said. "It's a tough and thorny issue to navigate."

Japan's nuclear crisis followed the large earthquake off its coast Friday that sparked a devastating tsunami that left thousands dead or missing.

The tsunami crippled safety systems for each of the Fukushima plant's four nuclear reactors. Cooling system failures have led to evacuations and resulted in release of radioactive gases.

Jitters over the unfolding crisis have led some US legislators to call for a halt to nuclear energy construction. Independent Sen. Joe Lieberman on Sunday said the US needs to "put the brakes" on building new nuclear plants until "we understand the ramifications of what's happened in Japan."

Nuclear industry spokesmen reject that kind of immediate response and said there's no danger of a Japan-style disaster hitting one of Michigan's three operating nuclear power plants.

"It's too soon to tell about the situation in Japan, and we should take a measured approach and response once we know all the facts," said Bill Schalk, spokesman for Indiana Michigan Power Co., which operates the Donald C. Cook Nuclear Plant in the Berrien County town of Bridgman.

Also in Michigan, the Palisades Power Plant, operated by Energy Nuclear Operations Inc., is located near South Haven, and the Fermi Unit 2 nuclear plant, operated by Detroit Edison Co., is south of Monroe.

Schalk said they are monitoring the Japan situation at "an industry level." The Palisades and Cook plants are pressurized water reactors, different from the boiling water reactors that are melting down in Japan. The Fermi unit is a boiling reactor.

"The risk of a big thing happening is there," Heun said about nuclear power plants. "The probability of it is low, except that we're seeing it now."

Schalk said Unit 1 was taken down for maintenance at Cook on Saturday, unrelated to the situation in Japan.

"We're following the situation," Schalk said. "It will give the entire industry an opportunity to learn."

Viktoria Mityng, public affairs officer for the Nuclear Regulatory Commission, said companies must document how their plants would withstand a disaster worse than the worst-case-scenario historical to the area, before they can get a license to build.

In the Midwest, "we wouldn't have a tsunami, but there could be tornadoes, flooding or earthquakes," she said.

"Even if there's damaged fuel and there's a certain degree of meltdown, the containment buildings are designed and constructed in such a way that even a tsunami or huge earthquake will not compromise its integrity, and it will remain as a barrier."

Chu Discusses Push To Reduce Foreign Oil Reliance (NPR)

NPR, April 1, 2011

Melissa Block talks with Energy Secretary Steven Chu about the president's call to slash one-third of US oil imports by 2025 — and whether the administration's push toward nuclear energy has been derailed by the disaster taking place in Japan.

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MELISSA BLOCK, host:

This is ALL THINGS CONSIDERED from NPR News. I'm Melissa Block.

The ongoing nuclear crisis in Japan has raised a lot of questions about nuclear safety in this country, and we're going to raise some of those questions now with the secretary of energy, Steven Chu, who is himself a Nobel Prize-winning physicist.

Secretary Chu, welcome to the program.

Secretary STEVEN CHU (Department of Energy): Thank you.

BLOCK: I'm curious, Secretary Chu, as you've thought about what happened in Japan and with your lifetime spent in science and in physics, as you've looked at the nuclear power plant system in this country, can you assure the American people that the plants in this country are safe?

Sec. CHU: Well, I don't think anyone can say - can give you a hundred percent guarantee that an accident won't happen. And what you do when accidents do happen is you double-down and you say: All right, we now know something more, and you can make it safer. This is true of any complex technical thing that we use, from automobiles to airplanes to nuclear power plants. No one can guarantee that a plane won't crash, but the planes are certainly much safer than they were 20 years ago.

BLOCK: And do you think that the nuclear industry shares that same sense of urgency in terms of doubling down on safety?

Sec. CHU: Whenever there's an accident like this, it does affect the industry, and so it is in their best interest - and they know full well, just as the oil industry knows - it is in their best interest to make sure that deepwater drilling is made safer and safer.

So the nuclear industry is very concerned about these incidents. And that's why after Three Mile Island, INPO got started. It's an industry group that says we together have to help ourselves up the level of safety of nuclear power plants in the United States.

BLOCK: I'd like to ask you about an op-ed piece that ran in The New York Times written by the nuclear physicist Frank von Hippel. It was titled "It Could Happen Here." And he talks - he's quite critical of the regulatory process. He says that the nuclear industry needs constant and aggressive regulation that is just not happening now. He says regulators, the Nuclear Regulatory Commission, has been effectively captured by industry, and they've succeeded in keeping standards and rules too lax. Does he have a point?

Sec. CHU: I can't really speak to that if you - because if you talk to industry, they have a somewhat different view. They think that Nuclear Regulatory Commission is a very strict organization. So there are different mechanisms. There's INPO, and there's the Nuclear Regulatory Commission to guarantee the safety of these reactors. And I hadn't spoken with him about this, so I don't know the details of what he's talking about.

BLOCK: Well, we heard similar complaints after the BP oil spill, that the regulation of the oil industry was similarly lax. And this is a physicist making the same case about nuclear power in this country.

Sec. CHU: I think what happened is after Three Mile Island, that event actually spurred the nuclear industry and the regulatory agency to take a very thorough look at what they were doing. And there were many strides being done, and so I wouldn't compare the two. Unfortunately, it took this Macondo accident to really open up the eyes for deepwater drilling safety.

BLOCK: Would you make the case that the United States needs more new nuclear power plants, that that should be more part of the equation than it is now?

Sec. CHU: Well, we're 20 percent nuclear at the moment. I do expect the renewable energies like wind and solar to come on board. The price of solar has to come down. The Department of Energy is very focused on doing what it can in terms of stimulating the research and development, to drive the price of solar energy down. Wind is getting closer. It, too, will come down in price.

We also will need a fully integrated system so that these renewable sources of energy are variable. The sun can stop shining. The wind could stop blowing. So it has to be very tightly coupled with energy generation on demand. And finally, a distribution system that can handle the two-way flows of power.

So this is all going to take time. This is - you don't do this overnight. This is going to require decades to bring these things online. And during that time, you would still want to have more traditional power sources that can generate energy on demand.

BLOCK: One last thing, Secretary Chu. In his speech yesterday at Georgetown on energy security, President Obama said that it was you who designed the cap that ultimately shut off the BP oil spill in the Gulf of Mexico last year. He said you drew up the specs for it and had BP build it and construct it. Is that true?

Sec. CHU: Well, that was very flattering of the president to say that -not quite. I mean, I think me and the science team played a role in a lot of the instrumentation that went in the cap. But I think the president was being generous.

BLOCK: So he gave you a bit more than your due on that, huh?

Sec. CHU: Ah, yes.

BLOCK: Secretary Chu, thank you very much.

Sec. CHU: All right. Thank you.

BLOCK: That's Energy Secretary Steven Chu.

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Chu Demurs Obama's Compliment | POLITICO 44 (POLITCO)

By MJ LEE

Politico, April 1, 2011

Steven Chu said Obama may have given him too much credit for his work on the BP leak. AP Photo Close

President Obama this week gave his energy chief Steven Chu some serious credit for the cap that finally stopped BP's oil leak in the Gulf last summer.

"Last year, when we were trying to fill -- figure out how to close the cap, I sent Chu down to sit in the BP offices, and he essentially designed the cap that ultimately worked, and he drew up the specs for it and had BP build it, construct it," Obama said in a speech at Georgetown University on Wednesday. "So this is somebody who knows what he's doing."

But according to the Nobel laureate himself, the president's account was "not quite" accurate.

"Well, that was very flattering of the president to say that," Chu said in an interview with NPR Thursday evening. "I mean, I think me and the science team played a role in a lot of the instrumentation that went into the cap, but I think the president was being generous."

"So he gives you a bit more than you're due on that, huh?" radio host Melissa Block teased.

"Yes," Chu said.

The Future Of Nuclear Energy In The US (NPR)

NPR, April 1, 2011

Before the Fukushima disaster, nuclear power was being rebranded as a green form of energy. But in the wake of the devastating nuclear accident that is still unfolding in Japan, many Americans are now re-evaluating the potential costs and benefits of nuclear power.

On today's Fresh Air, New York Times energy reporter Matthew Wald joins Terry Gross for a wide-ranging conversation about the history — and future — of nuclear energy in the United States. Though storage and safety mechanisms are in place, he says, many unknown variables exist that are nearly impossible for regulators to forecast.

Matt Wald in 'The New York Times'

At US Nuclear Sites, Preparing For The Unlikely

No Urgent Changes Seen For US Nuclear Plants

Lessons From Fukushima Taught On Capitol Hill

"Essentially, when you reach the Fukushima Dai-ichi stage, the question is, 'Are you prepared for things you haven't predicted?' And the answer is, 'How can you tell?' " he says. "We're certainly prepared for some things we haven't predicted, but [we're not sure] what it is we're preparing for."

There are 104 nuclear power plants in the United States, which generate about 20 percent of America's energy. But figuring out what to do with the nuclear fuel they generate is a big issue — and one that hasn't been resolved for decades. When nuclear plants were designed, says Wald, regulators anticipated that spent fuel rods would sit in cooling water pools for five years and then be chemically processed and turned into plutonium.

"But that technology turned out to be financially unfeasible and Presidents Ford and Carter decided that it was not a good example for the US to set, because if you're going to recover the plutonium, you can use it for bombs," he says. "So we didn't do that."

Instead, the Department of Energy had made plans to store the waste underground at Yucca Mountain in Nevada. That didn't happen either, explains Wald, because President Obama put a stop to the program, saying Yucca Mountain was not a good site to store the nuclear waste.

Instead, spent fuel rods in the US are currently stored in underground pools of water or in dry-cask storage, where older fuel is put into steel cans filled with inert gas and then stored in silos.

Enlarge New York Times

17. Matt Wald covers energy for The New York Times. He will be teaching an online class about nuclear energy from April 4-

New York Times

17. Matt Wald covers energy for The New York Times. He will be teaching an online class about nuclear energy from April 4-

"[Dry casks] are probably good for somewhere on order of 100 years," he says. "In that sense, it's not an urgent problem. But we don't, at this time, have a clear path forward on what to do after storage in casks."

Wald says that nuclear regulators in the United States are closely watching the situation in Japan to see what the long-term prognosis is in and around the reactors.

"If we're lucky, we're heading for a situation like Three Mile Island, in which you have a very long cleanup period in which you can remove the damaged fuel from the spent fuel pools and then, essentially, you got a reactor that can be decommissioned in the normal way," he says. "If we're not lucky, you end up in a Chernobyl-type situation where you can't get the damaged material out and you build some type of sarcophagus and then you sit there and you watch it for the next few centuries."

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SRS Concrete Pump Heading To Japan Nuclear Site (AUGC)

By Rob Pavey

[Augusta Chronicle](#), April 1, 2011

The world's largest concrete pump, deployed at the construction site of the US government's \$4.86 billion mixed oxide fuel plant at Savannah River Site, is being moved to Japan in a series of emergency measures to help stabilize the Fukushima reactors.

"The bottom line is, the Japanese need this particular unit worse than we do, so we're giving it up," said Jerry Ashmore, whose company, Augusta-based Ashmore Concrete Contractors, Inc., is the concrete supplier for the MOX facility.

The 190,000-pound pump, made by Germany-based Putzmeister has a 70-meter boom and can be controlled remotely, making it suitable for use in the unpredictable and highly radioactive environment of the doomed nuclear reactors in Japan, he said.

"There are only three of these pumps in the world, of which two are suited for this work, so we have to get it there as soon as we can," Ashmore said in an interview with The Chronicle today. "Time is very much a factor."

The pump was moved Wednesday from the construction site in Aiken County to a facility in Hanahan, S.C., for minor modifications, and will be trucked to Atlanta's Hartsfield Airport, where it will be picked up by the world's largest cargo plane, the Russian-made Antonov 225, which will fly it to Tokyo.

The move to Atlanta, he added, will require expedited special permits from Georgia's Department of Transportation, due to the weight of the equipment. If all goes well, the pump will be en route to Japan sometime next week.

According to Putzmeister's website, four smaller pumps made by the company are already at work at Fukushima pumping water onto the overheated reactors.

Initially, the pump from Savannah River Site, and another 70-meter Putzmeister now at a construction site in California, will be used to pump water—and later will be used to move concrete.

"Our understanding is, they are preparing to go to next phase and it will require a lot of concrete," Ashmore said, noting that the 70-meter pump can move 210 cubic yards of concrete per hour.

Putzmeister equipment was also used in the 1980s, when massive amounts of concrete were used to entomb the melted core of the reactor at Chernobyl.

In addition to the equipment now at Fukushima and the two 70-meter pumps being moved from the US, a contractor in Vietnam has given up a 58-meter pump so it can be diverted to Japan, and two 62-meter pumps in Germany were loaded on Wednesday for transport to Tokyo.

Ashmore officials have already notified Shaw AREVA MOX Services, which is building the MOX plant for the US Department of Energy's National Nuclear Security Administration, that the pump was being moved and will not be returned. "It will be too hot to come back," Ashmore said.

The MOX complex, scheduled to open in 2016, is designed to dispose of 32 metric tons plutonium from dismantled nuclear bombs by blending small amounts of the material with uranium to make nuclear fuel for commercial power reactors. Its design calls for 170,000 cubic yards of concrete strengthened with 35,000 tons of reinforcing steel bars.

The absence of the pump will not affect the US project's construction schedule, Ashmore said, noting that there are several slightly smaller units still at the MOX site and being used by the civil contractor, Alberici Constructors.

There is also the third existing 70-meter Putzmeister that is in the US, but not in a state where it could easily be retrofitted for shipment to Japan. "We may try to buy that one later if we need to," he said.

The costs of the operation, including an estimated \$1.4 million to fly the pump from Atlanta to Tokyo aboard the Antonov transporter, are being underwritten by the Tokyo Electric Power Company through a contracting agreement with Putzmeister.

Gigantic Concrete Pumps Will Be Airlifted From US To Japan To Help Respond To Nuclear Crisis (WP/AP)

Associated Press, April 1, 2011

ATLANTA — Two gigantic concrete pumps — described as the largest such equipment in the world — will soon be on their way to join the machinery being used to pour water on damaged reactors in Japan's nuclear crisis, company officials said Thursday.

The two machines are normally used to spray concrete for new skyscrapers, bridges and other massive construction projects.

The machines are now being retrofitted in North Charleston, S.C., and Sante Fe Springs, Calif. That will allow them to spray water instead of concrete on the nuclear reactors, said Kelly Blickle, a spokeswoman at Putzmeister America Inc. in Sturtevant, Wis. The German firm manufactured the equipment.

Initially, the machines would be used to shoot water on the reactor, Blickle says.

But if a decision is made to encase a reactor in concrete — similar to a method used in the 1986 Chernobyl disaster — the machines would be capable of doing that as well, Blickle said.

The firm used its machines to entomb the Chernobyl site in concrete, and Blickle says it already has some equipment helping to shoot water at the site of the Japanese disaster.

However, those pumps are not as large as the two being prepared to be shipped to Japan in April. Each one weighs about 190,000 pounds, and their booms can reach 227 feet — farther than any of the booms now being used to spray water on the Japanese reactors, Blickle says.

"They will be able to direct the water to the source of the highest radiation," says Jerry Ashmore, president of Ashmore Concrete Contractors Inc. of Augusta, Ga.

Ashmore's company has used one of the two machines at the federal government's Savannah River site along the Georgia-South Carolina border.

The plan is to load both of them onto airplanes — one at Los Angeles International Airport and the other at Hartsfield-Jackson Atlanta International Airport — for April 9 flights to Japan. The dates are tentative, and some logistics must still be worked out.

"We're trying to get the permits necessary to move them over the state of Georgia roads to Atlanta," Ashmore said.

They are to be flown to Japan in two Russian Antonov AN-225 Mriya Super Heavy Transport planes, the world's largest aircraft, Bickle said. The planes were designed to transport the Russian Space Shuttle, she said.

She said the company will also send technicians who can train operators on using the pumps.

Tokyo Electric Power Co. spokesman Hajime Motojuku said the company, which runs the troubled plant, asked for the giant US pumps. He did not give further details.

Another TEPCO spokesman, Syogo Fukuda, said two pumps were being shipped from the US and would arrive on April 11 and 12.

The situation in Japan is different than in Chernobyl, where concrete was used to encase the facility, said Edward Morse, professor of nuclear engineering at the University of California, Berkeley.

"This is not a Hail Mary Chernobyl where they're going to start slopping concrete all over everything," Morse said.

Rather, Morse thinks a likely scenario at some point would involve constructing a building to surround the structure, complete with a roof.

However, instead of completely sealing or entombing the plant, Morse believes the structure will still allow some access to the site so that workers can get back in if necessary.

Associated Press writers Mayumi Saito and Shino Yuasa in Tokyo contributed to this story.

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The Nuclear Effect On Carbon Capture Plans (BLOOM)

Fukushima could speed up the quest to scrub CO₂ from fossil fuel

By Alessandra Migliaccio And Jeremy Van Loon

Bloomberg News, April 1, 2011

As the Fukushima crisis throws a question mark over nuclear energy use, many European countries are trying to accelerate the development of technology that cleans carbon dioxide emissions from conventional fuel plants. "The use of coal in some countries like China and India is actually growing," European Union Energy Commissioner Günther Oettinger said at the Mar. 1 inauguration of a carbon capture project in Italy. "If we can prove that this technology is safe and reliable, we will have a product that we can export in countries where coal production remains key."

Nuclear energy, which offers homegrown low-carbon power to nations that use it, took a blow from Fukushima, especially in Europe. Germany halted 25 percent of its nuclear capacity and may close its oldest plants permanently after the Green party surged in Mar. 27 state elections. Switzerland shelved plans for new reactors, the U.K. said it may delay plans, and Italy is holding off on its newly launched nuclear program.

Any lost generation is likely to be made up with natural-gas-fired plants, according to Bloomberg New Energy Finance (BNEF), but the trend also lends urgency to projects seeking to extract carbon emissions from fuel combustion and lock it deep underground. While countries from China to the US are looking for solutions, Europe has committed the most government funding for projects on carbon capture and storage, or CCS—\$10.5 billion, vs. \$5.1 billion in the US, \$4.9 billion in Canada, and \$2.5 billion in Australia, according to BNEF. Yet even in green Europe—home to the world's largest cap-and-trade system for carbon emissions as well as an array of national carbon taxes—the pace is slow. Much of the money committed to CCS in Europe won't be allocated until 2012.

The main problem with CCS is cost: "Capturing carbon is really expensive," says Age Kristensen, vice-president of technology at Statoil in Calgary. "It's just not economic." Statoil is the world's largest CCS operator, with three projects in Europe and Africa. Its Salah (Algeria) project injects about one million tons of carbon dioxide a year below the Saharan desert, using solvents to separate carbon from natural gas. Statoil also has a project under the North Sea that has been operating since 1996.

The Italian pilot project, at energy company Enel's coal-fired plant near the southern city of Brindisi, is the latest in a series of European Union-sponsored initiatives. It will cost €20 million (\$28 million) and test solvents and new technologies for carbon capture. The most efficient solvents will be used in a €1 billion project at Enel's Porto Tolle plant in Northern Italy, which will have a capacity of 2,000 megawatts and hopes to capture 1 million metric tons a year, or 90 percent of its carbon emissions. The plant is one of six partly EU-financed programs in Spain, the U.K., the Netherlands, Germany, and Poland. All six programs aim to be operational by 2015 and commercially viable by 2020, with capture rates between 80 percent and 90 percent.

Sauro Pasini, head of Enel's research and development department, says the testing seeks cheaper, more efficient ways to clean emissions and cut costs from about €90 per captured ton of CO₂ to about €45 a ton or less—still far higher than the current

€16 a ton for carbon permits trading in Europe. CCS skeptics such as Carlo Stagnaro, a researcher at think tank Istituto Bruno Leoni, say the cost of CCS needs to be €20 or €30 for it to be economically viable. "Coal is the cheapest energy source ... and what do we do? We make it the most expensive by spending loads on cleaning it up. ... We could spend the money on other things, on safer nuclear," he says.

The only current market for the gas is pumping it into depleted oil wells to help extract more petroleum. Storing it in underground aquifers or under seabeds is all cost, no revenue. "Finding efficient storage and capture technologies would solve both pollution and energy security issues," says Giuseppe Zollino, a nuclear engineer and professor of economics of energy at the University of Padua, Italy. "That's why everyone is scrambling to do it, but it means hefty government funds in the development phase."

While debates rage over carbon capture efforts, coal demand is seen rising 20 percent from 2008 to 2020, according to the latest report by the International Energy Agency. That's one reason Enel Chief Executive Officer Fulvio Conti believes finding ways to make carbon capture cheaper and safer is worth it. "Coal is here to stay in the near future, and we can't afford to run the risk of being in the cold and dark because something happens in the Gulf, or in North Africa, or elsewhere," he says. "We need to keep our options open."

The bottom line: Efforts to capture and store carbon emissions, while costly, may gain momentum after the partial nuclear meltdown in Japan.

Cleanup Questions As Radiation Spreads (NYT)

By Henry Fountain

New York Times, April 1, 2011

As it struggles with the crisis at the Fukushima nuclear power plant, the Japanese government now faces another problem spawned by the disaster: whether and how to clean up areas that have been heavily contaminated by radioactivity.

On Wednesday, the International Atomic Energy Agency said a soil sample from Iitate, a village of 7,000 people about 25 miles northwest of the plant, showed very high concentrations of cesium 137 — an isotope that produces harmful gamma rays, accumulates in the food chain and persists in the environment for hundreds of years.

The cesium levels were about double the minimums found in the area declared uninhabitable around the Chernobyl nuclear plant in Ukraine, raising the question whether the evacuation zones around Fukushima should be extended beyond the current 18 miles. On Thursday, the Japanese government said it had no plans to expand the zone.

Experts said the Japanese government must also decide what to do about the cesium contamination in the village, especially since radiation releases from the plant could continue for months.

That might argue for evacuating now and postponing any long-term decisions about cleanup, which might include abandoning some areas. But experts say there are reasons to clean sooner.

With cesium, decontamination "has to be done very quickly," said Didier Champion, director of the environmental and response division of the French Institute for Radiological Protection and Nuclear Safety. "Cesium tends to fix to materials and into soil."

Lawrence Boing, manager of special projects in the nuclear engineering division at Argonne National Laboratory in Illinois, agreed. "Sooner is always better when you have something that can be driven down into soils," he said.

Cleaning up to a safe level could be difficult and enormously expensive, but experts say it is possible, depending on the extent of the contamination.

"The good news is that we don't need to develop new technologies to address the decontamination," said Jaime Yassif, who has studied the issue as a former researcher with the Federation of American Scientists. The nuclear power industry has developed methods to deal with minor contamination at plants, she said, "but scaling up those operations for something so large is going to be very costly."

Experts were not surprised that high cesium levels were recorded at one spot in Japan; the distribution of radioactive particles from the plant depends on wind and precipitation: even a brief shower can literally rain fallout onto one spot. (High levels of radioactive iodine also create problems, but largely in food and water supplies; because it decays much more quickly than cesium, most of it is gone from the environment in a few months.)

The atomic energy agency has stressed that the data from Iitate are just a spot reading and that concentrations of cesium in the region vary widely.

But experts say that illustrates part of the problem that Japan now faces. Much more measuring is needed to understand the extent of radiation and whether areas need to be decontaminated.

It will be very expensive just to determine which areas are habitable after decontamination, said an official with an American company that works on radiation cleanup, who spoke on the condition of anonymity because of the delicate nature of his business contacts.

And such costs may pale in comparison to the actual costs of cleanup. If there is extensive contamination of soil, for instance, one likely cleanup method would be to scoop up the top three or four inches and cart it to a safe disposal site. It's a simple method, "and simpler is generally better when you're looking at technology," Mr. Boing said.

Even so, depending on the radiation, workers would have to wear protective gear, and chemicals might be applied to keep radioactive dust from spreading.

To reduce costs at Chernobyl, some of the less contaminated soil was dumped in a pit on the site rather than being hauled away, said Ms. Yassif, who is now a biophysicist studying at the University of California, Berkeley. But that should not be done in agricultural areas, she said, because the cesium can taint crops.

Dan Coyne, a vice president with CH2M-WG Idaho, which is cleaning up an Energy Department site in that state, said that given the uncertainty at Fukushima, one approach might be to spray a chemical on the soil that would prevent the cesium from migrating further. "Go and put a fixative on it, control the area, and save the remediation of that for a time when it fits your priorities," he said.

If buildings and roads need to be decontaminated, that could be accomplished by other relatively simple methods like wiping, power-washing or steam-cleaning, unless the cesium is deep.

And because waste removal and storage are among the most expensive elements in any cleanup, Ms. Yassif said, the general goal is "to remove as much of the radioactive waste as you can in as small a volume as possible."

Lab Readies Radiation-detecting Robot For Japan (WASHEX)

Associated Press, April 1, 2011

The Idaho National Laboratory is building a robot to help officials in Japan pinpoint radioactive areas within the nuclear plant crippled in this month's earthquake and tsunami

KIFI reports INL engineers are configuring a commercially available talon system so it can measure radiation levels.

The threat of radiation has hampered efforts to bring the Fukushima Dai-ichi nuclear complex under control.

INL science and engineering director David Miller says the robot will be used to reduce the risk of a person being exposed to high levels of radiation.

The US Department of Energy, which runs the lab, expects to have the robot ready and delivered next week.

Read more at the Washington Examiner: <http://washingtonexaminer.com/news/2011/03/lab-readies-radiation-detecting-robot-japan#ixzz1IGSEToZA>

Y-12 Seismically At Risk (KNOXNS)

9212 complex could be damaged, disabled by major quake, official says

By Frank Munger

Knoxville News Sentinel (TN), April 1, 2011

OAK RIDGE - Despite millions of dollars spent on upgrades, the 60-year-old production hub at the Y-12 nuclear weapons plant remains seismically vulnerable and could be severely damaged or disabled by a major earthquake.

Sections of the 9212 complex, where bomb-grade uranium is processed, were built during World War II, and a federal spokesman at Y-12 said it's not possible to bring the old facility up to today's seismic standards. He said that's one of the reasons why the government wants to build a new Uranium Processing Facility, which is projected to cost as much as \$6.5 billion and won't be available for at least another decade.

The National Nuclear Security Administration initially declined to answer questions about 9212's structural integrity and whether it could withstand a major earthquake, but spokesman Steven Wyatt later issued this statement by email:

"Safety analyses show that a major earthquake could result in significant structural damage and process failure."

Process failure means the uranium operations would no longer function, Wyatt said.

The spokesman confirmed that an earthquake could potentially compromise the safety measures in place to prevent a nuclear criticality - an event involving an uncontrolled nuclear chain reaction and release of radiation. "We have analyzed this very carefully and have not identified any scenarios that would have an impact beyond a few meters from the facility," he said.

No information on potential impacts to workers at 9212 was released.

Wyatt said Y-12's seismic analyses are based on the "anticipated maximum horizontal ground surface accelerations" for this area, with a range of 0.006 to 0.30 on the Modified Mercalli Intensity Scale. That correlates roughly to an earthquake between 5.0 and 6.0 on the Richter scale, he said.

The latest evaluation was done in 2005, and that report is not releasable to the public, Wyatt said.

A 1987 report, which was obtained by the News Sentinel years ago through a Freedom of Information Act request, identified more than 500 plausible scenarios for significant earthquake damage at 9212 - each of which would lead to at least one of the "consequences of interest."

Those consequences were serious injury or death of personnel; loss of plant capability; and criticality. At that time, the E-wing of 9212 was considered the most vulnerable because it would collapse with the lowest ground acceleration (0.14), with 20 of the top 50 scenarios involving serious injuries or deaths.

Thirteen of the 18 criticality scenarios also were at E-wing, where manufacturing work with highly enriched uranium is conducted. It's not immediately clear if E-wing today is in better shape or worse shape than it was 20 years ago.

The 9212 complex is a sprawling network of inter-connected process buildings, many of which were added during Y-12's burgeoning work on nuclear weapons during the Cold War 1950s. Concerns about its safety and the structural soundness are not new.

In 1989, a structural engineer at Lockwood Greene Engineers, a Department of Energy contractor, said he was fired after his study concluded that 9212 would collapse during a major earthquake. The engineer, Paul Nestel, said his study was later revised by other engineers to show that the building could withstand an earthquake.

A DOE investigation concluded that Nestel's firing was inappropriate, although not directly tied to his seismic study of the Y-12 facility. He was later offered his job back, but declined, and reportedly received a \$33,000 financial settlement.

The report, meanwhile, brought new scrutiny to 9212 complex, which contains numerous chemical processes for recycling highly enriched uranium used in nuclear weapons. At least one of the building's wings is used to cast, fabricate and machine uranium metal in various shapes.

In early 1990, a DOE nuclear safety panel headed by John Ahearne, a former chairman of the Nuclear Regulatory Commission, reviewed the seismic issues while holding a session in Oak Ridge and called for additional studies.

There have been other evaluations since then, including regular reports by the Defense Nuclear Facilities Safety Board. The DNFSB has called for more aggressive upgrades at 9212 as the schedule for UPF keeps getting delayed. In a 2005 letter to NNSA, the board's then-chairman A.J. Eggenberger wrote that the Y-12 contractor recommended that some modifications to address structural deficiencies not be made "because of the facility's limited life, given the planned construction and start-up of a replacement facility by 2013."

In a September 2010 letter to Congress, the safety board wrote, "The Department of Energy continues to rely on aging facilities to carry out hazardous production missions." The board cited the 9212 complex at Y-12 as an "acute" example, along with a plutonium operation at Los Alamos National Laboratory in New Mexico.

"These two facilities are structurally unsound and are unsuitable for protracted use," said the report signed by the safety board's five members. "The board is especially concerned as schedules for replacement facilities continue to slip . . ."

The Oak Ridge situation is complicated by the Y-12 facility's reportedly essential role in the nuclear weapons program. The current plan is to operate the 9212 complex until the Uranium Processing Facility comes online. However, construction of UPF isn't scheduled to start until 2012 and won't be completed until 2020, at the earliest, and the new facility won't be fully operable until 2024.

Wyatt said the government has invested millions of dollars and made "numerous modifications" to 9212 over the past 20 years, "taking seismic design into consideration."

Those modifications included "efforts to fortify walls and roofing to strengthen the structural integrity of the facility by adding building cross bracing, modifications to equipment and piping," and the addition of seismic shut-off valves for some processes, he said.

There also is a continuing effort to minimize the quantity of nuclear material at risk, thus reducing the consequences in the event on an earthquake or other problem.

Senior writer Frank Munger may be reached at 865-342-6329.

INTERNATIONAL NUCLEAR NEWS:

Radiation Levels Rise Again At Nuclear Plant (NYT)

By David Jolly And Matthew L. Wald
New York Times, March 31, 2011

TOKYO — Workers made more incremental progress at Japan's stricken Fukushima nuclear plant on Thursday, but troublingly high radiation readings at the plant as well as miles away reinforced fears that the disaster was far from ending.

The crisis continued to add to the country's difficulties as it strained to cope with widespread death, destruction and displacement from the earthquake and tsunami that battered its northeastern coast three weeks ago and left the Fukushima plant crippled. The death toll rose to 11,417, with another 16,273 people listed as missing, and hundreds of thousands have been displaced, including tens of thousands from the area around the nuclear plant. The economic toll — including the damage to exports and international trade — defies a full reckoning.

Workers have been dousing reactors and spent-fuel pools at the plant with water to prevent full meltdowns while they frantically try to restore power and restart the cooling systems, but the resulting floods of dangerously contaminated water have complicated their efforts. On Thursday workers prepared more tanks for transferring the water from turbine buildings at Reactors 1, 2 and 3 in a quest to keep the radioactive water from flooding into the ocean.

But readings taken in the sea near the plant showed that levels of radioactive iodine 131 had risen for another day, testing at 4,385 times the statutory limit, according to Hidehiko Nishiyama, deputy director general of the Nuclear and Industrial Safety Agency.

The rise increases the likelihood that contaminants from the plant are continuously leaking into the sea, he said. On Wednesday the water tested at 3,355 times the safety standard for the isotope, up from Sunday's reading of 1,150 times the maximum level.

The same isotope was detected at levels 10,000 the safety limit at Reactor No. 1, Bloomberg reported, citing a report by the plant's operator, the Tokyo Electric Power Company, or Tepco.

Sakae Muto, a Tepco vice president, said the company was contracting with Japanese companies to build a range of facilities for handling the contaminated water.

A new focus of concern stems from readings of a long-lasting radioactive element at levels that pose a long-term danger at one spot 25 miles from the Fukushima plant, raising questions about whether the evacuation zone should be expanded, and even whether the land might need to be abandoned. Residents within 12 miles of the plant have already been ordered to evacuate and those up to 19 miles away have been encouraged to leave.

The isotope, cesium 137, was measured in one village by the International Atomic Energy Agency at a level exceeding the standard that the Soviet Union used as a gauge to recommend abandoning land surrounding the Chernobyl reactor, and at another location not precisely identified by the agency. Using a measure of radioactivity called the becquerel, the tests found as much as 3.7 million becquerels per square meter; the standard used at Chernobyl was 1.48 million.

In contrast to iodine 131, which decays rapidly, cesium 137 persists in the environment for centuries. The reported measurements would not be high enough to cause acute radiation illness but far exceed standards for the general public designed to cut the risks of cancer. The Japanese authorities and the anti-nuclear environmental group Greenpeace have reported similar readings from the area; Greenpeace and some other groups are pressing for the affected area to be evacuated.

Yukio Edano, the chief cabinet secretary, said at a news conference Thursday morning that officials were studying the contamination levels, but that there were currently no plans to expand the evacuation zone.

Tepco, an enormous and influential company that supplies a third of Japan's power, faces billions of dollars in losses and liabilities from the disaster. It has confirmed that Reactors 1, 2, 3 and 4 will have to be scrapped, and on Thursday Prime Minister Naoto Kan was quoted as saying that Reactors 5 and 6, which were far less damaged since they were already offline when the disaster struck, should also be decommissioned.

Moody's Investors Service, the ratings agency, on Thursday cut its credit rating on Tokyo Electric debt to Baa1 from A1, saying only the expectation of government support justified leaving the debt rating above junk levels. The company's shares have declined nearly 80 percent since the quake.

President Obama, in a letter to Emperor Akihito sent March 24 but disclosed only on Thursday, conveyed "the deep sympathy felt by all Americans for the suffering of the people of Japan," and added that "our prayers are with you in this time of grief."

France, along with the United States, is providing technical advice and tons of material as the authorities grapple with the biggest nuclear incident since Chernobyl in 1986. On Thursday the French president, Nicolas Sarkozy, became the first world leader to visit Japan since the earthquake and the ensuing disasters.

Prime Minister Kan, appearing in a somber suit instead of the blue work uniform in which he has usually appeared since the quake, thanked Mr. Sarkozy for visiting, saying: "A friend who visits on a rainy day is truly a friend."

The two leaders pledged to strengthen international standards on nuclear safety.

"We have to thoroughly investigate the incident to understand how it occurred," Mr. Kan said. "We want to make nuclear power safer."

Mr. Sarkozy, whose country generates about 80 percent of its electricity from nuclear power, arrived in Tokyo for a one-day visit after attending a Group of 20 function in Nanjing, China. He said he wanted to work in his capacity as the current G-20 head to help the international community agree on better guidelines.

"Japan is not alone," Mr. Sarkozy said. "In the face of this calamity, all of the G-20 nations wish to aid Japan. France, as current leader of the group, wants to express our solidarity."

But both countries are seeing domestic support for nuclear expansion waver.

Earlier on Thursday the Kyodo news agency cited a Japanese Communist Party official, Kazuo Shii, as saying that Mr. Kan had agreed that the country should completely reconsider its plan to build 14 new nuclear plants by 2030. Asked at the news conference about Japan's nuclear future, Mr. Kan evaded the question.

Kyodo also reported on Thursday that the bodies of hundreds of people killed by the quake and tsunami lie uncollected in the area near the plant because they were contaminated by radiation, leaving the police and morgue workers unable to safely handle them.

The authorities are considering the use of mobile decontamination units to clean the bodies on the spot, Kyodo reported.

Workers at the plant continued to pump the contaminated water from the pools in the turbine buildings. NHK, the national broadcaster, reported that because many of the plant's radiation detectors were destroyed in the earthquake workers have had to share the devices in small groups.

Under normal circumstances each worker would have a device since it is not possible to accurately measure individual radiation exposure without them. Some workers have become enraged and walked off the job as a result, NHK reported.

Some commentators have suggested that the four worst-damaged reactors at the plant could be entirely covered with concrete containment structures, as used at Chernobyl, in Ukraine. But some experts dismissed such ideas.

Among them was Murray E. Jennex, an associate professor at San Diego State University with 20 years' experience in examining nuclear containment structures as a consultant.

"A concrete covering would be useful for the spent-fuel pools," Mr. Jennex said, "because they're exposed to the environment." But the Chernobyl reactor, he noted, was designed without the sort of internal containment structures used in the Japanese design.

"They're going to have to clean up a lot of contaminated water, and they'll probably spend a couple of years cleaning the soil, the water and radioactive components," Mr. Jennex said. "But I anticipate it will end up looking a lot more like Three Mile Island than Chernobyl."

David Jolly reported from Tokyo, and Matthew L. Wald from Washington. Ken Ichi, and Ayasa Aizawa and Moshe Komata contributed reporting from Tokyo, and Kevin Drew from Hong Kong.

Radiation Found In Groundwater At Japan Complex (WSJ)

Fukushima Daiichi Operators Report High Iodine Isotope Levels, Then Reverse Course; Prime Minister Challenges Industry

By Mitsuru Obe And Yuka Hayashi

Wall Street Journal, April 1, 2011

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

Japan Reviewing Water Tests Showing Iodine At 10,000 Times Limit (BLOOM)

By Tomoko Yamazaki And Fukashi Maruta

Bloomberg News, April 1, 2011

Tokyo Electric Power Co. said test results may be incorrect that detected radioactive iodine about 10,000 times the safety limit in underground water at its Fukushima Dai-ichi nuclear plant.

Tokyo Electric found the radioactive water near the No. 1 reactor turbine building while performing tests recommended by Japan's Nuclear Safety Commission, according to a statement yesterday. The company later said those results and others may be wrong and it will re-examine the data.

Workers have been spraying water on the reactors to keep radioactive fuel rods cool since a March 11 earthquake and tsunami damaged the plant, causing the worst nuclear accident since Chernobyl in 1986.

Tokyo Electric reported radiation in water outside one of the Fukushima reactors this week that exceeded 1 sievert an hour, a level that would trigger sickness and potential death for exposed workers, according to the US Environmental Protection Agency. Workers have averted a total meltdown at the plant by injecting seawater into damaged reactors after its cooling systems lost power.

Radiation "far below" levels that pose a risk to humans was found in milk from California and Washington, the first signs Japan's nuclear accident is affecting US food, according to Obama administration and state officials.

The US is stepping up monitoring of radiation in milk, rain and drinking water, the Environmental Protection Agency and Food and Drug Administration said in a statement yesterday.

The Japanese utility has found plutonium in soil samples near the site that it says shouldn't be enough to affect human health. Contamination of seawater found near the plant increased this week, with radioactive iodine rising to 4,385 times the regulated safety limit from 2,572 times, said Hidehiko Nishiyama, a spokesman for Japan's Nuclear and Industrial Safety Agency.

There was 180 becquerel per cubic centimeter of radioactive iodine-131 found in the ocean 330 meters (1,082 feet) south of the plant. Drinking one liter of fresh water with that level would be equivalent to getting double the annual dose of radiation a person typically receives.

Japan's damaged nuclear plant may be in danger of emitting sudden bursts of heat and radiation, undermining efforts to cool the reactors and contain fallout. Limited, uncontrolled chain reactions are among the phenomena that might occur at the plant, Chief Cabinet Secretary Yukio Edano told reporters in Tokyo yesterday.

Edano was responding to statements by the International Atomic Energy Agency, which has "emphasized that the nuclear reactors won't explode," he said. Japan's nuclear agency said there's no possibility of uncontrolled chain reactions.

Moody's Japan K.K. cut its rating on Tokyo Electric and warned it may reduce it further, saying the problems at Fukushima "appear far from being resolved" and the company is likely to remain unprofitable for a long time. Senior secured and long-term issuer ratings were downgraded to Baa1 from A1, Moody's said in a statement.

The number of dead and missing from the earthquake and tsunami had reached 27,973 as of 9 p.m. yesterday, Japan's National Police Agency said.

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Japanese Nuclear Plant's Containment Vessels Remain Suspect As Radiation Levels Spike (MCT)

By Julie Makinen And Thomas H. Maugh II, Los Angeles Times

McClatchy, April 1, 2011

TOKYO and LOS ANGELES — Radiation levels spiked inside and outside the Fukushima Daiichi nuclear power plant Thursday, slowing work on the facility once again and once more throwing into doubt the integrity of the containment vessels that hold the fuel rods.

Tokyo Electric Power Co. officials said levels of radioactive iodine in water at the plant spiked to levels 10,000 times permissible limits, preventing workers from getting near the water.

Engineers have been pumping water out of the tunnels in the basements of the facilities and into holding areas in an attempt to permit access to areas where workers are trying to restore electricity to the cooling pumps that could ultimately bring the situation at the stricken facility under control. But they cannot do so when radiation levels are that high.

The iodine is the primary gaseous byproduct of fission of uranium in the fuel rods that power the plant and its presence in water suggests that, at the very least, the cladding that encases the uranium fuel pellets has cracked, permitting the gas to escape. The good news is that radioactive forms of iodine have a half-life of about an hour or less, so that the radioactivity should quickly decay if no further release occurs.

Engineers speculated that the radiation spikes may be coming from a partial meltdown of the fuel core of reactor No. 1. It appears that small segments of the melted fuel rods in that reactor are undergoing what is known as "localized criticality," emitting brief flashes of heat and radiation.

Levels of radioactive iodine in seawater off the coast at the plant have also risen, according to Japan's nuclear safety agency. The agency said Thursday that levels of the isotope in water about 350 yards off the coast had risen to 4,385 times the permissible level, up about a third from levels the previous day.

The agency said levels of cesium-137, a much more dangerous isotope because its half-life is 30 years, were about 527 times the permissible level at the site. Environmental experts fear that the cesium could get into plankton and then into fish, where it could eventually make its way into the human food chain.

And even while radiation levels are rising at the plant, public broadcaster NHK said Thursday that many workers at the facility do not have radiation monitoring badges. Tepco, which owns the facility, confirmed the report, noting that much of its supplies had been destroyed in the magnitude 9 Tohoku earthquake and the tsunami that followed it.

But company officials said that the leaders of each team of workers have a badge and that workers without badges are assigned to areas with low radiation risk.

Fears of radiation may also be hampering recovery of bodies in the immediate area around the nuclear facility. Fukushima prefecture still has 4,760 people missing, and media reports suggest that authorities fear looking for them because of the radiation.

But police say all public areas have been cleared of bodies. They conceded that some bodies could still be inside buildings, but they do not believe the numbers are high.

(Makinen reported from Tokyo and Maugh reported from Los Angeles.)

Japan PM Says Stricken Nuclear Plant To Be Scrapped (AFP)

By Huw Griffith

AFP, April 1, 2011

SENDAI, Japan (AFP) – Japan said Thursday its crisis-hit nuclear plant must be scrapped, but currently had no plans to evacuate more people, despite calls for a larger exclusion zone around the crippled facility.

Grappling with the aftermath of a massive earthquake and tsunami, its biggest post-war disaster, Japan's government hosted French President Nicolas Sarkozy, who called for clear international standards on nuclear safety.

Japan's Prime Minister Naoto Kan said, in talks with the Japanese Communist Party leader, that the facility at the centre of the worst atomic accident since Chernobyl in 1986 must be decommissioned, Kyodo News reported.

Officials have previously hinted the plant would be retired once the situation there is stabilised, given the severe damage it has sustained including likely partial meltdowns and a series of hydrogen blasts.

Radioactive iodine-131 in groundwater 15 metres (50 feet) beneath the plant has reached a level 10,000 times the government safety standard, the plant's operator Tokyo Electric Power Co. (TEPCO) said early Friday.

It cautioned the figure – showing radioactive runoff from efforts to cool the plant has entered the water table – might be revised. TEPCO said Thursday iodine-131 in nearby seawater had hit a new high 4,385 times the legal level.

However, there were no plans to widen a 20-kilometre (12-mile) exclusion zone around the Fukushima plant despite the UN atomic watchdog saying radiation at Iitate village 40 kilometres away had reached evacuation levels.

"At the moment, we do not have the understanding that it is necessary to evacuate residents there. We think the residents can stay calm," said Yoshihiro Sugiyama, an official at the nuclear safety agency.

Japan's top government spokesman Yukio Edano also said further evacuations were not imminent, although he did not rule out that this could change.

"We will continue monitoring the level of radiation with heightened vigilance and we intend to take action if necessary," he told reporters.

The comments came after the IAEA added its voice to that of Greenpeace, which has warned for several days that residents, especially children and pregnant women, should leave Iitate village.

The IAEA's head of nuclear safety and security, Denis Flory, told reporters in Vienna that radiation levels there had exceeded the criteria for triggering evacuations.

He said the IAEA – which has no mandate to order nations to act – had advised Japan to "carefully assess the situation, and they have indicated that it is already under assessment."

The reading in Iitate was two megabecquerels per square metre – a "ratio about two times higher than levels" at which the IAEA recommends evacuations, said the head of its Incident and Emergency Centre, Elena Buglova.

Authorities later said they would Friday lift restrictions issued earlier on drinking tap water in the village, public broadcaster NHK reported.

Radiation exceeding the legal limit was found for the first time in beef from near the Fukushima plant, Kyodo News reported early Friday, adding to concerns over food safety.

The local news agency also said up to 1,000 bodies of tsunami and earthquake victims were lying unclaimed in the nuclear exclusion zone.

French President Nicolas Sarkozy arrived in Tokyo on Thursday in a show of solidarity with the disaster-hit nation, and urged nuclear authorities in the Group of 20 to establish an international safety standard.

"We call on the independent authorities of G20 members to meet, if possible in Paris, to define an international nuclear safety standard" for power plants, he said in a speech earlier in the day at the French Embassy in Tokyo.

"It is absolutely abnormal that these international safety standards do not exist," he said, suggesting the Paris meeting could take place as early as May.

French nuclear group Areva is assisting TEPCO, which runs the Fukushima Daiichi plant, and the Japanese utility has asked it to provide more help, said Areva Japan president Remy Autebert.

"We'll need a bit of time, but our actions will probably increase in response to their requests," he told AFP.

About 150 Marines of the US Chemical Biological Incident Response Force were due to arrive Friday, although there were no plans for them to take part in the emergency work to stabilise Fukushima, US defence officials told AFP.

At the plant itself, workers pushed on with the high-stakes battle to stabilise reactors, into which water has been poured to submerge and cool fuel rods that are assumed to have partially melted down.

They are also struggling to safely dispose of thousands of tons of highly contaminated run-off water.

Japan has considered a range of high-tech options – including covering the explosion-charred reactor buildings with fabric, and bringing in robots to clear irradiated rubble.

Workers also plan to spray an industrial resin at the plant to trap settled radioactive particles, although plans to start Thursday were delayed because of weather conditions.

Stabilising Nuclear Plant To Take Years (FT)

Financial Times, April 1, 2011

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

Japan Pressed To Expand Evacuation Zone; New Safety Questions For Workers At Plant (WP)

By Michael Alison Chandler

Washington Post, April 1, 2011

TOKYO — Japan, under pressure from international groups, said Thursday that it will increase monitoring and consider issuing new evacuation orders as potentially dangerous radiation levels spread farther from the Fukushima Daiichi nuclear power plant.

At the same time, monitoring concerns arose for workers at the stricken plant when its owner, Tokyo Electric Power Co., said it does not provide a personal radiation-monitoring device to every worker.

Further signs of spreading contamination and hazardous working conditions surfaced Thursday as Kyodo News reported radioactive iodine 10,000 times above the legal limit in groundwater near the unit 1 reactor at the facility.

Earlier, the International Atomic Energy Agency reported that Iitate, a village 25 miles northwest of the power plant, posted radiation levels "about two times higher" than levels at which it recommends evacuations.

The mandatory evacuation zone extends only 12 miles around the stricken plant, although the government has encouraged people within 18 miles to evacuate voluntarily.

Japan's chief government spokesman, Yukio Edano, said the government will heed the United Nations nuclear agency's advice and step up its monitoring. "If the situation continues, there can be health risks, so we will take necessary actions depending on the results of these surveys."

By Friday, government officials said radiation levels in Iitate remained within Japan's safety standards. They attributed the confusion to differences in sampling and international thresholds for evacuation. The IAEA measures contaminants in the soil, and Japan uses atmospheric levels when making decisions about evacuation.

Nearly three weeks after a tsunami flooded the reactors' cooling systems, triggering hydrogen explosions and partial nuclear meltdowns, traces of radioactive fallout have been tracked across the globe.

The Japanese government is churning out spreadsheets on radiation levels in the air, ocean and soil. Numbers are broadcast like weather reports in some cities and have informed bans on exporting vegetables, the evacuation limits and no-fishing zones.

Increasingly, those numbers are being scrutinized and second-guessed by residents of Japan, who fear the invisible isotopes and are skeptical of official safety assurances. Scores of international advocacy groups and university researchers are descending on the troubled region to monitor the impact of the disaster.

Foreign governments are also getting involved, pledging help to improve Japan's monitoring. The US Navy will send a 140-member radiological control team to aid in the battle against nuclear fallout, Gen. Ryoichi Oriki, Japan Self-Defense Force chief,

said at a news conference. The Navy's "radcon" team already had a 21-member unit stationed aboard the USS Ronald Reagan to assess the radioactivity levels on aircraft.

And French President Nicolas Sarkozy met with Prime Minister Naoto Kan and pledged more technical assistance. A team of French engineers is working with Tepco.

Four robots from Reston-based QinetiQ are also on the ground in Japan, with company workers training Tepco employees Thursday. The Virginia company also sent two kits to remotely operate Bobcat loaders. The driverless construction vehicles "can be used for debris clearance, taking supplies downrange, hose pulling. There are a lot of attachments," said QinetiQ President J.D. Crouch II.

At the center of the evacuation zone, working conditions at the nuclear plant have become extremely dangerous, with multiple highly radioactive areas. The critical job of removing contaminated water that has pooled in basements and in underground tunnels is moving slowly, in part because radiation levels are so high.

Nuclear safety experts say radiation-shielding clothing and a dosimeter that can track exposure are a minimum safety standard. But Tepco told Japanese national broadcasting company NHK on Thursday that its supply of radiation-monitoring equipment is limited.

Despite government regulations that require each worker to wear a dosimeter, a company official said that in some of the plant's less radioactive areas, only group leaders are given one. Some workers have said publicly that they are concerned about whether their exposures are being measured.

In response to the outcry, Tepco officials said Friday that they will slow work so that every worker can wear one.

Radioactive iodine levels found 1,000 feet offshore climbed to a record high Thursday for the second consecutive day, this time measuring 4,385 times the legal safety limit.

Although government officials said that even the higher levels should not have adverse health effects, the finding reaffirmed fears of continuous leaks from damaged reactor cores.

Iitate's vice mayor, Shinichi Monma, said Thursday that village officials are not fazed by the radiation reports from the international groups. "We still respect and follow the Japanese government's information and orders," Monma said.

On Thursday night, town officials lifted a ban on consuming tap water that has been in place since March 21; they said the levels no longer exceed safety limits. The ban will stay in place for babies up to a year old.

But Yasumitsu Sato, 68, reached at his store, where he sells wood to contractors, said the reports of unsafe radiation levels have renewed his fears and compounded his frustration with the government's lack of information.

"All they say is to stay at home and nothing more," he said.

Sato left the village for a few days, along with many of his neighbors, but he had to return because he could not afford to stay away from work. He wants to leave again, this time with a government order, so he can be assured of shelter, food and health care.

"I have all the necessary items: valuables, food, water . . . filled up in the car, and I am ready to leave at once," he said.

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Staff writer David Nakamura and special correspondent Tetsuya Kato contributed to this report from Tokyo. Staff writer Brian Vastag contributed from Washington.

Anger And Abandonment In A Japanese Nuclear Ghost Town (LAT)

The vast majority of Minamisoma's 71,000 people have fled since the nuclear accident at the Fukushima complex just down the coast. Those who remain endure life in a radioactive no-man's land, facing growing anxiety and deprivation.

By John M. Glionna, Los Angeles Times, 7:10 Pm Pdt, March 31, 2011

Los Angeles Times, April 1, 2011

Hoshi Jyunichu lives in a nuclear ghost town.

On a recent afternoon, he calmly swept the entrance to his downtown coffeehouse, even though only one solitary soul had crossed the threshold the entire day. His customers, his neighbors, even his family, have all fled, leaving the 46-year-old father of two among Minamisoma's stubborn holdouts.

"I was born here; I don't want to give up this town," he insisted. "And so I'm staying until I can bring my family back here."

Yet no one in Minamisoma, or anywhere else, has the faintest idea when that might possibly happen.

Before the March 11 earthquake and tsunami that led to the nearby Fukushima Daiichi nuclear power plant springing radioactive leaks, this coastal town was popular for its annual samurai festival, a scenic destination where the mountains tumble down to meet the sea.

But with the ominous prospect of potentially deadly fallout from the stricken complex just 15 miles to the south, nearly two-thirds of this agricultural city's 71,000 residents have fled, with more following all the time.

Those who remain endure life in a no-man's land, facing growing fear and deprivation. Days after the first toxic leaks, the Japanese government ordered residents within 12 miles of the plant to leave their homes. Last week, it recommended that residents beyond 12 miles and within 18 miles also evacuate, an area that includes portions of Minamisoma.

The rest of the town remains in an area where residents have been advised to remain indoors at all times. With additional heightened radioactivity findings this week, the Japanese government is under pressure to extend the evacuation zone farther.

The safety guidelines have left residents on their own to decide whether to depart or stay behind and face the invisible hand of danger.

About 50,000 people had already departed before the 18-mile evacuation zone was established last week. More abandon their homes with each passing day, looking like the Dust-Bowlers of Steinbeck's novel, their cars and trucks loaded with possessions.

Behind them sit boarded-up businesses and entire housing tracts without a human being in sight. Nowadays, no children ride bicycles here. Most of the people who remain are afraid to venture outside, even briefly. When they do, they cover their faces with masks to protect themselves from the perilous unseen particles.

If anyone smiles in Minamisoma, no one else will see.

Residents fear that Fukushima will become another Chernobyl, the Ukrainian nuclear plant whose breached core in 1986 caused the worst accident in the history of civilian nuclear power, leaving behind a legacy of thyroid and organ cancers.

There are financial worries as well. Many farmers believe their fields of spinach and winter cabbage could be plagued by radioactivity for years to come, threatening family livelihoods that go back generations.

These days, those who stay behind are angry as well as isolated. Residents long ago lost confidence in the Tokyo Electric Power Co., which owns and operates the Fukushima plant. They suspect the utility has downplayed the radiation crisis. But now, a growing number also feel abandoned by the government in Tokyo, which they say has failed to respond to their calls for aid, advice and information.

"The only news I get is from TV," said Minamisoma Mayor Katsunobu Sakurai. "There's no communication with government officials. Any advice about what we should do has been far short of what we need. And that makes me angry."

Each night, Sakurai, 55, sleeps on a couch in his tiny office. A balding bachelor with oversized glasses, he has moved his elderly parents out of town. Now he has no need to return to his home at night.

Sakurai says he is still awaiting word on radioactivity levels in his town. Most days, he eats a cup of instant noodles made with bottled water, and maybe a little rice and bread.

"There's not enough aid," he said. "People think it's polluted here. The drivers and the volunteers, they're all afraid to come. Even the reporters call me on the telephone."

The town's lone busy place is the city hall lobby, two floors below Sakurai's office, where residents have come to arrange for transportation out of town. Concerned that the outdoor air could prove lethal, they scurry from cars into the building like desert denizens on a 120-degree day.

Though many of the town's elderly have been hustled out of town by younger relatives, those who remain say they're too old to worry about radiation: by the time the cancer got them, they'd already be dead from something else.

"Sometimes I just feel so lonely," said city worker Michiko Susuki, who spends her days counseling residents. "I ask myself, where have all the people gone? They've been driven away by fear. It's like looking up at the sky at night being used to seeing the moon and stars and seeing nothing but blackness. It scares me."

In Minamisoma, farm fields still have a few goats and an occasional crow that circles overhead. But farmers are not in evidence.

Still, there are those downtown who say they are going nowhere.

Late on a recent afternoon, the sun broke through on an otherwise gray day, and Jyunichu, the coffeehouse owner, suggested it indicated, despite all evidence to the contrary, that Japan's late-winter nuclear nightmare might finally be coming to an end.

A smallish man with salt-and-pepper hair, he insisted he isn't crazy or even stubborn, just a passionate devotee of the place he has spent his entire life. And he wasn't, he promised, leaving anytime soon. "You live where you live," he said. "Home isn't a place you run away from."

Mayor Sakurai put it another way: "If the radiation really proves to be dangerous, after everyone else has gone, I guess I'll have to go," he said.

"But we're trying to keep our town alive here."

Along Japan's Northeastern Coast, Several Hundred Miles Of Cleanup (WP)

By Chico Harlan

Washington Post, April 1, 2011

SHIRAHAMA, Japan — The place to which Yoichi Sato returned Wednesday had become something far less than a home. Ribbons of exposed insulation and radiant foil hung from two of the walls. The floor was cluttered with children's books, old receipts and fern branches, all crusted in ocean-floor mud.

When the quake-triggered tsunami hit March 11, Sato watched from a hillside as the wave cut his house like a deck of cards. The first floor rolled into the ocean. The second floor carried about 250 feet, sailing over a hill, past a gas station and finally settling at a 20-degree angle atop the concrete foundation of what had once been a Buddhist temple.

For the past three weeks, survivors of Japan's earthquake and tsunami have been largely consumed with worries about their hour-to-hour existence. But government officials say that now, with main roads cleared and temperatures thawing, survivors are returning by the thousands to sort through debris, claim their belongings and, in many cases, confirm firsthand that they have no possessions left.

Japan's northeastern coastline is a several-hundred-mile cleanup job. Miyagi prefecture alone has 15 million to 18 million tons of debris. That garbage — sorted and stacked along roads, bobbing in rivers, and twisted and strewn into crevasses — stands as a hot, rotting impediment, making thoughts about the future seem impractical and obscene.

"We're in great trouble with all the cleanup. We need more resources," said Hiroshi Kameyama, mayor of Ishinomaki, a city 10 miles from Shirahama. "Until now, we have been working hard to save people and find the missing, but from now on, I somehow have to guarantee that people can live here. The first thing to do is demolish all these things."

Japan's government has promised to shoulder the full cost of debris removal — which could top several billion dollars, if the 1995 Kobe earthquake is anything to go by. Even beginning the debris removal, however, demands caution. About 16,000 people are still missing, and they could be somewhere under that mess.

In the riverfront areas of industrial Ishinomaki, flattened by the tsunami, yellow Komatsu excavators arrive at a property only if the owners have requested that it be cleared out. In farther-flung towns, such as Shirahama, the damage is so great that government officials assume nothing can be salvaged. But they hold off on debris removal until Japan's Self-Defense Forces have combed the area, searching for bodies.

'I can't find anything'

Shirahama was once a secluded riverfront community, with 40 houses wedged between mountains along the Kitakami River. Fishermen and farmers lived there. Evergreens blanketed hills on both sides, and tunnels connected the town's main road to destinations east and west.

Sato considered Shirahama a comfortable place, but that was before the town turned to water, 29 people disappeared and 50 others gathered in the eastbound tunnel, lighting fires to stay warm. With roads from Ishinomaki torn up by the earthquake and blocked by landslides, rescue workers didn't reach the survivors until 10 days later.

Only in the days since has Sato taken daily walks from the shelter where he's staying to his old home, or the half that he can find. His wife, his three children and his grandmother survived. They are all at shelters, staying warm and receiving meals. But one element is missing from their life: possessions. Things once filled Sato's home, and now those things and the home are almost indistinguishable, ground to the same pulp. On Wednesday, Sato put on waders and borrowed trousers and resumed his search.

He found a buoy tucked under the floorboards. Near a gash where the beige walls had been knocked out, he found a spool of paper — several feet of receipts, which had blown from a nearby gas station. Inside the home, Sato found a children's book with a grasshopper illustration on the front cover. He found colored pencils. But he found no photos, no important bank records, no forms of ID.

"I can't find anything," he said.

'It's a painstaking job'

In Ishinomaki and the surrounding towns, one's fortune is explained by garbage. For thousands who lived closest to the water, their home is a wreck, and the lucky ones — arriving on bikes — pull out a few supplies. For those who lived at higher elevations, where the wall of water reached only waist high, their house can be salvaged, but the damp first-floor contents are piled outside in columns five or six feet high. Women wearing galoshes and track suits drag tatami mats onto their driveways.

Young volunteers go house to house, offering help. Possessions pile outside: bookshelves, magazines, stuffed animals, ironing boards, jugs of panko bread crumbs.

"It's a painstaking job," one cleanup volunteer, Shojiro Takahishi, said Wednesday to a woman who was scrubbing the first floor of her home. "Don't break your bones."

Keiko Kato said she was living in a gym. "I want to move back home," she said.

For now, Ishinomaki officials are coordinating cleanup for dozens of surrounding towns and have hired private contractors to haul the debris. Soon, the mayor said, the city would like to buy a set of incinerators. At some point, he said, Tokyo will reimburse the local governments for the expenses. But that hasn't happened yet.

"All these things, they can't be thrown away by hand," said another town official, Yoshinori Sato. "We need machines."
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Special correspondents Koichi Ohtsu and Akiko Yamamoto contributed to this report.

Cleanup Questions As Radiation Spreads (NYT)

By Henry Fountain

New York Times, April 1, 2011

As it struggles with the crisis at the Fukushima nuclear power plant, the Japanese government now faces another problem spawned by the disaster: whether and how to clean up areas that have been heavily contaminated by radioactivity.

On Wednesday, the International Atomic Energy Agency said a soil sample from Iitate, a village of 7,000 people about 25 miles northwest of the plant, showed very high concentrations of cesium 137 — an isotope that produces harmful gamma rays, accumulates in the food chain and persists in the environment for hundreds of years.

The cesium levels were about double the minimums found in the area declared uninhabitable around the Chernobyl nuclear plant in Ukraine, raising the question whether the evacuation zones around Fukushima should be extended beyond the current 18 miles. On Thursday, the Japanese government said it had no plans to expand the zone.

Experts said the Japanese government must also decide what to do about the cesium contamination in the village, especially since radiation releases from the plant could continue for months.

That might argue for evacuating now and postponing any long-term decisions about cleanup, which might include abandoning some areas. But experts say there are reasons to clean sooner.

With cesium, decontamination "has to be done very quickly," said Didier Champion, director of the environmental and response division of the French Institute for Radiological Protection and Nuclear Safety. "Cesium tends to fix to materials and into soil."

Lawrence Boing, manager of special projects in the nuclear engineering division at Argonne National Laboratory in Illinois, agreed. "Sooner is always better when you have something that can be driven down into soils," he said.

Cleaning up to a safe level could be difficult and enormously expensive, but experts say it is possible, depending on the extent of the contamination.

"The good news is that we don't need to develop new technologies to address the decontamination," said Jaime Yassif, who has studied the issue as a former researcher with the Federation of American Scientists. The nuclear power industry has developed methods to deal with minor contamination at plants, she said, "but scaling up those operations for something so large is going to be very costly."

Experts were not surprised that high cesium levels were recorded at one spot in Japan; the distribution of radioactive particles from the plant depends on wind and precipitation: even a brief shower can literally rain fallout onto one spot. (High levels of radioactive iodine also create problems, but largely in food and water supplies; because it decays much more quickly than cesium, most of it is gone from the environment in a few months.)

The atomic energy agency has stressed that the data from Iitate are just a spot reading and that concentrations of cesium in the region vary widely.

But experts say that illustrates part of the problem that Japan now faces. Much more measuring is needed to understand the extent of radiation and whether areas need to be decontaminated.

It will be very expensive just to determine which areas are habitable after decontamination, said an official with an American company that works on radiation cleanup, who spoke on the condition of anonymity because of the delicate nature of his business contacts.

And such costs may pale in comparison to the actual costs of cleanup. If there is extensive contamination of soil, for instance, one likely cleanup method would be to scoop up the top three or four inches and cart it to a safe disposal site. It's a simple method, "and simpler is generally better when you're looking at technology," Mr. Boing said.

Even so, depending on the radiation, workers would have to wear protective gear, and chemicals might be applied to keep radioactive dust from spreading.

To reduce costs at Chernobyl, some of the less contaminated soil was dumped in a pit on the site rather than being hauled away, said Ms. Yassif, who is now a biophysicist studying at the University of California, Berkeley. But that should not be done in agricultural areas, she said, because the cesium can taint crops.

Dan Coyne, a vice president with CH2M-WG Idaho, which is cleaning up an Energy Department site in that state, said that given the uncertainty at Fukushima, one approach might be to spray a chemical on the soil that would prevent the cesium from migrating further. "Go and put a fixative on it, control the area, and save the remediation of that for a time when it fits your priorities," he said.

If buildings and roads need to be decontaminated, that could be accomplished by other relatively simple methods like wiping, power-washing or steam-cleaning, unless the cesium is deep.

And because waste removal and storage are among the most expensive elements in any cleanup, Ms. Yassif said, the general goal is "to remove as much of the radioactive waste as you can in as small a volume as possible."

After Japan Crisis, New Urgency For Radiation Drugs (NYT)

By Andrew Pollack

New York Times, April 1, 2011

A flash of blue light signaled the end for Hisashi Ouchi and Masato Shinohara. It meant that a nuclear chain reaction had started unexpectedly, bathing the two men in lethal doses of radiation. After they ran out of the room, Mr. Ouchi, who received the higher dose, briefly lost consciousness, then began vomiting.

But the two men — who were injured in a nuclear fuel accident in Japan in 1999, not during the current crisis — did not die right away. Drugs and procedures unavailable when the atomic age began kept Mr. Ouchi alive for 82 days, and Mr. Shinohara for about seven months.

As radiation spreads in Japan from crippled nuclear reactors, with workers at the Fukushima Daiichi nuclear plant potentially exposed to extremely hazardous levels, experts say that progress has been made in developing treatments for radiation poisoning. But there is still much work to do.

The crisis has put a spotlight on some small biotechnology companies developing drugs to treat people exposed to radiation. Some say they are accelerating their efforts in light of the problems in Japan.

Most of the companies are working under contracts from the United States government, aimed at treating people after a military or terrorist attack involving a nuclear or radioactive weapon. Such drugs would also be of use in a nuclear power plant accident, particularly for the nuclear plant workers, who might be exposed to the highest doses.

"There would definitely be a zone around ground zero where you could save a lot of people with these drugs," said Mark H. Whitnall, program advisor for radiation countermeasures at the Armed Forces Radiobiology Research Institute in Bethesda, Md.

He said the drugs under development would allow people to survive doses 20 to 40 percent higher than what is now considered lethal. "We'd like to do a lot better," he said.

The Japanese crisis has caused upticks in the shares of some of the companies focusing on this research, like Cleveland Biolabs. Some 5.6 million shares of Aeolus Pharmaceuticals changed hands on a single day after the crisis began, over 1,000 times the usual trading volume.

"It was crazy, just crazy," said John McManus, chief executive of the company, based in Mission Viejo, Calif. In February, it received a federal contract worth up to \$118 million to help it develop a drug to protect the lungs from radiation damage.

Several of the companies say they want to make their drugs available for use in Japan, but the government there has not ordered any. The drugs in question have not been approved by the Food and Drug Administration, and it is unclear whether anyone in Japan, even workers at the Fukushima plant, have been exposed to enough radiation to warrant such treatments.

Most of the drugs in development are two to five years away from possible regulatory approval, federal officials say, and even once approved there would still be some slight uncertainty about how well they would work in people. Because it would be unethical to expose people to high levels of radiation in a clinical trial, the F.D.A. allows approval of this type of drug if it proves effective in two species of animals and is shown to be safe in people at doses corresponding to those used in the animals.

Getting federal support for the research is one thing. It might be harder to get the government to buy large quantities to be stockpiled for use in an emergency.

Hollis-Eden Pharmaceuticals provides a cautionary tale. It was developing a steroidlike compound that was championed by Defense Department scientists, but in 2007, after the company spent \$85 million on development, the Department of Health and Human Services decided not to buy the drug, saying it did not meet technical requirements.

Hollis-Eden's stock price collapsed and has never recovered. The company dropped the drug and changed its name to Harbor BioSciences.

Some federal officials and experts say that Health and Human Services decided it needed drugs that could be effective even if given 24 hours after exposure, reasoning that after a terrorist attack it would be hard to get the drug to people immediately. The Hollis-Eden drug did not meet that requirement.

The department plans a big purchase, but not of an experimental drug developed by a tiny company. Rather, it is looking to buy hundreds of millions of dollars worth of Amgen's Neupogen or a similar drug, including generic versions of Neupogen that have been approved in Europe, according to Robin Robinson, director of the department's Biomedical Advanced Research and Development Authority.

Neupogen helps the body build infection-fighting white blood cells, which can be depleted by radiation. The drug is approved to help prevent infections in cancer patients undergoing chemotherapy, but the F.D.A. has issued an "emergency use authorization" that would allow the drug to be used to treat radiation exposure.

Biodefense work has largely fallen to small biotechnology companies because they need the money, especially at a time when investors are averse to risk. Federal grants can help defray the costs of developing a drug for commercial uses. In the case of radiation treatments, the commercial use would mainly be to protect cancer patients from the side effects of radiation therapy.

"It's significant funding for a biotech company like ours," said Ram Mandalam, chief executive of Cellerant Therapeutics, a private company that won a federal contract worth up to \$153 million over five years to develop a drug using stem cells to help bolster the immune system after radiation exposure.

Radiation can have various health effects, depending on the dose and form. For nuclear power plant accidents, the major exposure for the public would come from radioactive isotopes, and there already are some approved drugs for these that are in the federal stockpile.

Potassium iodide can help prevent thyroid cancer that can be caused by iodine-131, which has been detected in some milk, produce and tap water in Japan. Elevated levels of radioactive iodine have also been detected in milk in Washington State and California but the levels are still far too low to pose a health threat, the Environmental Protection Agency said on Wednesday. It has stepped up monitoring of radiation levels.

Exposure to cesium-137 can be treated with Prussian blue, a pharmaceutical version of an industrial dye, while plutonium exposure can be treated with DTPA. Both drugs bind to the isotopes and help the body to excrete them.

The drugs being developed by the biotech companies would probably not reduce the long-term risk of cancer after radiation exposure. They are aimed more at treating what is called acute radiation syndrome.

Death from this is often caused by bone marrow failure, which depletes the body of white blood cells and platelets, which control excess bleeding. The gastrointestinal tract and other organs can also be heavily damaged.

Progress has been fastest in reconstituting the immune system, using Neupogen, bone marrow transplants or other treatments. The two workers in Japan overcame bone marrow failure, only to die later from failure of several other organs.

But bone marrow transplants cannot be done on a mass scale, and even Neupogen is not ideal if there are thousands of people exposed after an attack because it requires refrigeration and medical care. So the government is searching for alternatives.

Cleveland Biolabs, which despite its name is based in Buffalo, is developing a drug derived from a bacterial protein. It fools the body into believing there has been a "massive salmonella infection," said Andrei Gudkov, chief scientist. The body's response is to produce substances, including the protein in Neupogen, that help restore the immune system and gastrointestinal tract.

Dr. Gudkov said the drug was at least a year away from approval.

Onconova Therapeutics, a private company in Newtown, Pa., has a drug called Ex-Rad that facilitates repair of DNA damaged by radiation and helps prevent cell death.

Osiris Therapeutics has a \$224 million contract from the Defense Department to develop a therapy using stem cells to help repair gastrointestinal injuries. Of that, \$200 million would be possible purchases of the drug, if it is approved by the F.D.A.

Safety is an obstacle, especially if a drug is to be given to healthy people in advance of possible exposure. Side effects could also slow down rescue or cleanup workers entering a contaminated area.

"You do not want to vomit in a hazmat suit," said John E. Moulder, a professor of radiation oncology at the Medical College of Wisconsin. "You don't really want to have diarrhea. You want to get in there, get the job done and get out."

Assessing overall progress, he said, "I think we have moved to show that a radiological counterterrorism program is medically possible." But he added: "Are we ready to go if it's a large number of people? No."

Japan Nuke Plant Leaks Radiation Into Groundwater (NYT/AP)

Associated Press, April 1, 2011

Radiation exceeding government safety limits has seeped into groundwater under a tsunami-crippled Japanese nuclear plant, according to the operator, but has not affected drinking supplies.

The leak announced late Thursday could pose a long-term problem, however, and at the very least it is a concerning indicator of how far Tokyo Electric Power Co. is from bringing its plant under control. Workers have been battling to stabilize dangerously overheating reactors after cooling systems were knocked out in the March 11 tsunami.

TEPCO has increasingly asked for international help in its uphill battle, most recently ordering giant pumps from the US that were to arrive later this month to spray water on the reactors.

The groundwater contamination — 10,000 times higher than the government standard for the plant — is the latest setback at the Fukushima Dai-ichi complex, where leaks have already contaminated food and hindered workers' ability to bring the plant under control. Iodine-131, a radioactive substance that decays quickly, was found nearly 50 feet (15 meters) below one of the reactors, according to TEPCO spokesman Naoyuki Matsumo.

While the contamination does not appear to have caused an immediate problem, there are two ways it could eventually affect drinking water if concentrations were high enough. One is if it were to seep into wells in the area. For now, a 12-mile (20-kilometer) radius around the plant has been cleared, though residents of the area are growing increasingly frustrated with evacuation orders and have been sneaking back to check on their homes.

The other concern is whether contaminated water from the plant could seep into underground waterways and eventually into rivers used for drinking water. It's not yet clear if this is possible.

Seiki Kawagoe, an environmental science professor at Tohoku University, also noted that radiation tends to dissipate quickly in the ground, as it does in the ocean.

Radiation concerns have rattled the Japanese public, already struggling to return to normal life after the earthquake-borne tsunami pulverized hundreds of miles (kilometers) of the northeastern coast. Three weeks after the disaster in one of the most connected countries in the world, 260,000 households still do not have running water and 170,000 do not have electricity.

In the latest report of food becoming tainted, the government said Friday that it planned more tests on a cow slaughtered for beef that had slightly elevated levels of cesium, another radioactive particle. Officials stressed that the meat was never put on the market.

Health Ministry spokesman Taku Ohara said the cesium was found in a cow slaughtered March 15 more than 40 miles (70 kilometers) from the plant.

Radioactive cesium can build up in the body and high levels are thought to be a risk for various cancers. It is still found in the soil of Germany, Austria and France 25 years after the Chernobyl nuclear disaster and is found in wild boar in Germany, making the pigs off-limits for eating in many cases.

Contamination has also affected work at the plant itself, where radioactive water has been pooling, often thwarting the vital work of powering up the complex's cooling systems.

Despite the leaks, TEPCO hasn't had enough dosimeters to provide one for each employee since many were destroyed in the earthquake. Under normal circumstances, the gauges, which measure radiation, would be worn at all times. But officials said Friday that more meters had arrived and they now had enough to everyone.

TEPCO has repeatedly relaxed safety standards during the crisis in order to prevent frequent violations. That is not uncommon during emergencies.

Though the company has acknowledged that it was initially slow to ask for help in dealing with the nuclear crisis, experts from around the world are now flooding in. French nuclear giant Areva, which supplied fuel to the plant, is helping figure out how to dispose of contaminated water and American nuclear experts are joining Japanese on a panel to address the disaster.

Japan has also ordered two giant pumps, typically used for spraying concrete, from the US. They are being retrofitted to spray water first, according to Kelly Blicke, a spokeswoman at Putzmeister America Inc. in Wisconsin. At least one similar pump is already in operation at the plant.

US troops are also involved in the search for the dead. Japan's defense ministry said, starting Friday, the two militaries will create joint teams to look for bodies from the air. So far 11,500 people have been confirmed dead, though that figure is expected to exceed 18,000. Another 16,400 are missing, and many may never be found.

Hundreds of thousands more people are living in evacuation centers, most because they lost their homes in the tsunami. But others have been forced to leave their houses near the plant because of radiation concerns.

Some residents are growing angry and frustrated with the government and are increasingly violating the bans to return to their homes to gather whatever they can find.

Fukushima officials have put up posters in all evacuation centers urging residents not to violate cordon but are also pressing Tokyo to arrange trips in for the residents as soon as possible.

"There is no doubt in my mind that it is dangerous in there," said Kazuko Hirohara, a 52-year-old nurse from Minami Soma. "I just wish they would have thought about safety before they ruined our lives."

Sarkozy, Kan See G8 Nuclear Safety Talks (WT)

Summit set for May in France

By Christopher Johnson - Special To The Washington Times

Washington Times, April 1, 2011

MORIOKA, Japan | Japanese Prime Minister Naoto Kan on Thursday joined French President Nicolas Sarkozy in calling for independent experts to help set tougher international safety standards for nuclear energy.

In a joint press conference after their meeting in Tokyo, the leaders of two of the world's largest nuclear power producers said safety issues will top the agenda at the Group of Eight summit in late May at Deauville, a French resort city.

Mr. Kan said Mr. Sarkozy, who chairs the G8 this year, had asked him to open the summit by speaking about Japan's post-tsunami nuclear crisis.

"Our country's experience of this nuclear accident is very painful," Mr. Kan told reporters. "But to prevent a recurrence of this kind of thing, I believe that we are obliged to share this experience accurately with countries all over the world."

Mr. Sarkozy said the problem with nuclear energy is that "there are no global common rules."

"We need to improve safety standards, not discuss whether we should choose to stop introducing nuclear energy," the French president said.

Mr. Sarkozy defended the need for nuclear energy as alternative energies continue to develop, but Mr. Kan said earlier on Thursday that Japan will revisit plans to build 14 reactors by 2030.

France operates 58 nuclear reactors, which produce about 80 percent of its electricity. Japan runs 55 reactors, which create about 30 percent of its electric power.

A magnitude 9.0 earthquake near Japan on March 11 caused a massive tsunami that swamped Fukushima's nuclear reactors.

Hosting the first foreign leader to visit Japan since the tsunami, Mr. Kan made his strongest calls yet for increased international assistance, such as robots and technical experts, to help control the Fukushima power plant, which Japanese nuclear safety officials say is leaking radiation into the ocean.

"The amount of water is enormous, and we need any wisdom available," said nuclear safety agency spokesman Hidehiko Nishiyama.

On Thursday, Japanese scientists said they found levels of radioactive iodine 4,400 times the legal limit in the Pacific Ocean near Fukushima's damaged reactors.

Tokyo Electric Power Co. also reported late Thursday that "extremely high" radiation levels 10,000 times the safe limit were detected in groundwater about 45 feet below Fukushima's No. 1 reactor, but the radiation didn't threaten drinking water.

Earlier Thursday, the International Atomic Energy Agency (IAEA) said radiation in the village of Iitate, about 25 miles northwest of the nuclear plant, was high enough to require the evacuation of residents.

However, the government reiterated that it has no plans to extend the 12-mile evacuation zone around the plant.

Chief Cabinet Secretary Yukio Edano said officials might consider expanding the evacuation zone if the high levels of radiation persist.

"If a person is exposed to the radiation levels exceeding the IAEA criteria for a long time, it might affect their health because radioactive substances could accumulate in the body," Mr. Edano said. "If that is the case, we need to consider evacuating residents from the area."

Comments

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By Chuck Neubauer - The Washington Times

Commentary

Sarkozy Pledges Japan Aid, Calls For Stronger Nuclear Safety (BLOOM)

By Sachiko Sakamaki And Takashi Hirokawa

Bloomberg News, April 1, 2011

French President Nicolas Sarkozy pledged support for Japan's Prime Minister Naoto Kan in containing the worst nuclear crisis in 25 years and called for strengthening international atomic power safety standards.

"We want to set up a standard by the end of this year," Sarkozy said at a joint press conference with Kan in Tokyo. "I wanted to convey our international support for Japan and our trust that Japan will rise again."

Kan said he appreciated France's offer of equipment and expertise and said he will discuss the impact from the crippled Fukushima Dai-Ichi nuclear plant at the Group of Eight summit that Sarkozy will host in May.

Sarkozy is the first foreign leader to visit Tokyo since the March 11 record earthquake and subsequent tsunami devastated much of northeastern Japan, leaving almost 28,000 people dead or missing. He flew to Tokyo from Nanjing, China where he was attending a Group of 20 gathering.

"We have a duty to other countries to accurately share our experience with this nuclear accident so that we can prevent a recurrence," Kan said.

The Dai-Ichi plant may be in danger of uncontrolled chain reactions, the International Atomic Energy Agency said yesterday, putting workers at risk as they struggle to cool reactors that have leaked radiation into the air and sea. Tokyo Electric Power Co., the operator of the facility, has reconnected power to the six reactors while working to repair its cooling systems.

Kan said he intended to review how Japan's electricity companies are managed as private-sector companies once the crisis subsides.

Sarkozy said that while he won't allow the building of new nuclear power stations that don't adhere to strict safety standards, the developed world has no choice but to harness atomic power for its electricity needs as well as reducing greenhouse gas emissions.

France To Assess Nuclear Risk And Safety Measures (NYT)

By Katrin Bennhold And David Jolly

New York Times, April 1, 2011

PARIS — Although France has avoided most of the global anti-nuclear backlash prompted by the Fukushima reactor crisis, there is a serious, if quiet, reassessing of the risks here in a country that obtains nearly 80 percent of its electricity from nuclear power.

Even though there is little talk about shifting away from the industry, comments this week by top French officials made it clear that there would be changes here that were likely to have an effect on the worldwide reckoning with nuclear power, given France's long history with the industry.

The head of France's Nuclear Safety Authority, André-Claude Lacoste, made some of that process public on Wednesday when he told members of Parliament that the country would draw the necessary lessons from the Japanese experience and upgrade safety procedures. The most urgent task — and one that Mr. Lacoste acknowledged had been neglected — is a re-evaluation of the potential effects of natural disasters on nuclear safety.

"Nobody can guarantee that there will never be a nuclear accident in France," he warned.

President Nicolas Sarkozy underscored the point on Thursday, when he traveled to Japan and called for new nuclear safety guidelines for all countries in the Group of 20, over which he currently presides.

"Japan is not alone," said Mr. Sarkozy, who was the first foreign leader to visit Japan since the March 11 earthquake and tsunami devastated the coast north of Tokyo and set off the crisis at the Fukushima Daiichi Nuclear Power Station.

He said global nuclear regulators, who are to gather under the auspices of the International Atomic Energy Agency in June, should meet earlier, in May, to discuss the implications of the Japanese crisis.

In Mr. Lacoste's testimony, he said that the fact that more than one natural disaster could occur at the same time, as happened in Japan, "is a subject that until now we didn't really take into account." He promised to take a fresh look at the risk that tectonic activity could produce on French territory, particularly along the coast.

Even though France's nuclear reactors were built to withstand five times the impact of the worst earthquake ever registered here, severe flooding and bad weather in recent years have made clear that threats can come from multiple sources, and maybe amplify each other, Mr. Lacoste said.

"Climate change is changing the situation," he said. "Extreme events that so far happened every thousand years along the coast now happen every hundred years."

Prime Minister François Fillon last month ordered a safety audit of the country's 58 nuclear power plants. Nuclear experts are also to review a decision to keep a number of plants older than 30 years running and are cooperating with the Interior Ministry to update accident management and evacuation procedures, particularly in heavily populated areas around reactor clusters like those near Dunkerque, in northern France.

Finally, Mr. Lacoste said, cooling mechanisms will be studied in more detail, not least because of their failure at Fukushima.

France's early caution in the Japanese crisis drew attention, particularly as it became the first country to advise its citizens to leave Tokyo and provided planes to repatriate those unable or unwilling to travel south, just days after the earthquake struck.

Many countries eventually followed suit. The recommendation was the result of nuclear experts at the Japanese subsidiary of Areva, the state-controlled French nuclear company, warning the French ambassador about a potential risk of contamination in Tokyo if the wind turned and rain then deposited radioactivity from the damaged reactors in the capital.

Whatever traces the current crisis might leave, France is unlikely to entirely turn its back on nuclear power, a legacy of Charles de Gaulle that has been broadly embraced by politicians across the political mainstream for decades.

The nuclear industry in France is highly advanced and provides a major source of export revenue. Three partially state-owned French companies — Areva, GDF Suez and EDF — are among the most important players in the sector globally. EDF designs, maintains, operates and decommissions plants.

In 2008, France produced 439 terawatt hours of nuclear power, representing 16 percent of global production.

German Utility Suing Government Over Nuclear Power (AP)

By Juergen Baetz

Associated Press, April 1, 2011

A German utility will challenge the government's decision to take older nuclear power plants temporarily off the grid in the wake of Japan's Fukushima disaster, a company spokeswoman said Thursday.

RWE AG deems the legal basis of Chancellor Angela Merkel's decision to shut down the plants for three months pending safety investigations to be insufficient, Annett Urbazcka said.

Merkel hastily announced the shut down of the nuclear power plants built before 1980 — seven of the country's 17 reactors in total — only four days after Japan's March 11 earthquake and tsunami hit the Fukushima Dai-Chi nuclear facility.

RWE's spokeswoman stressed the utility, based in Essen, is not opposed to safety investigations, but it doubts the legal basis of the decision that forced it to shut down its Biblis A plant near Frankfurt.

A lawsuit, formally directed against Hesse state where the reactor is located, will be filed Friday at an administrative court in Kassel, Urbazcka said.

The government justified the decision based on a paragraph that allows it to shut down plants when there is the "suspicion of a threat" to the plants' safety that cannot be fully excluded.

But RWE disputes that a nuclear disaster half a world away matches this requirement. Urbazcka also said the company was forced to file a lawsuit to avoid damage to its shareholders.

Some lawmakers have also voiced unease over the decision's legal footing, but Merkel stressed the "catastrophe of apocalyptic dimensions" at Japan's Fukushima facility has raised serious safety issues that have to be properly addressed.

Analysts have said the four affected utilities are poised to lose around euro500 million (\$700 million) as they are forced to take their reactors off the grid — the lawsuit could therefore prove costly for the government should it lose in court.

For the utilities, a lot is at stake because lawmakers have started arguing the older reactors now taken off the grid should remain closed for good.

But German utility E.ON AG said late Thursday it would not take the issue to court during the three-month period even "despite doubts on its legitimacy," German news agency DAPD reported.

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. The government has now performed a U-turn and put that plan on hold in the wake of the Fukushima disaster.

Chancellor Merkel's Shellacking (NYT)

New York Times, April 1, 2011

Even after pandering to voters' fears about nuclear power, the euro and NATO operations in Libya, Chancellor Angela Merkel of Germany got a shellacking in her Christian Democratic party's traditional bastion of Baden-Württemberg. We hope Mrs. Merkel, whose term runs until 2013, draws the right lessons and hews more closely to her own principles and Germany's larger interests.

Sunday's election took place in the shadow of Japan's unfolding nuclear power-plant disaster. The future of Germany's 17 nuclear reactors (four of which are in Baden-Württemberg) was the biggest issue, and the antinuclear Green Party was the biggest winner.

Mrs. Merkel was vulnerable after she pushed through a law extending the legal life of Germany's reactors from 30 years to more than 40. Then, just ahead of the election, she ordered an immediate 90-day shutdown of the seven reactors built before 1980. It was the right thing to do, but it cast doubt on the earlier extension and left voters wondering what she would do when the 90 days ran out.

Mrs. Merkel's flailing efforts to have it both ways on Europe's endangered currency also left voters wondering where she really stood. She portrayed her decision to stretch out Germany's contributions and her demands for growth-killing austerity as shielding German taxpayers from the extravagance of slothful European neighbors. Voters punished her for pledging any bailout money at all. Prolonging the crisis and impeding growth in the euro-zone will hurt German banks and exporters.

Mrs. Merkel has also been disappointing on Libya. Although NATO has long been the linchpin of Germany's defense plans, she ostentatiously removed German ships in the Mediterranean from NATO command to keep them clear of operations in Libya. Germany also abstained in the United Nations Security Council's vote authorizing action, joining Russia, China, Brazil and India.

Most of Mrs. Merkel's postwar predecessors rightly believed that Germany's economic prosperity was firmly tied to the European Union and its military security tied to NATO. It is becoming increasingly hard to figure out what Mrs. Merkel believes.

China To Cut Nuclear Goal After Japan Crisis, Build Solar Farms (BLOOM)

By Chua Baizhen

Bloomberg News, April 1, 2011

China, the world's biggest energy consumer, will cut its 2020 target for nuclear power capacity and build more solar farms following Japan's atomic crisis, said an official at the National Development and Reform Commission.

The country will reduce its nuclear capacity goal of 80 gigawatts, Ren Dongmin, the head of the economic planner's renewable energy development, said at a Beijing conference today, without giving a new target. The goal for solar-power capacity will increase from the current target of 20 gigawatts, he said.

"We can see delays in some projects, but in the longer term, I don't see how they can change the program they have in place without facing drastic power shortages," David Lennox, an analyst at Fat Prophets in Sydney, said by telephone. "It's difficult to see what their alternatives to nuclear are."

Radiation leaks from the crippled Fukushima Dai-ichi power station following Japan's record March 11 earthquake have prompted other countries to review their nuclear development. NDRC Vice Chairman Xie Zhenhua said yesterday China won't alter its atomic energy plans, even as the Cabinet had stopped approving new nuclear plants, pending safety checks.

Shares of nuclear plant-equipment maker Shanghai Electric Group Co. and Dongfang Electric Corp. both slumped 2 percent in Hong Kong trading. The benchmark Hang Seng index rose 0.3 percent. Shanghai Chaori Solar Energy Science & Technology Co. advanced 1.8 percent on the Shenzhen exchange.

The crisis in Japan will encourage "healthy development" of the Chinese nuclear industry in the long term as the Fukushima accident will prompt China to take additional safety measures, Cao Peixi, chairman of Huaneng Power International Inc. (902), said at a media briefing in Hong Kong today.

China's biggest electricity producer won't alter its nuclear plans because of Japan, Cao said. The Chinese government approved on March 1 a proposal by parent China Huaneng Group to develop a 4,000-megawatt atomic plant in Shandong province, said Cao, who's also president of the group.

The country, building more reactors than any other, currently has at least 14 atomic units in operation, according to data from the World Nuclear Association. The world's fastest-growing major economy is constructing at least 27 reactors and has 50 more planned, according to the association. The country started operating its first commercial nuclear plant in 1994.

"We do see in three to five years a significant uptake in safer reactor technology," Fat Prophets's Lennox said. "When we make a step towards safety, bigger nuclear plans may then come from countries."

Public health worries escalated in China in the week following the Fukushima accident, with shoppers clearing shelves of salt, perceived as a defense against radiation exposure. China has since released the daily results of its nationwide radiation checks to allay concern.

The Ministry of Environmental Protection and National Nuclear Safety Administration may start a nationwide inspection of nuclear plants that may last for several months, the 21st Century Business Herald said March 25, citing Yu Jun, a deputy head of the ministry's department of nuclear safety management.

The 1986 nuclear disaster at Chernobyl in Ukraine sparked protests in Hong Kong against the Daya Bay plant in the mid-1980s. The station in Guangdong province, 50 kilometers (31 miles) from Hong Kong's Tsim Sha Tsui district, had two radiation leaks last year that owners CLP Holdings Ltd. (2) and China Guangdong Nuclear Power Group Co. said didn't pose a danger to human health.

China aims to increase the share of renewable sources, including nuclear and solar power, in its energy mix to 11 percent over the next five years from 8 percent, data from the National Energy Administration show.

Chileans Wary Of Nuclear Post-Japan (REU)

By Brad Haynes And Fabian Cambero

Reuters, April 1, 2011

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UAE, Planning First Reactors, Wants To Learn From Japan Crisis (LAT/REU)

By Amena Bakr

Reuters, April 1, 2011

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Letter Bomb Injures 2 At Swiss Nuclear Office (NYT)

By Nick Cumming-Bruce

New York Times, April 1, 2011

A letter bomb exploded at the office of a Swiss nuclear industry lobbying group on Thursday, slightly injuring two employees, a police spokesman said.

The letter bomb exploded at the fourth floor office of Swissnuclear in the northern town of Olten at 7.:45 local time as personnel were opening the mail, Andreas Mock, a spokesman for the local police said. Mr. Mock said that a woman employee suffered injuries to her hands and arms and another employee complained of hearing problems as a result of the explosion.

No group has claimed responsibility for the blast, Mr. Mock said.

Controversy in Switzerland over nuclear power has increased since the crisis at Japan's Fukushima Daiichi Nuclear Power Station resulting from the March 11 earthquake and tsunami. Switzerland operates five nuclear power stations but Japan's nuclear disaster prompted Swiss Energy Minister Doris Leuthard to suspend requests to build two new plants and to order a review of safety at the existing Swiss plants.

Two Hurt In Parcel Bomb At Swiss Nuclear Lobby (REU)

Reuters, April 1, 2011

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US: SKorea Trade Pact Will Bar Imports From NKorea (AP)

By Matthew Pennington, Associated Press

Associated Press, April 1, 2011

WASHINGTON – The top US diplomat for east Asia said Thursday a proposed free trade agreement with South Korea is in America's strategic interests, rejecting concerns it could provide a back door for imports from communist North Korea.

In a testy exchange with a lawmaker, Assistant Secretary of State Kurt Campbell defended the pact, which was completed by the US and South Korean governments in December but still requires congressional approval.

Campbell told a House of Representatives Foreign Affairs subcommittee hearing on "Protecting American Interests in China and Asia" that it is long-standing US policy to prohibit imports from North Korea, whose authoritarian regime has conducted nuclear and long-range missile tests in defiance of U.N. sanctions.

Rep. Brad Sherman, D-Calif., said that under the agreement, goods with up to 65 percent non-South Korean content can enter the United States with preferential, often duty-free, treatment. He said nothing in the agreement prevents that foreign content from being Chinese or North Korean — and South Korea from imposing countervailing duties if America should object.

"The text of the agreement is the text of the agreement," Sherman said. "You've got nothing in writing from the South Koreans that they will not point to the text of that agreement and raise tariffs on American chickens or whatever else they want to raise tariffs on when we bar those North Korean goods from coming in."

Some 40,000 North Koreans work at an industrial park on its side of the heavily militarized border that hosts companies from rival South Korea — a symbol of cooperation that has continued to operate despite current tense relations across the Korean Peninsula.

"We have very clear protections, and we have made very clear to South Korea that we will not import goods produced in North Korea," Campbell responded.

He said the agreement was in America's "best strategic interests."

The Obama administration says the pact would eliminate tariffs on 95 percent of US consumer and industrial exports to South Korea, and boost US exports by \$11 billion and supporting 70,000 new jobs in America. It is a major plank of a strategy to leverage trade with the Asia-Pacific to help the US recover from the global crisis.

The agreement's passage through Congress faces a further complicating factor. Republicans are pushing for trade agreements with Colombia and Panama, which the Democratic administration says require more time. Republicans say they will not act on the South Korea deal unless all three pacts are submitted as a package.

At Thursday's hearing, Rep. Don Manzullo, a Republican, said the administration needs to do a better job enforcing trade rules on China as abuses are severely hampering American companies' efforts to compete there.

He said the government's goal of doubling US exports by 2014 will not be met if "the administration continues to allow China to flagrantly flout trade rules at the expense of American jobs."