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NUCLEAR REGULATORY COMMISSION NEWS SUMMARY

FRIDAY, MARCH 25, 2011 7:00 AM EDT

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TODAY'S EDITION

NRC News:

Report Faults NRC Rules On Nuclear Plant Equipment Failures. 1
Supporters Of Nuclear Resurgence See Tough Times Ahead 2
Author Navarro Says New Nuclear Power Is "Dead" In America . 2
Diablo Canyon Relicensing Effort Criticized..... 3
NRC To Launch Two-Step Review Of US Nuclear Fleet..... 3
Questions Raised About NRC Rules For Backup Power At US Plants 3
EPA Radiation Monitor Glitches May Hamper Real-Time Warnings..... 3
TVA Subcontractor Faces Charges Of Lying On Inspection Records..... 3
TVA, Activists Disagree Over Safety Claims About Nuclear Plants 5
California Lawmaker Asks NRC To End Diablo Canyon Relicensing Consideration..... 5
New Reactors Expected To Face New Hurdles..... 6
Costs For Existing Nuclear Fleet Expected To Increase 6
MSNBC Details FOIA Requests Made To NRC 6
Nuclear Support Waning As Cuomo Touts NRC Review Of Indian Point..... 6
Reps. Lowey, Engel Call For Hearings On NRC Relicensing Process..... 7
Japan Crisis Said To Present Critical Test For Nuclear Energy... 7
NRC, Senators, Illinois Agencies Holding Nuclear Forum..... 7
Exelon Assures Investors Concerned About Safety 7
Oyster Creek Relicensing Questioned 8
NRC: Nuclear Output Up Yesterday..... 8
Many Fear Nuclear Power Despite Safe History 8

Nuclear Vital To US, Could Be Safer With New Technologies 8
Levin Discusses Nuclear Sector..... 8
PSEG Faces New Considerations For New Jersey Plant After Japan 8
Nuclear Innovation Announces Lay Offs..... 8
Closed Michigan Plant Unlikely To Cause Danger 9
Canadian Official Urged To Offer A "More Balanced Perspective" On Fermi 2 9
Op-Ed Contributor Blasts Florida Power & Light, NRC..... 9
GE-Hitachi's ESBWR Design Moves Closer To NRC Approval... 9
NRC Faults Performance At Robinson Plant 9
Japanese Nuclear Crisis Brings Yucca Issue To The Forefront... 9
DOE Sites Under Consideration For Low-Level Rad Waste 10
Report Says NNSA "Not Effectively Securing" Facilities..... 10
New Y-12 Site Office Deputy Manager Named 10
Fossil Fuels Expected To Emerge As 'Big Winner' Amid Nuclear Power Concerns 10

In the Blogs:

Blog: Iranian Hackers Suspected In Comodo Security Breach . 11
--

International Nuclear News:

Fukushima Workers Seek To Restore Power To Damaged Reactor 11
Japanese Capacitor Makers Face Shortages..... 12
Activists Meet With Mayor Opposed To Great Lakes Nuclear Shipment..... 13
North Korea Suggests Libya Should Have Kept Nuclear Weapons..... 13

NRC NEWS:

Report Faults NRC Rules On Nuclear Plant Equipment Failures.

The [CBS Evening News](#) (3/24, story 6, 0:25, Couric, 6.1M) reported, on "new questions tonight about safety procedures at nuclear plants right here in the US." Top Federal regulators "say safety guidelines for the nuclear industry are 'contradictory and unclear.' Their

investigation found at least 24 cases of possible equipment defects that went unreported."

The [AP](#) (3/25, Daly) reports that according to the Nuclear Regulatory Commission Inspector General's office, US nuclear plant operators "are not telling the government about some equipment defects that could create safety risks," in an audit that calls into question "the agency's oversight, saying reporting guidelines for the nuclear industry are 'contradictory and unclear.'" The IG's [report](#) (PDF) also said

the NRC has not "levied any civil penalties" or taken significant enforcement action for lapses in reporting equipment defects "in at least eight years." The audit says that unless the NRC takes steps to "improve its reporting guidelines, 'the margin of safety for operating reactors could be reduced'" at plant sites. NRC spokesman Eliot Brenner said the NRC has a "variety of other regulations that effectively encompass reporting all defects, and the NRC continues to conclude plants are operating safely." The AP (3/25) ran an abbreviated version of its coverage.

The Washington Post (3/25, Mufson, Yang, 572K) adds that while the report "doesn't assert that any imminent danger" from the lapses, nuclear experts say the "lack of communication" could make it harder for other plant operators to learn about flaws in their own equipment. The report did not describe the defects, a fact which "frustrated lawmakers, who said the report on unreported problems did not say what those problems were." Rep. Edward Markey (D-Mass.), called the study "troubling," and said it "raises serious questions about the self-policing allowed at nuclear facilities with regard to reporting of safety concerns."

The New York Times (3/25, B4, Harris, Severson, 950K) notes that the "inspector general's office said it was concerned about equipment involving safety features," like systems that measure reactor coolant pressure. The Times adds that "R. K. Wild, a senior analyst in the inspector general's office," said that full reporting of equipment defects is critical to ensure that problems are "not duplicated at other plants."

The Financial Times (3/25, Bond, 448K) reports, David Lochbaum, of the Union of Concerned Scientists, said, "Reactors may be operating today with parts known, by some but not by all, to be defective," and he endorsed the IG report as "solid," saying the office "deserves recognition for having flagged it."

According to the Wall Street Journal (3/25, Tracy, 2.06M), NRC spokesman Scott Burnell said the agency will examine the inspector general's report "to see if our reporting systems can be further strengthened." Other than that, "the NRC continues to conclude plants are operating safely."

Reuters (3/25, Rampton, Rascoe) reports, Steve Kerekes of the Nuclear Energy Institute said that the IG report examines a narrow portion of the NRC's nuclear safety envelope, and adds that "It's certainly appropriate to look at it, but we ought to keep some perspective about it in the context of overall safety performance." Kerekes also said, according to The Hill's (3/25, Geman) "E2-Wire" blog, that the nuclear industry's "actual operating performance demonstrates that we are operating at high margins of safety," and asserted the report "should not diminish from our larger safety record, which is excellent." E&ENews PM (3/25, Northey) also covered the report.

IEER Head Faults NRC. On MSNBC's "Hardball with Chris Matthews" (3/24, Matthews, 7:48pm), the host said the "inspector general report shows nearly 30% of our nuclear power plants fail to report equipment problems that can pose substantial safety risks. ... And separately, a nuclear plant worker in Tennessee has been charged with lying about plant inspections. So given all that, how safe are we here in America? Can the NRC, the nuclear regulatory agency, keep us safe?" Matthews goes on to discuss that question with Arjun Makhijani of the Institute of Energy and Environmental Research, who faults the NRC, which he says "has reacted with considerable complacency. It's not enough to order a paper study." The "NRC has known the dangers in the United States since a 1997 study was done for it about US reactors by the Brookhaven National lab. That study estimated damages at somewhere in today's dollars between \$900 million and \$700 billion and maybe up to tens of thousands of excess cancer deaths."

Supporters Of Nuclear Resurgence See Tough Times Ahead. In a front-page story, the New York Times (3/25, Lichtblau, 950K) reports on the nuclear resurgence in the US, which "began in earnest in under President George W. Bush and has led President Obama to seek a \$36 billion expansion in loan guarantees to finance reactors," but which is now in doubt after the disaster in Japan at the Fukushima Daiichi nuclear plant, and has advocates on all sides of the issue wondering whether that incident will "slow or even derail the planned expansion" of nuclear power in the US. The Times says nuclear industry executives, "girding for a fight, have already held 20 briefings for Washington lawmakers and others" about the incident in Japan and are trying to disseminate "guidance on increased safeguards for reactors," but with recent polls "showing dimmed support for nuclear power, opponents are hoping to use the events in Japan to slow the industry's political momentum and challenge [its] record of safety."

Author Navarro Says New Nuclear Power Is "Dead" In America. University of California, Irvine professor Peter Navarro, author of "Seed of Destruction" said on CNBC's "Kudlow Report" (3/24, Kudlow, 7:50pm), that hopes for new nuclear power are "dead now in America, long live natural gas. I think what's going to happen here is that there will be a nuclear industry, but there's only going to exist in three types of countries and we're not one of them. You're going to have totalitarian regimes like China, which can control public opinion, they've got 100 of them on the books, Larry." He added, "You're going to have rogue regimes like Iran that want to kind of leverage a civilian nuclear program to make their bombs. And you're going to have countries like India, which are facing tremendously fast electricity demand

growth that are going to have to go to nuke nukes, even though they might not want to."

Diablo Canyon Relicensing Effort Criticized.

On MSNBC's "The Rachel Maddow Show" (3/24, Maddow, 9:26pm) the host discussed the future of nuclear energy in America, and zeroed in on "Diablo Canyon in California. When it was being built, we were told it was nowhere near any earthquake faults. Then it turned out it was near two of them, one about three miles away," and "In the midst of all of this, of the crisis at Fukushima and the coming to light of decades of peril at Diablo Canyon, the plant's owner is busy trying to extend its license to operate this nuclear plant, which has tempted fate from the day it was built." She went on to speak with state Sen. Sam Brakesly, "who represents the district in which Diablo Canyon was located" and who is working to stop the relicensing.

NRC To Launch Two-Step Review Of US Nuclear Fleet.

On its website, FederalNewsRadio (3/24) noted that NRC regulators "voted Wednesday to review safety measures at all of the US's nuclear power plants, in the wake of the nuclear crisis in Japan." The NRC will launch a "two-step review process" and create a "task force made up of senior staff and former NRC experts" to conduct the "short-term and long-term analyses of lessons learned from Japan. Their reports will then address how those lessons can be applied to the 104 US nuclear reactors."

Plant Operators To Use New Seismic Risk Model To Assess Earthquake Threat. Greenwire (3/25, Northey, Mulkern) reports, "All of the nation's 104 nuclear reactors will need to undergo analysis using cutting-edge technology and the most recent data to assess how well they can withstand earthquakes, the Nuclear Regulatory Commission says." Plant operators will use a new "seismic risk model created by the NRC, Electric Power Research Institute (EPRI) and US Geological Survey" to analyze the safety of their facilities. The modeling program should be "available later this year" and is "expected to give clearer indications of the risks facing each of the plants, providing details on the ground shaking that plant operators can expect at any given site, NRC spokesman Scott Burnell said." Plant operators would then show the NRC that they are equipped and able to respond to the "worst-case scenarios" the model generates.

Review To Examine Plants On US Border. Greenwire (3/25, McArdle) reports, "White House Council on Environmental Quality Chairwoman Nancy Sutley discussed the future of nuclear energy at a meeting this morning of a federal advisory committee that studies environmental issues along the US-Mexico border." Sutley told the Good Neighbor Environmental Board that while the "events in Japan remind us ... that safety is the most important thing we have to keep

in mind when dealing with nuclear energy," President Obama "continues to believe that nuclear energy 'is an important part of our energy mix right now.'" Sutley said the "nuclear plants along the border in Arizona and California" would be "included in the comprehensive review that the federal government is undertaking for all US nuclear facilities."

Questions Raised About NRC Rules For Backup Power At US Plants.

The New York Times/Greenwire (3/25, Soraghan) reports, "The batteries that back up power at most US nuclear plants are required to last about as long as the average cellphone battery – four hours," and while the NRC says "that's enough," critics of the agency, including David Lochbaum, of the Union of Concerned Scientists, say it is not. "And those critics are pointing to the Fukushima Daiichi plant in Japan, which is teetering on the brink of meltdown because it lost power." Lochbaum said most US "plants have far less [backup battery power] than what the Japanese had," and he added, "we're more vulnerable to a situation where we lose primary power and the backup." Additionally, the piece notes, the NRC allows plants to operate "without backup power for the controls monitoring spent nuclear fuel," which is often stored in ponds that "often do not have containment."

EPA Radiation Monitor Glitches May Hamper Real-Time Warnings.

The Los Angeles Times (3/25, Dolan, Lin, 657K) reports, "The federal government's radiation alert network in California is not fully functional, leaving the stretch of coast between Los Angeles and San Francisco without the crucial real-time warning system in the event of a nuclear emergency." The Times says six of the EPA's 12 RadNet sensors in California, "including the three closest to the Diablo Canyon" plant, "are sending data with 'anomalies' to the agency's laboratory in Montgomery, Ala., said Mike Bandrowski, manager of the EPA's radiation program." The problem delays updates to a database seen as critical for "warning the public in case of a sudden radiation danger from air wafting to the United States from a foreign country," or a US nuclear facility. But NRC spokesman David McIntyre noted that federal regulations "require nuclear plant operators to report small problems that could lead to a release of radiation," so any such event is unlikely to come as a surprise to regulators.

TVA Subcontractor Faces Charges Of Lying On Inspection Records.

The Fox News' Studio B With Shepard Smith (3/24) reported, "Federal prosecutors are charging a contractor about lying about inspections at a nuclear power plants. The Tennessee Valley Authority's Watts Bar nuclear plant near Chattanooga, prosecutors say the alleged lies are connected to safety equipment at plant."

Smith said a "top official with the utility says that the TVA has been reviewing work performed by this individual alleged to be involved to assure similar issue dozen not exist so, obviously, they want do look into what other work the guy has done and make sure this is not the first time these has lied."

The AP (3/25, Poovey) reports, "A subcontractor employee at the Tennessee Valley Authority's Watts Bar Nuclear Plant [TN] has been charged with lying about power system inspections at the only site in the nation where a reactor is being built, prosecutors said Thursday." AP says "Matthew David Correll, 31, of Hixson was charged in a two-count indictment with making false statements." According to prosecutors, "Correll lied about measuring cables that would supply power to a safety system at the reactor site." TVA spokesman Mike Bradley said about 80 workers from the company that employed Correll work at the Watts Bar project, but the criminal case "would not interrupt construction."

In a separate story earlier Thursday, the AP (3/24) reported, "Federal prosecutors are filing charges related to the only US nuclear site where a reactor is under construction." Notably, a letter from NRC "in January cited TVA 'errors and omissions' in a project fire protection report and excessive delays in providing information." The letter asked "TVA to promptly supply information for its review of an application for a reactor operating license," AP added.

AFP (3/25) reports that Correll "pleaded not guilty Thursday to falsifying" the "safety inspection reports." AFP says "the charges come a day after the Nuclear Regulatory Commission launched a two-pronged review of US nuclear power plant safety amid the crisis at a Japanese complex hit by an earthquake and tsunami." US attorney Bill Killian said, "Cutting corners on the construction of our nuclear power plants is a serious matter," If convicted, Correll could face up to five years in prison and a \$250,000 fine.

Separately, the AP (3/24) reported "TVA nuclear executive Ashok Bhatnagar said at the news conference that the falsified paperwork was found during normal reviews of the employee's work at the plant, where a Unit 2 reactor is about 70 percent completed near Spring City, between Knoxville and Chattanooga." Bhatnagar, however, "declined to speculate about what might have happened if the phony paperwork had not been discovered."

Another report from the AP (3/24) reported that "TVA spokesman Scott Brooks said the case is not directly related to the abrupt departure of the former construction site manager at Watts Bar." Following the NRC letter about TVA "errors and omissions," Masoud Bajestani, site vice president, "abruptly left his job overseeing the construction project. TVA wouldn't provide details about his departure, calling it a personnel matter, but the utility has contended it wasn't related to the NRC letter."

CBS (3/24, Ellis) interviewed David Lochbaum, Director of the Nuclear Safety Project for the Union of Concerned Scientists, who said: "The falsification of records is a serious matter, particularly when the records in question involve safety cables at a nuclear power plant." CBS says "the cables Correll is charged with lying about inspecting were intended to provide electric power to operate safety systems and other equipment in a nuclear power plant being constructed by the Bechtel Power Corporation." Meanwhile, Scott Brooks, a spokesman for the TVA, told CBS News, "I couldn't speculate on what his motivation was. We're just glad the system worked the way it was supposed to and it was uncovered."

The Tennessean (3/24, Paine, 129K) provided details of charges against Correll, saying the electrician "did not take the measurements, nor make the inspections, and falsely completed the TVA-required forms. The indictment also alleges that he did not perform these measurements."

On its website and on the air, WBIR-TV Knoxville (3/24, Bailey) noted that Bill Killian of the US Attorney's Office said. "In the event of a nuclear containment problem, these electrical cables help power the safety and containment area." According to TVA official, "they hired Bechtel to perform work on the Watts Bar Unit 2 construction project. Bechtel then hired the company Williams Special Services as a subcontractor to perform electrical work. Correll was an employee of Williams Specialty Services." Meanwhile, the Southern Alliance for Clean Energy, "a group calling for no additional nuclear power facilities applauds the" TVA "for catching the alleged problem." Still, SACE "does have some concerns that potential problem employees could have access and work so closely with equipment used in emergency safety situations."

On its website and on the air, WATE-TV Knoxville (3/24, Kim) reported "the incident happened in the early stages of the construction project before any installation had begun." Notably, "prosecutors would not say what motive Correll had for giving false information."

WRCB-TV Chattanooga (3/24) reported, Jack Bailey, a Vice President of Nuclear Development with TVA, "says he was aware of the situation with Correll Thursday Morning and assured members of the Chattanooga Rotary Club no corners were cut during the plant's construction." The TV station noted that "Bailey said U-S safety standards are much higher than Japan's and a catastrophic meltdown isn't likely." He said, "The real question is what happened over and why did it happen and do we have the same vulnerabilities in our plants or not."

WVLT-TV Knoxville (3/24, Boone) reported that "this isn't the first problem at Watts Bar. The Nuclear Regulatory Commission in January raised concerns over errors in documents TVA submitted on fire safety at the site. Still,

Killian says the public should rest easy." Killian said, "TVA has assured me that these deficiencies have been discovered and remedied, and that there's no harm to the general public."

WTVC-TV Chattanooga (3/24, Jennings) provided a time-frame of the incident, noting "prosecutors say on or about August 16, 2010, Correll completed paperwork and lied about measuring cables that were intending to supply energy to safety systems at the Watts Bar Nuclear plant." The TV station also carried the full statement from the TVA about the incident. TVA said: "This action today is an example of TVA's systems and procedural safeguards working as designed. Concerns were discovered and investigated by TVA and, in accordance with procedures, investigated by the Inspector General's Office and other authorities. The system worked." TVA said it has "been reviewing work performed by the individual alleged to be involved to assure similar issues do not exist."

NPR (3/25, Memmott) and Reuters (3/25, Ghianni) also cover the news, as did the Chattanooga Times Free Press (3/24, Sohn, 78K), The Chattanooga (3/24), FOX Atlanta/NewsCore (3/24) and WDEF-TV Chattanooga (3/24, Mitchell) on its website and on the air.

TVA, Activists Disagree Over Safety Claims About Nuclear Plants.

The AP (3/25, Poovey) reports, "Two executives with the Tennessee Valley Authority said their information and analysis indicate the utility's six reactors would have weathered a powerful earthquake like that which prompted Japan's nuclear emergency, a claim that drew skepticism from an environmental activist." In a discussion with reporters on Japan's nuclear crisis, TVA's senior nuclear communications manager Ray Golden and chief nuclear officer Preston Swafford "said some of the differences with Japan's plants stem from 'redundant' safety and power systems installed at nuclear plants in the United States after the September 2001 terrorist attack." TVA has "said the Browns Ferry Plant was designed to withstand a 6.0-magnitude quake" while the Watts Bar plant and Sequoyah plant "are designed to withstand a 5.8-magnitude" quake. But Stephen Smith, of the Southern Alliance for Clean Energy, "said of TVA's claim: 'Without some documentation of the assumptions that were made to come to that conclusion, talk is cheap.'"

TVA Says Plants More Robust Than Japan's. The Chattanooga Times Free Press (3/24, Flessner, 78K) reported, "The Tennessee Valley Authority is moving ahead with construction and planning for more nuclear reactors despite the explosion and ongoing radiation leaks at one of Japan's largest nuclear plants." The article noted that "TVA Chief Operating Officer Bill McCollum Jr. said Wednesday that the federal utility established a centralized response center in Chattanooga to assess the accident at Japan's

Fukushima Dai-ichi plant ...and to evaluate TVA plants' vulnerability to natural or manmade disasters." Notably, "some equipment, training and operating changes" could take place at TVA nuclear facilities, but "McCollum insisted the plants are safe. He said suspending work on new plants would only inflate costs and possibly impede their successful completion."

CNN (3/25) reports, "In the wake of nuclear crisis in Japan, the Tennessee Valley Authority (TVA) is assuring residents that its three nuclear power plants are safe." TVA Executive Vice President Preston Swafford said "his company's facilities are built to withstand a natural disaster or terrorist attack." Swafford said, "Our designs are robust," adding, "These are safe nuclear power plants. We have been in this business for quite some time."

The Columbia (TN) Daily Herald (3/25, Swisher, 11K) reports, "The Maury County Courthouse is only about 60 miles away from a nuclear power plant containing reactors similar to the ones that prompted a nuclear crisis in Japan." Mark Blackwood, director of the Maury County Office of Emergency Management, said "authorities are prepared for a nuclear incident at nearby Browns Ferry Nuclear Plant in Athens, Ala." Notably, the TVA "is working to assure the public that Browns Ferry's reactors are safe, offering reporters an opportunity to tour the plant Friday."

More Commentary. In an editorial, the Chattanooga Times Free Press (3/24, 78K) said that some Americans worry that in wake of the Japan nuclear crisis "a similar catastrophe might pose the threat of a nuclear meltdown here." The TVA officials, however, "do not believe there is a comparable danger at TVA's Sequoyah Nuclear Plant near Soddy-Daisy, the Watts Bar Nuclear Plant near Spring City, Tenn., or at other nuclear facilities in our region." In case of an earthquake, "any threatened nuclear generator would immediately and safely shut down." The paper said that "TVA's – and indeed our entire nation's – nuclear plants have a long and commendable record of efficient and safe operations." The editorial concluded by saying that it is confident "that TVA will help keep the United States' record of safe nuclear energy production going."

California Lawmaker Asks NRC To End Diablo Canyon Relicensing Consideration.

The AP (3/25) reports Rep. Lois Capps (D-CA) wants the NRC "to stop considering a license renewal for the Diablo Canyon nuclear plant until earthquake threats are thoroughly reviewed." Capps said Thursday "that it's irresponsible to consider extending the life of the coastal plant's twin reactors until earthquake faults near the plant are thoroughly and independently studied – especially since the nuclear crisis in Japan." However Pacific Gas and Electric Co., the plant's operators, say "the plants are safe."

The Pacific Coast Business Times (3/25, 3K) adds that Capps wrote in a letter to NRC Chairman Jaczko, "After much consideration, I am calling on the Nuclear Regulatory Commission to stay the license renewal process of the Diablo Canyon Nuclear Power Plant until independent, peer-reviewed advanced studies for all onshore and offshore faults in the area are performed and reviewed by a panel of federal and state agency experts," adding, "We know the Central Coast is subject to earthquake activity and it's critical this process go forward only after the region's seismic concerns are addressed."

The Southern California Public Radio (3/25) reports that the lawmaker said that Diablo Canyon "was built to withstand a 7.5 magnitude quake." She added, "But that was before the present fault line that has been discovered, and I have believed for a long time that we need to have very many questions answered, and I'm concerned about a secondary power ability should the generator go out."

According to KEYT-TV Santa Barbara, California (3/25), both Capps and Sen. Diane Feinstein (D-CA) "toured PG&E's Diablo site earlier this week." California state Sen. Sam Blakeslee earlier this week also "expressed concern over the relicensing process of the plant amid seismic concerns for the area."

Reuters (3/25, Stephenson) points out that both Capps and Feinstein have sought further reviews of both Diablo Canyon and San Onofre Nuclear Generating Station, which is also in California.

According to E&E News PM (3/25, Sullivan), Capps' letter is "the first from a federal lawmaker to demand review suspension for Diablo Canyon," and "follows a March 16 letter from California Sens. Dianne Feinstein and Barbara Boxer that urged NRC to thoroughly investigate the vulnerability of the plants." KSBY-TV San Luis Obispo, California (3/25, Tucker) also reports this story on its website.

Town Board To Address Diablo Safety. The San Luis Obispo (CA) Tribune (3/25, Cuddy) reports that "a barrage of requests that the Board of Supervisors address safety at the Diablo Canyon nuclear power plant has led Chairman Adam Hill to set aside time to talk about the issue on Tuesday." In a statement released late Thursday, Hill said "that the public's 'overwhelming response' to the crisis in Japan has persuaded him that the board needs to say more."

New Reactors Expected To Face New Hurdles.

The Atlanta Business Chronicle (3/24, Caldwell) reported, "Fears following Japan's nuclear crisis will make it more difficult for US power companies to finance construction of new nuclear reactors. Getting permits and loan guarantees from the government is already hard, but the process is expected to get even more complicated," as companies seeking nuclear projects anticipate "higher financing costs

and less political support for government loan guarantees," nuclear industry experts say.

Costs For Existing Nuclear Fleet Expected To Increase.

Reuters (3/25) reports, Exelon head John Rowe said that on the heels of the Japanese nuclear crisis, the US nuclear energy industry can expect to see a "significant" increase in regulatory and operating costs, though it will be months before the extent of those costs are known. "This is going to impose significant costs, perhaps material costs, before we are done," Rowe said. "We just can't put a number on it."

On its website, Bloomberg News (3/25) carries a video link with comments on nuclear energy in the US from NRC Chairman Gregory Jaczko, American Electric Power Co. Chief Executive Officer Michael Morris and NRG Energy Inc. CEO David Crane, among others, all of whom addressed the "future of nuclear power in the US in the wake of the nuclear crisis in Japan."

MSNBC Details FOIA Requests Made To NRC.

On its "Open Channel" blog website, MSNBC (3/25, Dedman) reports on the "higher than normal" volume of FOIA requests the NRC's public records staff says it is experiencing "as a result of the unexpected events in Japan." At "msnbc.com we continue to pursue several reporting angles on this story." MSNBC lists several "FOIA requests that we've filed with the NRC. We'll let you know what we find." Among the requests: NRC commissioners daily calendar; letters or memos documenting exemptions to NRC regulations at a nuclear facility; an NRC personnel roster showing the full name of each employee, date hired, job title, division and branch, and rate of pay.

Nuclear Support Waning As Cuomo Touts NRC Review Of Indian Point.

Reuters (3/25, Doering) reports that in the wake of the Fukushima disaster, US support for nuclear growth appears to be slipping. Two polls released this week showed lukewarm support for growing the sector. Also, the same story covers New York Governor Andrew Cuomo's claim that Indian Point will be the first plant subjected to a NRC seismic risk review. On Tuesday, Entergy Corp. ran a full-page New York Times ad that ran comments from Energy Sec. Chu touting the safety of Indian Point's reactors and overall US nuclear safety. The IAEA has questioned the pace of safety upgrades at US plants.

Poll Asks Whether Indian Point Should Be Ordered To Close. Crain's New York Business (3/25, 61K) runs an online poll asking whether Indian Point should be closed, as "the US reviews the seismic risk of its existing nuclear reactors in light of Japan's earthquake-related near

meltdown." Gov. Andrew Cuomo "says federal regulators have promised to make the Indian Point nuclear plant their top priority."

Indian Point Evacuation Plans Met With Doubt. In a commentary for the Middletown (NY) Times Herald-Record (3/25, 61K) Ken Hall writes, "There's a long list of questions I can't answer about the Indian Point nuclear power plants. If they close, I have no idea how New York will replace the power they provide. If the earth rumbles, I have no idea how much damage it will cause or how that damage will affect the safety systems inside." On the "overall subject of nuclear power plant safety, something that everybody seems to have an opinion on these days, I only have one area of expertise." Hall says he knows "something about evacuations, a tiny bit of knowledge from one incident many years ago," and when "it comes to nuclear power plants, a lot of people became big fans of prevention that night because a glimpse of the alternative showed that the numbers don't add up."

Reps. Lowey, Engel Call For Hearings On NRC Relicensing Process. The New York Post (3/25, Sanderson, 459K) reports, "The Nuclear Regulatory Commission is 'not required to take into account factors like population, national security and evacuation plans in determining the relicensing of aging nuclear power plants like Indian Point,' said Rep. Nita Lowey (D-Westchester). She and Rep. Eliot Engel (D-Bronx) want congressional hearings into how the NRC licenses nuclear reactors." The Post adds, "Columbia University seismologists determined in 2008 that Indian Point sits near the intersection of two earthquake fault lines – information that wasn't known when the first Indian Point reactor opened in 1962." Mid-Hudson News (3/25) also reported the story.

Japan Crisis Said To Present Critical Test For Nuclear Energy. The Arizona Republic (3/25, Randazzo, 335K) reports, "The nuclear disaster in Japan has raised concerns about the nuclear industry and struck fear globally, but its impact has been minimal, according to experts from Arizona State University." The March 11 earthquake and tsunami "that knocked out power to the reactors and spent-fuel ponds at the Fukushima Dai-ichi power plant have prompted nations to reconsider nuclear as a viable energy source. Researchers assembled Thursday by ASU's Global Institute of Sustainability said the event serves as a critical test for nuclear energy, which they said will remain a major part of the world's energy supply, especially if the containment structures keep the plant from a full meltdown despite the devastation from the natural disasters." Officials said "the problems at the reactors stem from the total loss of backup power and electricity from the power grid, which was not planned for in even a worst-case scenario."

NRC, Senators, Illinois Agencies Holding Nuclear Forum. The AP (3/25, Webber) reports that NRC, Illinois' Emergency Management Agency, Argonne National Laboratory, Exelon Corp., and Sens. Durbin and Kirk will participate in "a forum that will resemble a congressional hearing" today. Sens. Durbin and Kirk promised to ask tough questions to the panel, especially since Illinois' reactors "are almost identical to those involved in Japan's nuclear crisis." The Sens. claim they're seeking to gauge Illinois' nuclear emergency response, spent fuel rod storage policies, "and the safety of Exelon's four Mark I boiling-water reactors." Moreover, the Sens. share worries that fuels rods at Mark I may need to be moved to higher pools at an offsite location. Kirk's indicated support for the Yucca Mountain project. Environmentalists fear that extensions to Mark I's lifespan make it "more susceptible to problems."

Exelon Assures Investors Concerned About Safety. The New York Times (3/25, Wald, 950K) reports that in an attempt to calm investor fears about safety, Exelon's CEO, John W. Rowe, "declared that the company was well prepared to 'respond to emergencies not contemplated in the original design.'" In an investors' conference call, Rowe acknowledged he believes that regulators will likely impose new safety regulations on the industry and conceded such are "likely to add pose 'significant costs' to the utilities that operate the plants." Exelon's COO, Christopher Crane, noted that US plants feature different safety systems that Japanese ones that reduce risk. US companies operating or building new US nuclear plants face uncertain consequences from the Fukushima Daiichi disaster. NRC expects to grant Southern Company's reactor model later this year.

Dow Jones Newswires (3/25, Malik) adds that Rowe expects regulators issue new rules related to emergency planning zones, spent fuel rod maintenance, earthquake activity, and containment buildings. Chip Pardee, Exelon's COO for the merchant-generation department said new regulations may cause the company to reconsider upgrades. Likewise, a changed regulatory environment may lead Exelon to ponder plant closures, Pardee added. Despite warnings, no Exelon executives ventured to speculate about the cost of new regulations.

Rowe further asserted that "Exelon's nuclear fleet continues to operate safely and no immediate changes are needed to address issues raised by the ongoing crisis at Japan's Fukushima I plant," Platts (3/25) reports. According to Rowe, NRC inspectors, along with industry inspectors, "are conducting walkdowns and reviewing safety systems at Exelon's nuclear units." Crane expects a better picture to image regarding regulatory changes "in about six months."

The Philadelphia Inquirer (3/25, Maykuth, 357K) and Reuters (3/25) also report this.

Oyster Creek Relicensing Questioned. AFP (3/25, Zeitvogel) reports that many Lacey, NJ area residents fear Oyster Creek worry that an incident similar to the Fukushima plant could occur in their backyard. Oyster Creek "uses a GE Mark I Boiling Water reactor identical to those that lost power at Japan's Fukushima plant" and is the oldest US plant. Nuclear watchdog Jeff Brown commented, "We have 40 years of radiation on site – two-and-a-half to three times more than in Japan. You also have that tremendously stupid design to start with where the spent fuel rods are sitting on top of the reactor." There are worries that if New Jersey faced an "overdue" Category 5 hurricane, coastal surges could lead to the swamping of Oyster Creek's reactors. NRC's decision to relicense the facility concerns some, especially as the agency regulates and licenses nuclear sites. "That's a conflict of interest, say critics who liken the situation to the regulation of the oil industry prior to last year's devastating Gulf of Mexico oil spill." Exelon defended

Paper Applauds Court Questioning Of Oyster Creek Relicensing. In an editorial, the Asbury Park (NJ) Press (3/23) reports praises the US Third Circuit Court of Appeals for asking the NRC "if events at the Fukushima Daiichi reactor site have changed the agency's thinking about the wisdom of granting a license extension for the Oyster Creek nuclear power plant in Lacey." The Press believes that if NRC can't adequately defend its relicensing, "the plant should go dark."

NRC: Nuclear Output Up Yesterday. Bloomberg News (3/25, McClelland) reports that a NRC report indicated "US nuclear-power output was little changed as Entergy Corp. (ETR) boosted the FitzPatrick reactor in New York and Public Service Enterprise Group Inc. (PEG, 708K) slowed Salem 2 in New Jersey." Yesterday, national power generation "increased by 209 megawatts...85,393 megawatts, or 84 percent of capacity." Of the nation's 104 reactors, 17 were offline. "Entergy Corp. increased output its 852-megawatt FitzPatrick reactor to full power from 55 percent of capacity yesterday. ... Public Service reduced power from the 1,130-megawatt Salem 2 reactor to 75 percent of capacity from 90 percent yesterday."

Many Fear Nuclear Power Despite Safe History. The AP (3/25) reports on the perspective that irrational fear drive US nuclear policy. University of Oregon psychology professor Paul Slovic, says, "Whereas science is about analysis, risk resides in most of us as a gut feeling. Radiation really creates very strong feelings of fear — not really fear, I would say more anxiety and unease." A retired nuclear engineer, Alan Kolaczowski, "consulted with the

Nuclear Regulatory Commission on specific probabilities of accidents at nuclear plants. He estimates the risk of a disaster at a given plant at 1 in 100,000 — about the same as your chance of being killed by lightning over your lifetime." Kolaczowski faults the nuclear industry for not instilling enough public confidence. For too long, he contends, the industry's mantra has been too just trust us, which will only get you so far.

Nuclear Vital To US, Could Be Safer With New Technologies. The Christian Science Monitor (3/25, 48K) reports shutting down US nuclear plans "would leave a void that would be difficult to fill." To bolster safety, NRC should improve "plant safety training, systems, and equipment, along with evacuation plans." Furthermore, "NRC also should welcome close outside scrutiny of itself, to see if it is adequately performing its watchdog role." Nuclear could be made safer if the US moves beyond 1970s technology and experiments with pebble-bed reactors, like China is doing.

Levin Discusses Nuclear Sector. NPR's (3/25, Ludden) *Talk Of The Nation* featured an interview with Dr. Michael Levi, a Council on Foreign Relations senior fellow whom specializes on energy and the environment. The show's premise was "should the US live without nuclear energy?" Levi faced questions from listeners and generally offered balanced answers through noting nuclear's benefits and costs. He asserted that any decision to wean itself of nuclear power won't depend on electricity prices. According to Levi, no politician is looking to dramatically end nuclear power overnight, so any replacement would be gradual as to not shock the electricity market.

PSEG Faces New Considerations For New Jersey Plant After Japan. The New Jersey Newsroom (3/25, Tyrrell) reports, "Crisis conditions at the damaged Fukushima reactor complex in Japan are giving PSEG Nuclear more to consider as it decides whether to build another power plant in South Jersey." PSEG spokesman Joe Delmar said, "We're still trying to get an understanding of what has or has not happened there." However, Delmar said that "the events abroad have not affected the regulatory process here, he said. By the time regulators and the company are ready to decide whether to go ahead with the new reactor, market conditions are likely to weigh more heavily than the current crisis." NRC "agreed to review PSEGNuclear's application for an early site plan permit for the new reactor in Lower Alloways Creek" in August. A decision from NRC on the permit isn't expected until June.

Nuclear Innovation Announces Lay Offs. The Houston Business Journal (3/25, Wooten) reports that the

slowdown of expansion plans at Nuclear Innovation North America LLC's South Texas Project has led the company to eliminate 60 positions related to facility growth. "One hundred employees, some staff members of the South Texas Project Plant, some contract workers, were working on expansion plans." A NRG Energy spokesman said some employees may be transferred.

Closed Michigan Plant Unlikely To Cause Danger. The Petoskey (MI) News-Review (3/25, 9K) reports that Michigan is unlikely to face nuclear fallout from the Japanese disaster. Michigan State physics professor Dr. Wolfgang Bauer commented, "With the amount of radiation that's released right now from there (Japan), even with the most sensitive equipment, you would not be able to measure anything here (in Michigan)." Some Petoskey-area residents, however, fear a disaster could imperil the now-closed Big Rock Nuclear Plant. A Entergy Corporation spokesman, however, noted that spent fuel rods have cooled enough since the plants that air exposure would enough to dissipate any nuclear fallout.

Canadian Official Urged To Offer A "More Balanced Perspective" On Fermi 2. The Windsor (Ontario) Star (3/23) editorializes that Canadian parliamentarian Joe Comartin's "recent fingerpointing at the Fermi 2 nuclear plant in Monroe, Mich., seems more intent on playing on people's fears than encouraging a constructive discussion." The Star then notes that various steps have been taken to ensure safety at Fermi 2. According to the Star, "A little more balanced perspective on the part of the MP from Windsor-Tecumseh would have been more helpful."

Op-Ed Contributor Blasts Florida Power & Light, NRC. Stan Smith, a former airline pilot, writes that alternatives were never considered to Florida Power & Lights plan for two new reactors south of Miami in the Palm Beach (FL) Post. Smith asserts that the new reactors could face dangers from hurricanes. Also, Smith says, the planned plants faced little regulatory scrutiny from NRC, especially over terrorism fears. Smith calls for alternative energy and concludes, "FPL's survival as a growth company hinges on a strategy of expanding nuclear power and suppressing competition from alternative energy sources such as decentralized cogeneration."

GE-Hitachi's ESBWR Design Moves Closer To NRC Approval. Bloomberg News (3/25, Lomax) reports, "A reactor designed by a venture of General Electric Co. and Hitachi Ltd. is a step closer to winning approval for use in the US, the Nuclear Regulatory Commission said." According to an NRC statement, the Commission "proposed certifying GE-

Hitachi Nuclear Energy's boiling-water reactor design after finding the unit meets safety requirements." The GE-Hitachi Economic Simplified Boiling-Water Reactor design, "includes passive safety features that would cool down the reactor after an accident without the need for human intervention," according to the NRC. Bloomberg notes Detroit Edison may build the ESBWR design at its Fermi plant in Michigan, if the NRC approves the final design.

Greenwire (3/25, Mandel) adds that the NRC is "seeking public comment on a proposal to certify" the new ESBWR "designed by GE-Hitachi, a milestone for the company that carries less promise for new sales in light of recent events." The NRC "will accept public comments for 75 days on a proposed rule to certify the design" and when "finalized, that rule will allow a utility to apply for a license to operate the reactor without having to independently defend its safety." Reuters (3/25, DiSavino) also covers the reactor design approval process.

NRC Faults Performance At Robinson Plant. The AP (3/25, Ivey) reports, NRC "regulators and Progress Energy officials said Thursday they were disappointed with last year's performance" at the company's H.B. Robinson plant. The NRC's public hearing to "discuss issues" at the plant "drew a larger-than-usual crowd, in part because of the problems at Robinson last year and the Japanese nuclear facilities swamped by a tsunami and earthquake this month." The AP notes that incidents at the plant last year included "two fires, a faulty breaker on an emergency generator and inadequate procedures and training for plant operators," and an NRC official, division director Richard Croteau, said the issues had risen to the attention of the top levels of the agency. Progress Energy vice president for the Robinson plant, Robert Duncan admitted operators had allowed "internal standards" to "slip over time" and said it had made changes to leadership and increased training. The AP (3/25) also ran an abbreviated version of the article.

WPDE-TV Florence, SC (3/24, Brown,) reported on its website, NRC's Rick Croteau said the plant's "level of performance was not what we expect. Some of the issues that they had the even in March of last year was a fairly significant event. We expect better performance. They did not meet the regulatory requirements that we set forth." The "NRC did say Robinson operated in a manner that preserved public health and safety,"

Japanese Nuclear Crisis Brings Yucca Issue To The Forefront. In continuing coverage from this week's briefings, the Wall Street Journal (3/25, A6, Power, 2.06M) reports that the overheating of spent fuel at Japan's Fukushima Daiichi plant is reigniting concerns over the US' stockpiles of spent fuel and nuclear waste that have been

growing for decades with no end in sight as the Yucca Mountain nuclear waste repository appears deadlocked. Massachusetts Attorney General Martha Coakley and state Senate President Therese Murray cautioned in a letter Monday to Nuclear Regulatory Commission Chairman Greg Jaczko and Energy Secretary Steven Chu, "The events in Japan show that a breach can occur," and urged the construction of a repository, although they made no reference to Yucca.

Concerns Over Hanford's Spent Fuel Storage Discussed. Meanwhile, AFP (3/25, Tandon) reports from Hanford that 68 years after the first-ever plutonium reactor was built there, the site remains off limits, "not because of weapons work, which has long ago ceased, but because it is the Western hemisphere's most contaminated nuclear site with 53 million gallons (200 million liters) of radioactive waste stored in aging tanks." And, "with a crisis in Japan raising global alarm about nuclear safety, some people are calling for a new sense of urgency to cleaning up Hanford which has been hit by delays, cost overruns and charges of causing illness." According to Walt Tamosaitis, an engineer at the site, until, he alleges, he was fired for raising concerns, "Their attitude is, why should we worry?" But DOE official J.D. Dowell says that "a comparison between Fukushima and Hanford was like 'apples and oranges,' because Fukushima involves active reactors, while Hanford is a cleanup site.

DOE Sites Under Consideration For Low-Level Rad Waste. The AP (3/25, Carter) reports the Waste Isolation Pilot Plant at the Los Alamos National Laboratory, the Hanford Site in Washington state, the Idaho National Laboratory, the Nevada National Security Site and the Savannah River Site in South Carolina "could be burying an additional type of low-level radioactive waste in the future." The DOE is considering those sites site for waste known as greater-than-Class C low-level radioactive waste and greater-than-Class C-like waste, which are "generated by various activities, including electricity production by nuclear power plants, producing and using radioisotopes to diagnose and treat disease, oil and gas exploration, and other industrial uses." The DOE issued "a draft environmental impact statement on the possible disposal sites," but it does not provide a preferred site.

The Albuquerque Journal (3/25, 95K) explains that "neither category of waste includes spent nuclear fuel or high-level waste." There will be public hearings on the EIS in Carlsbad, near LANL, as well as Albuquerque and Santa Fe.

Report Says NNSA "Not Effectively Securing" Facilities. According to a report released Thursday by the National Research Council, Government Executive (3/25, Warner) reports, the National Nuclear Security Administration

"is not effectively securing its facilities." The report faulted the NNSA "for lacking a comprehensive understanding of different enemy attack scenarios that could threaten NNSA storage facilities, and warned that security at the agency's sites would remain 'out of balance' without strengthened agency leadership and a 'major shift in approach.'" The report was requested by the Senate Appropriations Committee in 2008 "to address ballooning security costs at NNSA, which have grown from \$550 million in fiscal 2002 to more than \$900 million in fiscal 2010."

New Y-12 Site Office Deputy Manager Named.

Tennessee's Oak Ridger (3/25) reports, "Daniel K. Hoag has been named deputy manager for the National Nuclear Security Administration's Y-12 Site Office." According to a statement, Hoag will serve "as the federal chief operating officer at Y-12 and will assist in program oversight, contract and administrative management, technical evaluation and assessment. YSO is responsible for ensuring the safe, secure, and cost-effective operation of the Y-12 National Security Complex (Y-12), a key facility in the U.S Nuclear Security Enterprise."

Fossil Fuels Expected To Emerge As 'Big Winner' Amid Nuclear Power Concerns.

In an op-ed piece included on the NPR (3/25) website, Steven F. Hayward, author of the Almanac of Environmental Trends, writes that the "big winner" amid Japan's nuclear crisis "will be fossil fuels — especially coal and natural gas — which will be used to fill the breach in Japan and elsewhere to generate electricity." Hayward goes on to explain that this "means that the biggest loser is ironically the environmental community, which had been slowly abandoning its longtime opposition to nuclear power because it offered an important component in reducing greenhouse emissions linked to climate change." He notes that CO2 emissions "will surely rise" in Japan as "the country replaces its lost nuclear capacity with coal, gas, and even oil in a few old oil-fired power plants it will be forced to bring online."

Vestas Forecasts Increased Wind Energy Demand After Japan Nuclear Crisis. Bloomberg News (3/25, Katakey, Sethuraman) reports, "Vestas Wind Systems A/S, the world's largest maker of wind turbines, said demand for wind projects may increase after Japan's worst earthquake triggered a nuclear crisis." Sean Sutton, president of Vestas' Asia-Pacific business, said in an interview, "We don't have a rush of orders since the earthquake but the possibilities are there." The report adds, "Financing for wind projects in the Asia-Pacific region may increase as policy changes in Australia and India draw lenders, Sutton said Nov. 3."

IN THE BLOGS:

Blog: Iranian Hackers Suspected In Comodo Security Breach.

The New York Times (3/25, Richmond, 950K) reports on its "Bits" blog that the Internet security firm Comodo Group "said it had been victim to a hacker attack that appeared to have been part of a larger scheme to eavesdrop on encrypted e-mail and chat communications that may have been sponsored by Iran." The company "said on Wednesday that it unwittingly issued fraudulent digital certificates for Web sites operated by Google, Yahoo, Microsoft, Skype and Mozilla," but "revoked all of the certificates immediately upon discovery of the incident and notified the site owners, the major browser makers and relevant government authorities." It described the attack as "well-planned and deployed with 'clinical accuracy' from computers located mainly in Iran."

On its "Threat Level" blog, Wired (3/25, Zetter, 801K) reports Comodo CEO Melih Abdulhayoglu, in an interview, called the breach "the certificate authority's version of the Sept. 11 terror attacks." Said Abdulhayoglu, "Our own planes are being used against us in the C.A. [certificate authority] world. We have to up the bar and react to these new threat models." He also said the attack had "all the markings of a state-sponsored intrusion rather than a criminal attack."

INTERNATIONAL NUCLEAR NEWS:

Fukushima Workers Seek To Restore Power To Damaged Reactor.

Bloomberg News (3/24, Inajima, Ito) reports, "Engineers at Japan's damaged nuclear plant resumed work on reconnecting power as Tokyo authorities prepared to hand out bottled water to families after determining that tap water may be unsafe for babies." Workers "at the Tokyo Electric Power Co.'s Fukushima Dai-ichi power plant, located 220 kilometers (135 miles) from Tokyo, resumed attempts to restore power to the No. 3 reactor at 4:50 a.m., said Takeo Iwamoto, a spokesman for the utility." CNN (3/25) reports a day "after black smoke prompted an evacuation, workers returned Thursday to the Fukushima Daiichi nuclear plant -- employing myriad methods to try to prevent more radiation from seeping into the atmosphere."

ABC World News (3/24, story 5, 0:30, Muir, 8.2M) reported, "At the Fukushima Nuclear Plant, three workers got so close stepping into contaminated water that they suffered radiation burns. Their skin peeling. They were taken to the hospital."

The Los Angeles Times (3/25, Makinen, 657K) reports two workers "at Japan's hobbled Fukushima Daiichi nuclear facility were hospitalized for radiation exposure Thursday after stepping into contaminated water during repair operations, officials at the nation's nuclear safety agency said. A third exposed worker did not require hospitalization." The "two hospitalized workers received a dose of 170 to 180 millisieverts of radiation while laying electrical cables in the basement of the building housing reactor No. 3, officials said." The Financial Times (3/25, Soble, 448K) also reports the story.

Lack Of Information On Fukushima Crisis Frustrating International Nuclear Experts.

The Los Angeles Times (3/25, Vartabedian, 657K) reports on the "lack of data" from the Fukushima reactor crisis and how answers key "questions are unclear to US nuclear scientists and policy experts, who say the quality and quantity of information coming out of Japan has left gaping holes in their understanding of the disaster nearly two weeks after it began." The "lack of information has led to growing frustration with" TEPCO, even as the "depth of the crisis has clearly been growing, judging by releases of radioactivity that by some measures have reached half the level of those released in the Chernobyl accident of 1986, according to new analysis by European and American scientists." TEPCO's dribble of information "with little context" and "few details" has left the international community "confused about what is happening and what could come next."

Levels Of Iodine 131 In Tokyo Water Supply Falls.

The New York Times (3/25, Jolly, 950K) reports "levels of a radioactive isotope," iodine 131, "found in Tokyo's water supply fell by more than half on Thursday, testing below the country's stringent maximum for infants, even as three workers at a stricken nuclear plant in northern Japan suffered radiation burns as they struggled to make emergency repairs." The "lower readings in Tokyo's water were made hours after Yukio Edano, the chief cabinet secretary" said iodine 131 "had been detected in the water supply of Kawaguchi City, just north of Tokyo, as well as in those of two of Tokyo's neighboring prefectures, Chiba and Saitama."

The CBS Evening News (3/24, story 5, 2:40, Whitaker, 6.1M) reported, "Twenty-four hours after it was deemed unfit for infants, the regional governor declared Tokyo's tap water delicious and safe for all." Nevertheless, "shoppers, emptied store shelves, even waited in line for water with some stores limiting what people can buy, the city began distributing 12 bottles of water each to the families of the 80,000 infants one year and under in Tokyo."

The Christian Science Monitor (3/25, Grier, 48K) reports, "Conflicting data on radiation levels is making it difficult to judge the dangers posed by the damaged Fukushima Daiichi nuclear plant -- and heightening anxiety

among average Japanese.” Some “nearby cities were showing elevated levels of radioactive iodine 131 in their municipal water supplies,” and “new estimates from Japan’s Nuclear Safety Technology Center seemed to indicate that atmospheric radiation levels might be too high for infants at some spots outside the 12-mile evacuation zone surrounding the Fukushima Daiichi nuclear complex.”

Japanese Stores Run Short Of Basic Staples. The AP (3/25, Yuasa, Hosaka) reports, “Nearly two weeks of rolling blackouts, distribution problems and contamination fears prompted by a leaking, tsunami-damaged nuclear plant have left shelves stripped bare of some basic necessities in stores across Tokyo.” The shortages “were mainly limited to basic staples, such as rice, instant noodles and milk. Vegetables, meat and tofu, meanwhile, were readily available in most places.”

NBC Nightly News (3/24, story 4, 2:30, Williams, 8.37M) reported, “Throughout the city store shelves that held bottled water are now bare and the companies are ramping up production.”

The Washington Post (3/25, Harlan, Nakamura, 572K) reports as “emergency crews battled Thursday to contain nuclear fallout from the badly damaged Fukushima Daiichi power plant in northeast Japan, a nervous uncertainty spread as far away as Tokyo, 150 miles to the southwest, as radiation was reported in parts of the food chain and millions tried to understand the implications.” A day “after Tokyo officials warned of elevated iodine levels in the city’s tap water and the national government restricted shipment of 11 leafy vegetables in several prefectures, residents scrambled to stock up on the essentials, which are now in short supply.” USA Today (3/25, Eisler, 1.83M) also reports the story.

Japanese Food Exports Shunned. AFP (3/25, Poupee) reports, “Countries across the world have shunned Japanese food imports as radioactive steam leaked from a disaster-struck nuclear plant, straining nerves in Tokyo.” The US “and Hong Kong have already restricted Japanese food, and France wants the European Union to do the same. Russia ordered a halt to food imports from four prefectures – Fukushima, Gunma, Ibaraki and Tochigi – near the stricken plant some 250 kilometres (155 miles) northeast of Tokyo.”

Crisis’ Impact On Manufacturing More Extensive Than First Thought. The Wall Street Journal (3/25, Dowell, 2.06M) reports the impact of the crisis in Japan on manufacturing is becoming more evident, as supplies of advanced components used in other countries and the US to assemble final products run short. The Wall Street Journal (3/25, Bussey, 2.06M) reports that Japanese culture may prompt a faster than expected recovery for the affected industries, however.

Tsunami Death Toll Tops 10,000. The AP (3/25) reports Japan’s police agency “says the death toll from the

earthquake and tsunami two weeks ago has topped 10,000.” NBC Nightly News (3/24, story 4, 2:30, Williams, 8.37M) reported, “Nearly 10,000 people are known dead, more than 17,000 are still missing after the quake and the tsunami, and the cost of the disaster there by one estimate, more than \$300 billion.”

ABC World News (3/24, story 6, 1:45, Ward, 8.2M) reported, “The people of Taro actually built this 30-foot wall to protect them from a tsunami. But when that wave hit, it swept right over the top, completely wiping out everything in its path. And then the wall acted like a barrier, preventing the water from receding back out to sea. Authorities here fear as many as 1,000 people may have drowned.”

Japan Faces Lengthy, Costly Cleanup; Little Information On Infrastructure Damage. The AP (3/25, Sullivan) reports in “the first days after a tsunami slammed into Japan’s northeast coast on March 11, killing well over 10,000 people, it seemed callous to worry about the cleanup.” The “filth paled beside the tragedy,” but “now, nearly two weeks later, hundreds of communities are finally turning to the monumental task ahead.” The mess “looks endless in Japan, and hauling it away seems unimaginable.”

NBC Nightly News (3/24, story 5, 0:45, Williams, 8.37M) reported, “A stretch of road called the Great Canto Branch, which we all saw on TV ripped open like a zipper. It was repaired in three days.”

The New York Times (3/25, Fountain, 950K) reports, “Nearly two weeks after the earthquake and tsunami struck Japan, engineers still do not know the full extent of damage to roads, bridges, rail lines and other infrastructure.” While “much attention has been focused on the crisis at the Fukushima Daiichi nuclear plant, only fragmentary information has become available about damage to other large complexes, like water distribution and sewage treatment plants.”

US Navy’s Helicopter Relief Effort Noted. NBC Nightly News (3/24, story 12, 2:55, Williams, 8.37M) reported, “They call it Operation Tomadachi, Operation Friend, one of the largest helicopter relief efforts ever mounted by the US Navy.” The mission “is about delivering aid, but they also want to find out what else this community needs. Here they say they need gasoline, they need kerosene and they need more warm clothes. And then we were airborne again, a second aim of this mission, to search for other isolated communities.”

Japanese Capacitor Makers Face Shortages. Bloomberg News (3/25, Hasegawa) reports, “Shares of Japan’s capacitor makers may fall further after a key supplier was forced to abandon its factory near the damaged Fukushima Dai-ichi nuclear plant. Production of a chemical solution used in the production of aluminum-electrolytic

capacitors has been halted at Tomiyama Pure Chemical Industries Ltd.'s plant north of Tokyo, according to the company's general manager, after workers were evacuated following a 9.0 earthquake that struck the nation and crippled the nearby nuclear plant. The manager declined to give his name." Similarly, "Nippon Chemi-Con Corp. (6997) has tumbled 33 percent in Tokyo since the close of trade before the quake hit through today, while the Kyoto-based Nichicon Corp. (6996) slid 2.4 percent from the March 10 close. Tomiyama Pure Chemical, which says on its website to be "Japan's only manufacturer for the specialized electrolytes" used in making the capacitors said a plant in Saitama prefecture, further south, lacked capacity to make up for the shortfall in production."

Activists Meet With Mayor Opposed To Great Lakes Nuclear Shipment.

The Sarina (Ontario) Observer (3/25, Dobson) reports that anti-nuclear activists are hoping "to convince US authorities to kill the plan" that allows radioactive steam generators to be shipped to Sweden via the Great Lakes. Activists met with Sarnia, Ontario Mayor Mike Bradely, "a vocal opponent of the shipment," on Thursday. One activist claims the Bruce Power shipment could contaminate drinking water. Likewise, the Port Huron (MI) Times Herald (3/23, Biolchini, 24K) reported on the work of anti-shipment activist Kevin Kamps in Port Huron, MI.

Canadian First Nation Opposes Shipment. The Michigan Messenger (3/25, Daly) adds, "The Union of Ontario Indians will battle a plan to ship 1,600 tons of radioactive waste from the Bruce nuclear power complex to Sweden via the Great Lakes and St. Lawrence Seaway, the group announced this week." UOI says "that the Canadian Nuclear Safety Commission and Bruce Power Corporation failed to properly consult with First Nation communities before approving the plan to ship 16 contaminated steam generators from the Bruce Power complex in Kincardine."

North Korea Suggests Libya Should Have Kept Nuclear Weapons.

The New York Times (3/25, A12, McDonald, 950K) reports on a "North Korean statement that Libya's dismantling of its nuclear weapons program had made it vulnerable to military intervention by the West." North Korea's official news agency carried comments by "a Foreign Ministry official criticizing the air assault on Libyan government forces and suggesting that Libya had been duped in 2003 when it abandoned its nuclear program." Calling the deal with Libya "an invasion tactic to disarm the country," the "official said it amounted to a bait and switch approach" that is "teaching the international community a grave lesson."

Report Says Six Million North Koreans Need Food Aid. The AP (3/25, Pennington) reports the United Nations

"reported Thursday that more than 6 million North Koreans, about a quarter of the communist state's population -- are in urgent need of international food aid." The findings "will add to pressure for the United States to resume food aid to North Korea suspended in 2009 after its monitors were expelled. But doing so could be seen as aiding a government that has since advanced its nuclear weapons programs and is accused of twice attacking US ally South Korea."

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NUCLEAR REGULATORY COMMISSION NEWS CLIPS

FRIDAY, MARCH 25, 2011 7:00 AM EDT

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TODAY'S EDITION

NRC News:

Investigator: Defects At Nuclear Plants Unreported (AP)	3	Feds Charge TVA Contractor At Nuclear Reactor Site (WVL) ...	19
IG: Some Defects At Nuclear Plants Go Unreported (AP).....	3	TVA Faces Federal Charges Tied To Watts Bar (WTVC-TV)	20
A Quarter Of US Nuclear Plants Not Reporting Equipment		Electrician At Nuclear Power Site In Tenn. Charged With	
Defects, Report Finds (WP)	3	Making False Claims : The Two-Way : NPR (NPR)	20
Rules Faulted For Poor Data On Failures At Reactors (NYT)	4	Tennessee Man Charged With Falsifying Nuclear Reports	
Warning On US Reactor Safety (FT).....	5	(REU)	21
Nuclear Plants Fail To Report Safety Defects (WSJ)	5	Chattanooga-area Man Indicted For False Statements On	
UPDATE 3-US Nuclear Plants Not Reporting All Defects-report		Nuclear Plant Safety Systems (CHTNGA).....	21
(REU)	5	Hixson Man Indicted For Falsifying Statements At Nuclear Plant	
Report: Nuke Plant Component Defects Elude Regulators		(CHATNOOG)	21
(HILL)	5	Electrician At Tennessee Nuclear Power Plant Charged With	
US Plant Operators Failing To Report Some Equipment Defects		Falsifying Inspections (Fox).....	22
– NRC Audit (EPPM).....	6	Hixson Man Faces Federal Charges For Watts Bar Work	
Lobbyists' Long Effort To Revive Nuclear Industry Faces New		(WDEF_TV)	22
Test (NYT)	6	Nuclear Industry, Activists At Odds Over Safety Claims (AP) ...	23
Federal News Radio 1500 AM: Thursday Morning Federal		Tennessee Valley Authority Says Its Nuclear Plants More	
Newscast (FEDNEWSRAD).....	8	Robust Than Japan's (BOSH).....	23
Earthquake Risks Must Be Reanalyzed For US Reactors		TVA Assures Its Nuclear Power Plants Are Safe (CNN)	24
(GWIRE)	9	Official: Maury County equipped to cope with nuclear	
Japan Spawns A Fresh Look At Disaster Planning On US-		emergency (CDHTN).....	24
Mexico Border (GWIRE).....	10	Slim Nuke Danger Here, But ... (CHTNGA)	25
Japan Disaster Raises Questions About Backup Power At US		Capps: Nix CA Nuke Plant's License Renewal Review (AP).....	26
Nuclear Plants (NYT).....	11	Capps Calls For Halt Of Diablo Canyon Renewal (PACBT).....	26
Glitches Hamper Radiation Warning System In California (LAT)	12	Capps Calls For Halt To Diablo License Renewal (EDHAT)	27
Feds Charge Worker At TVA Nuclear Site In Tenn. (AP)	14	Congresswoman Capps Wants Diablo Canyon Nuclear Plant	
TVA Officials: Federal Charges Coming Over Watts Bar Nuclear		Relicensing Put On Hold (SCPR).....	28
Site Where Reactor Is Being Built (AP).....	14	Capps Calls For Delay In Diablo Relicensing (KEYT)	28
US Man Charged In False Nuclear Inspection (AFP)	15	Calif. Lawmaker Joins Calls For Nuclear Reviews (REU)	28
Feds Charge Worker At TVA Nuclear Site In Tennessee (AP) ..	15	Pressure Builds On NRC To Halt License Review For Calif.	
Feds: Worker At Nuke Reactor Lied On Inspections (AP).....	16	Reactor (EPPM).....	29
Nuclear Plant Employee Charged With Lying On Inspection		Rep. Capps Calls On NRC To Suspend License Renewal Of	
Reports (CBS)	16	Diablo Canyon (KSBY).....	29
Feds Indict Man On Charges Of Making False Statements		Board Of Supervisors To Discuss Diablo Canyon Safety On	
About TVA's Watts Bar Nuclear Reactor (TENN)	17	Tuesday (SLOT)	30
TVA Subcontractor Facing Charges Of "Falsifying Information"		Building Nuclear Plants To Get Harder (ATLBIZ)	30
(WBIR)	18	UPDATE 1-US Nuclear Industry Unable To Quantify Quake	
Tied To TVA's Watts Bar Nuclear Site (WATE)	18	Costs (REU).....	30
TVA Sub-contractor Arrested For Falsifying Documents		Jaczko, Morris, Crane Own Words On US Nuclear Power	
(WRCB).....	19	(BLOOM)	30

What NRC Nuclear Documents Do You Want To See? Here's Our List (MSNBC).....	31	Nuclear Waste, And Worries, Fester At US Site (AFP)	54
US Public Support For More Nuclear Power Slips (REU).....	31	NM Nuclear Waste Site May Get Different Waste (AP).....	56
Should NY Shutter The Indian Point Nuclear Plant? (CRNYBIZ)31		DOE Eyes WIPP For Disposing Different Kind Of Waste (ALBQJ)	56
Ken Hall Reports: Time To Rethink Indian Point Evacuation Plans (MTWNHER)	31	Protection of US nuclear arsenal faulted by experts (GOVEXEC).....	57
NY Pols Sound New Alarms On Indian Point (NYPOST).....	32	Hoag Named Y-12 Site Office Deputy Manager (OAKR)	57
Engel, Lowey Call For Congressional Hearings On IP Risks, Calhoun Says It Is Safe (MIDHUD).....	32	Weekly Standard: Against A Fossil Fuel Renaissance (NPR)....	57
Experts: Impact Of Japan Radiation Low Here (AR)	33	Vestas Sees Asia Adding Wind Farms After Japan Nuclear Crisis (BLOOM)	59
Durbin, Kirk Vow Tough Questions At Nuclear Forum (CHIT/AP)34		In the Blogs:	
Exelon, Largest US Reactor Owner, Seeks To Reassure (NYT)35		Iranian Hackers Suspected In Recent Security Breach (NYT) ...	59
UPDATE: Exelon: Nuclear Plants Safe, But Industry Costs To Rise (WSJ).....	36	Hack Obtains 9 Bogus Certificates For Prominent Websites; Traced To Iran (WIRED).....	60
Exelon Nuclear Fleet 'Safe,' Will Review Fukushima Lessons: CEO (PLATTS).....	36	International Nuclear News:	
CEO Confident Exelon's 17 Nuclear Reactors Are Safe (PHILLY)	37	Nuclear Crew Returns To Reactor As Tokyo Dispenses Water (BLOOM)	61
Exelon's Rowe: 'Significant Costs' Ahead As Nuke Scrutiny Follows Japan Crisis (CRCHIBIZ).....	37	Smoke Stops, Work Resumes At Troubled Japanese Nuclear Plant (CNN).....	62
Oldest US Nuclear Reactor: A 'Disaster' In Waiting? (AFP)	37	2 Japanese Nuclear Workers Hospitalized For Radiation Exposure (LAT).....	64
Another Look At Oyster Creek (ASBPP).....	38	More Japanese Crew Exposed To Radiation (FT).....	65
US Nuclear Output Little Changed As Entergy Boosts FitzPatrick (BLOOM)	39	Lack Of Data From Japan Distresses Nuclear Experts (LAT)	65
Nuclear Boogeyman Or Boon? Why America Has Conflicting Fears, Appreciation For The Mighty Atom (WP/AP).....	39	Radiation In Tokyo's Water Has Dropped, Japan Says (NYT)...	66
For Safer Nuclear Power Plants, Leave The '70s Era Behind (CSM).....	41	Japan Radiation Levels Uncertain: Should Evacuation Zone Be Bigger? (CSM)	67
Imagining The US Without Nuclear Power (NPR)	42	Tokyo Shoppers Clean Store Shelves Of Basic Goods (AP)	68
PSEG Nuclear Monitors Fukushima Reactor Crisis While South Jersey Nuke Plan Proceeds (NJN)	48	Anxiety Grows Over Japan's Food And Water Supply (WP).....	70
South Texas Nuke Plant Delays Lead To Layoffs (HOUBIZ)	49	Japanese Jittery Over Shortages, Food Safety (USAT)	71
Official: Disaster Risk Very Low From Spent Big Rock Fuel (PETOSKY)	50	Global Food Scare Widens From Japan Nuclear Plant (AFP) ...	72
Fermi's Safety (WINDSTAR)	50	Japan: The Business Aftershocks (WSJ).....	73
FPL Eager To Expand Nuclear Capacity, Suppress Alternatives (PALMBEACHP).....	51	Japan Will Rebuild From Quake But Faces Other Daunting Tests (WSJ)	73
GE-Hitachi Reactor Design Advances In US Agency Review (BLOOM)	52	Police: More Than 10,000 Dead From Japan Disaster (AP)	73
NRC Requests Public Comment On New GE Reactor Design (GWIRE)	52	Japan Faces Its Next Chore: Cleaning Up (AP).....	73
NRC Seeks Comment On New GE-Hitachi Nuclear Design (REU).....	53	Extent Of Damage To Japan's Infrastructure Still Unclear (NYT)74	
NRC Officials Cite Problems At SC Nuclear Reactor (AP)	53	Key Supplier For Capacitor Makers Closes Plant On Nuclear Leak (BLOOM)	76
Nuclear Regulatory Commission Officials Disappointed With SC's Robinson Nuclear Power Plant (AP)	54	Anti-nuclear Activists Attack Waste Shipments (SarONCA).....	76
NRC Disappointed In Hartsville Plant Performance : News : CarolinaLive.com (WPDE)	54	Nuclear Waste Watchdog: It's Time To Speak Up (PORTHUR) 77	
Storage Of Nuclear Waste Gets New Scrutiny (WSJ)	54	Ontario Indians Protest Plans To Ship Radioactive Waste Over Great Lakes (MIMESS)	78
		North Korea Suggests Libya Should Have Kept Nuclear Program (NYT)	78
		UN Says 6 Million NKoreans Need Food Aid (AP)	79

NRC NEWS:

Investigator: Defects At Nuclear Plants Unreported (AP)

By Matthew Daly, Associated Press

Associated Press, March 25, 2011

WASHINGTON – Companies that operate US nuclear power plants are not telling the government about some equipment defects that could create safety risks, according to a report released Thursday.

An audit by the inspector general of the Nuclear Regulatory Commission also raised questions about the agency's oversight, saying reporting guidelines for the nuclear industry are "contradictory and unclear."

Reflecting that confusion, the report said the NRC has not levied any civil penalties or significant enforcement actions against nuclear plant operators for lapses in reporting equipment defects in at least eight years.

The study comes as questions are raised about the safety of US nuclear facilities in the wake of the nuclear crisis in Japan. The NRC voted Wednesday to conduct two safety reviews of the 104 nuclear reactors operating in the US

Unless the NRC takes steps to improve its reporting guidelines, "the margin of safety for operating reactors could be reduced," the IG report said.

NRC inspectors found at least 24 instances where possible equipment defects were identified but not reported to the agency from December 2009 through September 2010, according to the study.

Eliot Brenner, a spokesman for the agency, said utilities and NRC inspectors both have procedures to identify and report manufacturing defects. The IG report mostly addresses how these defects are reported to the government, he said.

"The NRC has a variety of other regulations that effectively encompass reporting all defects, and the NRC continues to conclude plants are operating safely," Brenner said.

The agency will look at the report to see if its reporting systems can be strengthened, he added.

In its 18-page report, the inspector general said the NRC's baseline inspection program does not require inspectors to review an operator's reporting on equipment defects.

Confusion over the regulations "could reduce the margin of safety for operating nuclear power reactors, as NRC may remain unaware of component failures that have resulted from manufacturing defects," the report said.

For example, an operator might not report a basic component that failed due to a design defect. As a result, other operators that use the same component — and even component manufacturers — may be unaware of the problem, the report said. Without knowledge of specific manufacturing defects, the NRC could miss crucial trends, the report said.

Rep. Edward Markey, D-Mass., called the report troubling and said it raises questions about the self-policing allowed at commercial nuclear plants.

"While there are no specific examples listed in the report, it is apparent that confusion and omissions regarding the reporting of defects at nuclear facilities are commonplace," Markey said.

A spokesman for the Nuclear Energy Institute, an industry group, cautioned that the report did not identify any actual safety problems.

Reporting possible equipment defects, while important, "is one sliver within a much broader regulatory regimen that shows US nuclear power plants are operating at high margins of safety," spokesman Steve Kerekes said.

Kerekes cited annual NRC reports dating to 2005 that show no "abnormal occurrences" throughout the US nuclear energy industry. Abnormal occurrences are events that the agency considers threats to public health or safety.

IG: Some Defects At Nuclear Plants Go Unreported (AP)

Associated Press, March 25, 2011

WASHINGTON — A new report says companies that operate US nuclear power plants are not reporting some equipment defects that could create safety risks.

The report by the inspector general at the Nuclear Regulatory Commission also raises questions about the agency's oversight, saying reporting guidelines for the nuclear industry are "contradictory and unclear."

The report, released Thursday, says that unless the NRC takes steps to improve its reporting guidelines, "the margin of safety for operating reactors could be reduced."

The report says NRC inspectors found at least 24 instances where possible equipment defects were identified but not reported to the agency from December 2009 through September 2010.

NRC staff reviewed a draft of the report but opted not to provide formal comments. An NRC spokesman declined to comment.

A Quarter Of US Nuclear Plants Not Reporting Equipment Defects, Report Finds (WP)

By Steven Mufson and Jia Lynn Yang

Washington Post, March 25, 2011

More than a quarter of US nuclear plant operators have failed to properly tell regulators about equipment defects that could imperil reactor safety, according to a report by the Nuclear Regulatory Commission's inspector general.

Operators of US nuclear power plants are supposed to tell the NRC when pieces of equipment "contain defects that could create a substantial safety hazard," regulations say.

Although the report doesn't assert that any imminent danger resulted from the lapses, many experts said the lack of communication could make it harder for other nuclear reactor operators to learn about flaws in their own equipment, because many similar parts are used in other reactors.

"If it happens in this one, maybe it's a faulty part that's in another plant and they should know," said Diane Curran, a lawyer who has represented citizens groups and state and local governments in cases related to nuclear plants. "If you don't report on this, the other licensees can't look in their books and say, 'Oh, do I have this one?' and 'Maybe I should switch it out.'"

The NRC inspector general's report appeared at a time of heightened concern about nuclear safety as workers in Japan battled to control radiation leaks, fire, power outages and explosions at a series of reactors.

The inspector general's office did not describe the defects, and that frustrated lawmakers, who said the report on unreported problems did not say what those problems were.

Rep. Edward J. Markey (Mass.), the ranking Democrat on the House Natural Resources Committee, issued a statement saying that "this troubling study . . . raises serious questions about the self-policing allowed at nuclear facilities with regard to reporting of safety concerns."

Markey said that "it is apparent that confusion and omissions regarding the reporting of defects at nuclear facilities are commonplace."

The inspector general blames the failures on uncertainty about when to report defects. Operators said they thought they needed to report only when an "event" took place and backup systems did not prevent a breakdown — or in bureaucratic lingo, an "actual loss of safety function." In fact, the rules require them to report any defect, even if backup systems kicked in.

The inspector general said there was confusion about the rule among at least 28 percent of the nation's 104 nuclear reactors, based on interviews done from mid-2009 to mid-2010.

The IG's report worried some experts who said the NRC was missing critical information that could prevent bigger accidents.

"If there is a bad patch of parts, you want to be aware of that and fix it," said David Lochbaum, a nuclear engineer with the Union of Concerned Scientists, which released a report last week criticizing the NRC's performance.

Government watchdogs have raised alarms before about defective parts at nuclear plants. In 1990, the Government Accountability Office released a report saying that utilities had installed counterfeit or substandard parts at about 64 percent of the country's plants.

Paul Gunter, with the group Beyond Nuclear, said: "You could have two reactors that have faulty circuit breakers and though the part turns out to be defective, if it doesn't necessarily cause an event like a reactor shutdown, it may be reported at one reactor, but not at another. But circuit breakers and fuses are . . . not trivial pieces of equipment."

The industry said its overall safety record is still laudable.

"We agree there's room to clarify and simplify the regulations," said Steve Kerekes, a spokesman for the Nuclear Energy Institute. "It's important to keep in mind the broader picture here, which is that this particular reporting area is one sliver of a much broader regulatory regimen, which shows that US nuclear plants are operating at very high levels of safety."

The NRC said that the study focuses on a subset of defects caused by manufacturing and that the central issue is "administrative." The agency said there are still other processes for catching and reporting defects.

Separately, an employee for a subcontractor working at the Tennessee Valley Authority's Watts Bar Nuclear Plant has been charged with lying about power system inspections, the Associated Press reported Thursday.

Prosecutors said Matthew David Correll, a 31-year-old electrician, lied last August about measuring cables that would supply power to a safety system at the reactor site. His attorney declined comment, the AP said.

Rules Faulted For Poor Data On Failures At Reactors (NYT)

By Elizabeth A. Harris And Kim Severson

New York Times, March 25, 2011

Nuclear power plants in the United States are not reporting some equipment failures to the government because of badly written rules, the inspector general of the Nuclear Regulatory Commission has warned.

Those rules, which are often contradictory, leave the commission without the muscle to enforce the federal law requiring the reporting of such problems, the inspector general said in a report issued Wednesday.

From December 2009 to September 2010, the report said, the commission found 24 instances in which equipment problems were not properly reported. If the rules are not improved, it said, they “could reduce the margin of safety for operating nuclear power reactors.”

The commission, which operates independently of the inspector general, countered in a statement that it “has a variety of other regulations that effectively encompass reporting all defects.” It added, “The N.R.C. continues to conclude plants are operating safely.”

The inspector general’s office said it was concerned about equipment involving safety features — for instance, systems that measure pressure in a reactor’s coolant. But the report did not detail any specific lapses in reporting equipment problems.

R. K. Wild, a senior analyst in the inspector general’s office, said Thursday that full reporting of equipment defects was crucial to ensuring that problems were not duplicated at other plants. When a plant operator reports a problem, the government can take the information to the manufacturer and determine where similar parts are in use.

Nuclear power generation in the United States has come under more scrutiny since an earthquake and tsunami struck a nuclear plant in Japan, setting off a crisis that continues to unfold. At the request of President Obama, the Nuclear Regulatory Commission voted Wednesday to set up a task force to review the safety of the 104 nuclear reactors operating across the United States.

In another development, federal authorities announced Thursday that a subcontractor at the Watts Bar nuclear plant under construction in Tennessee had been accused of lying about making crucial measurements on cables that carry power to safety systems there. The contractor, Matthew David Correll, 31, was charged with making false statements, the United States attorney in Knoxville, Tenn., said.

The reactor, the second at the Watts Bar plant, is the only one now being built in the nation.

Warning On US Reactor Safety (FT)

By Shannon Bond

Financial Times, March 25, 2011

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

Nuclear Plants Fail To Report Safety Defects (WSJ)

Industry Confusion Over Rules Could Keep Regulators From Spotting Troubling Trends at Facilities, Federal Study Finds

By Tennille Tracy

Wall Street Journal, March 25, 2011

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

UPDATE 3-US Nuclear Plants Not Reporting All Defects-report (REU)

By Roberta Rampton And Ayesha Rascoe

Reuters, March 25, 2011

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

Report: Nuke Plant Component Defects Elude Regulators (HILL)

By Ben Geman

The Hill, March 25, 2011

Operators of US nuclear plants are failing to report component defects that could cause “substantial” safety hazards, according to a new report by the Nuclear Regulatory Commission’s inspector general.

The report comes amid heightened scrutiny of US nuclear safety as a result of Japan’s reactor crisis.

The report released Thursday says “contradictory and unclear” NRC regulations are a major cause of plant operators’ failure to notify regulators in multiple cases.

It warns that, absent NRC improvements to the reporting program, “the margin of safety for operating reactors could be reduced.”

NRC staff said findings “will be helpful in adding clarity” to commission regulations, the report states.

A spokesman for the Nuclear Energy Institute, a major trade group, said the issue needs to be resolved, but also said the report must be viewed in the broader context of the industry's strong safety record.

"Our actual operating performance demonstrates that we are operating at high margins of safety," spokesman Steve Kerekes said. "It should not diminish from our larger safety record, which is excellent." Kerekes also noted that the component reporting program is just one element of a far broader NRC safety program.

But Rep. Edward Markey (D-Mass.), a senior member of the Energy and Commerce Committee, called the report a warning sign.

"This troubling study by the NRC's Inspector General raises serious questions about the self-policing allowed at nuclear facilities with regard to reporting of safety concerns. While there are no specific examples listed in the report, it is apparent that confusion and omissions regarding the reporting of defects at nuclear facilities are commonplace," said Markey, a longtime nuclear critic, in a statement.

The report notes confusion between separate NRC rules for reporting component defects — known as the Part 21 rules — and reporting events at plants that reduce safety.

It's possible to have component failures that do not trigger an official "loss of safety" event due to redundant systems at power plants.

"Based on interviews and analysis, [the inspector general] determined that licensees representing at least 28 percent of the operating reactor fleet do not, as standard practice, notify NRC of defects under Part 21 unless they are reportable under event reporting regulations," the report states.

The inspector general conducted the study between July and December of 2010 and provided the report in draft form to the NRC in mid-January. The inspector general met with NRC officials in February and solicited their comments en route to completing the study.

US Plant Operators Failing To Report Some Equipment Defects -- NRC Audit (EPPM)

By Hannah Northey

E&ENews PM, March 25, 2011

Almost 30 percent of US nuclear reactor operators are failing to report certain defects in plant equipment, a situation that could lead to serious safety hazards, federal regulators said in a report released today.

The Nuclear Regulatory Commission's Office of Inspector General (OIG) said reactor operators are confused about what they are required to report and are failing to report some equipment defects.

Specifically, the report says, operators failed to report at least 24 defects in reactor components that could have caused a substantial safety hazard from December 2009 to September 2010, as well as 11 additional defective components between June 2009 and June 2010.

NRC requires licensees to report defects in installed equipment that could create safety hazards or result in the loss of functions that ensure the reactor can function properly or shut down during an emergency.

Confusing to operators is Part 21 of the law, which requires operators to report defects that can cause a loss of safety functions, while a separate section requires operators to report only actual losses of safety functions, the inspector general wrote. The report recommends that the commission clarify which defects must be reported.

"Based on interviews and analysis, OIG determined that licensees representing at least 28 percent of the operating reactor fleet do not, as standard practice, notify NRC of defects under Part 21 unless they are reportable under event reporting regulations," the report says.

NRC has also failed to levy any civil penalties or take significant enforcement actions for such reporting lapses in the past eight years, the report says.

Steve Kerekes, a spokesman for the Nuclear Energy Institute, said it is important to remember that the issue raised by the OIG is just a "sliver" of a larger regulatory framework that nuclear reactor operators must abide by.

"While the report language suggest this is an area of reporting that could have safety implications, we need to keep in mind that the facts we have in hand demonstrate our plants are operating at a very high margin of safety," Kerekes said.

But Rep. Ed Markey (D-Mass.), ranking member on the House Natural Resources Committee, said the report highlights serious questions about the self-policing that regulators allow on reporting safety problems at nuclear plants.

"While there are no specific examples listed in the report, it is apparent that confusion and omissions regarding the reporting of defects at nuclear facilities are commonplace," Markey said.

Lobbyists' Long Effort To Revive Nuclear Industry Faces New Test (NYT)

By Eric Lichtblau

New York Times, March 25, 2011

WASHINGTON — One flash point in the remarkable revival of interest in nuclear energy here — a revival now threatened by the calamity in Japan — came almost by accident at a late-night brainstorming session in a senator's office in 1997.

Pete V. Domenici, then a Republican senator from New Mexico, was looking for an issue to claim as his own. One staff member, a former scientist at the Los Alamos nuclear lab, tossed out an idea that seemed dead on arrival: a renewed commitment to nuclear energy.

"Are you serious?" Mr. Domenici remembers asking the aide incredulously. After Three Mile Island and Chernobyl, nuclear energy had fallen into disfavor, development had stalled, and many politicians ran from the issue like it was a toxic cloud.

But with industry backing, Mr. Domenici overcame his skepticism and became one of the driving forces in a decade-long renaissance of nuclear energy — a resurgence that began in earnest under President George W. Bush and has led President Obama to seek a \$36 billion expansion in loan guarantees to finance reactors at a time when other programs are being slashed.

Now, however, the future of nuclear energy in the United States is in doubt, with advocates on all sides bracing for a fierce debate over whether the disaster in Japan should slow or even derail the planned expansion of America's 104 nuclear reactors.

Mr. Obama has shown no sign of backing away — a testament to the success of an expensive multiyear campaign by the nuclear energy industry, advocates in Congress and the executive branch.

Nuclear executives, girding for a fight, have already held 20 briefings for Washington lawmakers and others about the events in Japan and the potential lessons learned at home. They have been putting out guidance on increased safeguards for reactors, and giving reporters tours of nuclear plants.

The message: Despite the events in Japan, nuclear is a safe, affordable and "clean" energy source that does not spew harmful carbons into the environment or rely on foreign producers.

"We surely should avoid a rush to judgment," Jeff Merrifield, a former member of the Nuclear Regulatory Commission, said in one of a series of videos that the Nuclear Energy Institute, the leading trade group, has put out on its Web site since this month's tsunami crippled Japan's reactors. The United States, he said, should "continue to move forward with building those plants because it's the right thing for our nation."

But with polls in the last two weeks showing dimmed support for nuclear power, opponents are hoping to use the events in Japan to slow the industry's political momentum and challenge what the industry maintains is a long record of safety.

"The risk is just so great if there's a screw-up," said David Hamilton, director of energy programs for the Sierra Club, which opposes the expansion of nuclear energy. "The nuclear renaissance was already hanging by a thread, and the Japanese disaster may have cut the thread."

But even the critics acknowledge that the industry's backers have managed to jump-start nuclear energy in a way that few thought possible a decade ago.

One turning point, people on both sides of the issue agree, was that proponents took advantage of the public concern over climate change and carbon-producing fuels beginning in the early 2000s and were able to recast themselves — first to fence-sitting lawmakers, then to the public as a whole — as a "clean" alternative that would not harm the environment.

"It was a brilliant campaign," said Tyson Slocum, an energy expert at Public Citizen, which opposes nuclear energy because of concerns about its safety, security and cost.

"While everyone was focused on shutting down coal plants, they had a couple of years to themselves to just talk to the American public in very sophisticated ad campaigns and to reintroduce a generation of Americans to nuclear power," he said. "That was very powerful."

Nuclear industry firms and their employees also contributed more than \$4.6 million in the last decade to members of Congress — both Republicans and Democrats, including Mr. Obama, then a senator, and his presidential campaign — as the industry's political fortunes were rising, according to an analysis by MAPLight.org, a Washington research group that tracks money and politics.

And the industry has spent tens of millions more lately on lobbying. Last year, electric utilities, trade groups and other backers spent \$54 million hiring lobbyists, including former members of Congress, to make their case, according to a separate analysis by the Sunlight Foundation, which also tracks money and politics.

As a senator, Mr. Domenici was a big beneficiary of the industry's largess, collecting more than \$1.25 million over his 20-year career from political donors affiliated with the energy sector.

Months after he committed himself to promoting nuclear energy, he gave a talk on the topic in 1997 at Harvard University called "A New Nuclear Paradigm." Nuclear energy proponents called it a seminal moment in the shift of public opinion.

"I wanted to put nuclear power in its proper perspective," said Mr. Domenici, who left the Senate in 2009 and serves as a senior fellow at the Bipartisan Policy Center in Washington.

"You have this resource just sitting there saying, 'Are you going to use me or not?' " Mr. Domenici said in an interview last week. "People were stirring up fears of another Three Mile Island, but I believe the reality of nuclear power has now become much better known."

Mr. Domenici's position as a senior member of both the Senate Energy and Appropriations Committees gave him a particularly influential role in helping the industry. He was at Mr. Bush's side in 2005, when the president signed a major bill that encouraged the building of new nuclear plants. Work has now begun on four new plants.

Mr. Domenici's former aides have gone on to play critical roles in the debate as well.

Pete Lyons, a nuclear scientist and the former Domenici aide who first suggested the nuclear energy idea to the senator at his 1997 brainstorming session, went on to serve on the Nuclear Regulatory Commission and has been nominated by Mr. Obama to run the Energy Department's civilian nuclear program. Alex Flint, another Domenici aide at the meeting, now is the chief federal lobbyist for the Nuclear Energy Institute. And a third aide at the meeting, Steve Bell, assists Mr. Domenici's work on a presidential panel on nuclear waste.

Mr. Flint said the senator's staff did not expect to succeed when Mr. Domenici began proposing modest appropriations for nuclear research and programming in the late 1990s.

"We were going against the conventional wisdom," Mr. Flint said. "We expected a pushback, but we didn't get it. And it just grew from there."

Within the Energy Department, meanwhile, a 2003 study by the Massachusetts Institute of Technology on the future of nuclear energy helped forge a consensus within the government, even among skeptical policy makers, officials said. The study concluded that while nuclear power was facing "stagnation and decline," it should remain an important way to provide carbon-free energy at relatively low cost.

"That really moved my thinking, and that kind of analysis was very influential," said Daniel B. Poneman, deputy secretary at the Energy Department.

Today, there is no doubt about where the Energy Department stands.

Its Web site extols the value of nuclear energy as providing "low-cost, carbon-free electricity to help drive the American economy and preserve the environment," and it even includes a special page for children called "the Power Pack," featuring a sci-fi journey through nuclear energy.

For critics urging a go-slow approach to building reactors, the enthusiasm is all a bit much.

"The industry has really embedded itself in the political establishment," said Mr. Slocum at Public Citizen. "They've had reliable friends from George Bush to Barack Obama, and the government has really just become cheerleaders for the industry."

Whether events in Japan change the political calculus in Washington "is what everyone is waiting to see," he said. "We don't want to be seen as exploiting a tragedy, but it's prudent to talk about the implications here. The best and the brightest can't see around every corner."

Federal News Radio 1500 AM: Thursday Morning Federal Newscast (FEDNEWSRAD)

FederalNewsRadio, March 25, 2011

Federal regulators voted Wednesday to review safety measures at all of the US's nuclear power plants, in the wake of the nuclear crisis in Japan. The Nuclear Regulatory Commission has launched a two

The Morning Federal Newscast is a daily compilation of the stories you hear Federal Drive hosts Tom Temin and Amy Morris discuss throughout the show each day. The Newscast is designed to give FederalNewsRadio.com users more information about the stories you hear on the air.

IRS tax assistance centers are poorly located help Americans rushing to finish their taxes. That according to an new Inspector General's report. The report found that while there are more than 400 tax assistance centers around the nation, more than a third of taxpayers have to travel at least half an hour to find one. The centers are supposed to provide a way for people to get in-person help from the IRS. But the report finds the agency hasn't kept up with geographic and demographic changes.

The US Postal Service is expected to detail today how it plans to cut about 7,500 administrative jobs. The job eliminations are expected to impact about 2,000 postmasters - and another 5,500 supervisors and administrative staffers. Cutting postmasters may prompt USPS to close the post offices they operate. On average, about 22,000 postal workers leave the agency through attrition. The Washington Post reports Postmaster General Patrick R. Donahoe says between attrition and cuts his goal is to have 30,000 fewer employees working for the Postal Service by the end of its fiscal year, but that buyouts are "an option on the table."

The Pentagon is expected to issue a stop-work order on the second engine for the F-35 Joint Strike Fighter later today. The alternate engine is made by General Electric and Rolls-Royce, and the Pentagon has labeled the project unnecessary and wasteful. Today's Defense reports funding for the alternate engine has been eliminated in the 2011 and 2012 budgets, but because of continuing resolutions of the 2010 budget, the project has continued to receive funding.

The Securities and Exchange Commission has decided to extend its lease in Alexandria. The Washington Business Journal reports about 600 SEC workers will fill the nearly 150,000 square foot space, known as the agency's "Ops Center." This latest decision will replace the plan to move the workers to DC. The agency has not yet determined how many workers will fill its remaining 340,000 square feet in Constitution Center.

Federal regulators voted Wednesday to review safety measures at all of the US's nuclear power plants, in the wake of the nuclear crisis in Japan. The Nuclear Regulatory Commission has launched a two-step review process. A task force made up of senior staff and former NRC experts, will conduct short-term and long-term analyses of lessons learned from Japan. Their reports will then address how those lessons can be applied to the 104 US nuclear reactors. NRC Chairman Gregory Jaczko said it was important to examine the crisis caused by the earthquake and tsunami to determine whether policy changes are needed in this country. The short-term review is to be completed within three months, with updates after 30 days and 60 days. The longer review should be completed by the end of the year.

The Justice Department has given 20 companies a license to hunt for more than a billion dollars in technology contracts. The vendors are the winners of the IT Support Services-Four contract. Under ITSS-Four, the businesses will compete for task orders to provide all aspects of the system's lifecycle, including the development, support, training and cybersecurity. It is a year-long contract with six one-year options.

Earthquake Risks Must Be Reanalyzed For US Reactors (GWIRE)

By Hannah Northey And Anne C. Mulkern

Greenwire, March 25, 2011

All of the nation's 104 nuclear reactors will need to undergo analysis using cutting-edge technology and the most recent data to assess how well they can withstand earthquakes, the Nuclear Regulatory Commission says.

Plant operators will be required to study the safety of their facilities using a new seismic risk model created by the NRC, Electric Power Research Institute (EPRI) and US Geological Survey, which should be available later this year.

The modeling is expected to give clearer indications of the risks facing each of the plants, providing details on the ground shaking that plant operators can expect at any given site, NRC spokesman Scott Burnell said. Plant operators must then show the commission their facilities are equipped to handle the worst-case scenarios the model generates.

The NRC will likely start with 27 reactors in the eastern and central United States. Data in past USGS reports for those facilities have shown the "largest increase in seismic risk," Burnell said, while acknowledging the risk is slight and still covered by the plants' designs. Using the new model for those facilities is expected to show "areas where the plants can improve what is already an acceptable response to seismic events," he said.

"There's been some talk about these being the first 27," NRC spokeswoman Beth Hayden said. "But we may just look at all of them."

But even as it analyzes risks at nuclear plants, the NRC acknowledges it has challenges in identifying the risks that reactors face from seismic activity, which cannot always be pinpointed to a fault line or seismic region. It's particularly difficult in the eastern and central United States, the NRC and geologists say, because quakes are less frequent there than on the West Coast.

"One of the questions which has come up repeatedly is which of the plants are near faults or how many plants are in moderate or high seismicity regions," Annie Kammerer, senior seismologist and earthquake engineer in the NRC's Office of Nuclear Regulatory Research, told the commission at a meeting Monday.

"That's a very challenging question to answer because these seismic zones are not well-defined boundaries."

The review was proceeding before safety concerns were piqued in the wake of the March 11 earthquake and tsunami that crippled a nuclear plant in northeast Japan. Burnell said the review is "in no shape or form a response" to events in Japan.

27 reactors

The NRC will first review the following plants: Farley 1 and 2 in Alabama; Crystal River 3 and St. Lucie 1 and 2 in Florida; Dresden 2 and 3 in Illinois; Duane Arnold in Iowa; Wolf Creek in Kansas; River Bend in Louisiana; Seabrook in New Hampshire; Indian Point 2 and 3 in New York; Perry 1 in Ohio; Limerick 1 and 2 and Peach Bottom 2 and 3 in Pennsylvania; Oconee 1, 2 and 3 and Summer in South Carolina; Sequoyah 1 and 2 and Watts Bar 1 in Tennessee; and North Anna 1 and 2 in Virginia.

The NRC has been reviewing the strength of plants since 2005, and in 2008 the commission began applying new seismic information from EPRI into the design of new nuclear power plants, as well as USGS findings for existing eastern and central

reactor sites. Western reactors, the NRC said in 2008, had already taken into account the greater seismic activity within that region.

The USGS in its 2008 report, which updated a 2002 report, presented updated information on how ground shaking is likely to be as a result of earthquakes. Because temblors of different magnitudes generate different amounts of force, the USGS presents the potential movement as g force, or acceleration relative to free fall.

The USGS report estimates the likelihood that a particular amount of force will happen over a certain time period. In a region, for example, it might warn that there is a 10 percent chance of getting a force equal to 20 percent of g or larger over the next 50 years, said Arthur Frankel, a USGS research seismologist.

The 2008 report included new information on faults and earthquakes developed since the USGS's 2002 analysis. Because there are not many quakes in the eastern and central United States, USGS also used models, Frankel said. There were new models created between 2002 and 2008, he said.

Calculating risks

Ninety percent of all the earthquakes occur at the boundaries of the Earth's tectonic plates, said Christopher Scholtz, a professor of geophysics at Columbia University. One of the best-known of those areas is between the West Coast of the United States and the east coast of Asia.

"Most of the earthquakes occur in the places where we expect them to occur," which are the areas with active faults, said Larry Ruff, a professor in University of Michigan's geological sciences department.

But three major earthquakes in the range of magnitude 7 in the early 1800s struck near the town of New Madrid, Mo. The epicenter of that quake has never been located, the NRC said.

A fault line responsible for a magnitude 7.3 quake in Charleston, S.C., in 1886 also has never been located, several geology experts said.

There also is the risk posed by undiscovered faults in earthquake-prone areas. In California, the 1994 Northridge and 1987 Whittier Narrows quakes both happened on fault lines that were mostly undiscovered. They occurred on "blind thrust" faults, which are buried beneath the top layers of rock in the Earth's crust, so there is no evidence on the surface that they exist.

Because there are fewer quakes in the eastern and central United States than on the West Coast, there is less opportunity to gather information about faults, experts said. Quakes help scientists study the potential for new temblors.

"There's probably places where there's faults lurking ... where there are large faults we don't know about yet," said Frankel of USGS.

Experts disagreed about the chances for a major quake on an unknown fault in the country's central-eastern region.

A major quake would need to happen on a large fault line, and those would be visible, Ruff said.

The magnitude 9.5 earthquake in Chile in 1960 happened on a fault equal in size to the area of California, Ruff said.

"That's not something you hide in the San Fernando Valley," Ruff said, referring to a region of Southern California known for earthquakes.

"It's easy to hide, and therefore have an unknown fault, something that's small," Ruff said. "It's hard to hide a fault that's as large as you need to have a magnitude 9."

Scholtz disagreed. The New Madrid quake of 1811, he said, happened on a fault line unknown at that time. And even though today's technology is far more advanced, "we wouldn't have any special reason to make a study of them to know there was a fault there unless there was an earthquake," Scholtz said. "It's an unlikely place to look."

USGS in its seismic hazards report tries to account for the uncertainty posed by unknown faults, Frankel said. It also studies potential evidence of past earthquakes like sand deposits in the ground. Those indicate there were New Madrid quakes in A.D. 1450 and 900, he said.

Japan Spawns A Fresh Look At Disaster Planning On US-Mexico Border (GWIRE)

By John McArdle

Greenwire, March 25, 2011

White House Council on Environmental Quality Chairwoman Nancy Sutley discussed the future of nuclear energy at a meeting this morning of a federal advisory committee that studies environmental issues along the US-Mexico border.

"Clearly the events in Japan remind us ... that safety is the most important thing we have to keep in mind when dealing with nuclear energy," Sutley told the members of the Good Neighbor Environmental Board. But, she also emphasized that President Obama continues to believe that nuclear energy "is an important part of our energy mix right now."

The subject was of particular interest not just because of the ongoing crisis in Japan. The Southwest border region is home to a handful of nuclear power plants, and disaster planning along the US-Mexico border has been a subject of concern for the board for several years.

In its most recent report to the White House and Congress, the board noted that coordination and communication impediments as well as US efforts to halt illegal immigration could slow the response of government agencies to hazardous material emergencies and natural disasters.

"Unlike non-border communities, border communities must attempt to coordinate emergency response with their neighbors across the border, often through informal channels," states the report, which was issued last summer. And "maintaining a tightly controlled border for enhanced security may hinder the ability to cross the border quickly to provide assistance in the event of a chemical emergency or natural disaster."

In a brief interview after her remarks, Sutley, who has previously served as a member of the Good Neighbor Environmental Board, said that CEQ is working with a variety of agencies to address the many recommendations the group made in last year's 13th annual report.

When it comes to emergency planning, those recommendations include an effort to train Mexican first responders and provide needed emergency response equipment as well as developing effective procedures to speed the entry and exit of emergency responders during incidents along the border.

As for the nuclear plants along the border in Arizona and California, Sutley said those facilities will be included in the comprehensive review that the federal government is undertaking for all US nuclear facilities.

"The president last week asked the Nuclear Regulatory Commission to go back and look at all the operating nuclear power plants including those two plants, which I know are close to the border," Sutley said. "I think the administration is working hard to ensure that we have a secure border but that we recognize both the environmental and public health challenges of these shared communities."

Sutley emphasized that the administration continues to believe that there are opportunities to develop safe nuclear energy in the United States but said that the Southwest border region is also a hotbed for opportunities to develop power from renewable sources.

She noted that the Department of Energy is currently in the process of mapping out potential wind resources in the region and the board has made the economic and environmental impacts of renewable energy the topic of the annual report that will be delivered to the president and Congress this year.

"The Southwest border does present tremendous opportunity in solar and wind and geothermal," Sutley said. "These resources are important for our energy security and our energy future and as part of clean energy package."

Japan Disaster Raises Questions About Backup Power At US Nuclear Plants (NYT)

By Mike Soraghan

New York Times/Greenwire, March 25, 2011

The batteries that back up power at most US nuclear plants are required to last about as long as the average cellphone battery – four hours.

The Nuclear Regulatory Commission says that's enough. The agency's critics say it's not. And those critics are pointing to the Fukushima Daiichi plant in Japan, which is teetering on the brink of meltdown because it lost power.

"Most of our plants have far less than what the Japanese had," said David Lochbaum, a nuclear engineer with the Union of Concerned Scientists who has long criticized US nuclear protections as inadequate. "So, we're more vulnerable to a situation where we lose primary power and the backup."

US regulators also allow plants to operate without backup power for the controls monitoring spent nuclear fuel. These ponds often do not have containment, and in the United States they contain more of the highly radioactive material than in Japan.

NRC says it has adequate safeguards in place for battery backup and spent-fuel pools.

"All US plants have in place additional resources and procedures to deal with situations where significant portions of the plant have been rendered inoperable," NRC spokesman Scott Burnell said. "The NRC has inspected those arrangements and the agency finds them capable of continuing to protect the public after severe events."

And industry officials say US plants have layers of safety backups not reflected by rules about power blackouts. There are multiple sources of power from offsite facilities, extra generators and equipment that can be shared with other plants in crisis. In addition, plants have prepared for specific catastrophes that go beyond their overall safety requirements, such as a plane crash.

"There's layer upon layer of protection," said Alex Marion, vice president of nuclear operations for the Nuclear Energy Institute, the nuclear industry's policy arm.

Of the country's 104 reactors, 11 are required to have eight hours of battery backup. But Marion said most plants have eight hours of backup even though they might be required to have only four.

As an island nation on the Pacific Ocean's "Ring of Fire," a zone of active volcanoes, Japan appears particularly vulnerable to the earthquake-tsunami combination that killed thousands and crippled the Fukushima Daiichi plant. The earthquake cut off-site power to the plant, and the tsunami flooded its generators. That constitutes what nuclear experts call "station blackout." Eight hours of backup power proved woefully inadequate.

But there are different threats that could cause similar problems with reactors in the United States, according to groups that act as watchdogs to the nuclear industry and NRC's regulatory approach.

"Many of our reactors are in situations where earthquakes or hurricanes in the Gulf or ice storms in the Northeast or a tree in Cleveland can cause an extensive blackout that puts us in a very similar situation," Lochbaum said.

"So, I think battery capacity and ... what we do when the batteries go dim may be an area that we need to shore up, so that our plants aren't as vulnerable as Japan was."

For example, a 1998 tornado knocked out power to the Davis-Besse plant near Toledo, Ohio, for more than a day. An NRC analysis (pdf) of the event said that the outage brought the plant perilously close to meltdown.

Battery backup requirements, NRC's Burnell said, are evaluated on a site- and design-specific basis. Plants must convince NRC that their individual approaches meet federal requirements.

"The NRC continues to conclude that existing battery backups at every plant are sufficient and acceptable for that plant's situation," Burnell said.

Concerns about spent-fuel pools

Since NRC began monitoring nuclear plants' emergency backup capacity, the number, duration and severity of power outages has steadily decreased.

Still, regulators were alarmed by a blackout that hit the northeastern United States in 2003, cutting power to nine reactors and prompting a wide-ranging review (pdf) by NRC.

And in 1992, Hurricane Andrew caused the Turkey Point Nuclear Reactor near Miami to lose access to the grid for more than six days.

Station blackout at a nuclear facility can account for as much as 88 percent of the chance of reactor core damage in a year, according to NRC records. The average, though, for US plants is about 23 percent.

A 2005 NRC report (pdf) shows there were 24 "loss of offsite power" events between 1997 and 2004, including the nine in the Northeast blackout.

Some nuclear critics say the situation is even more dangerous with spent fuel – uranium-bearing rods that no longer produce enough energy to sustain a nuclear reaction in the reactor.

In the United States, most spent fuel remains on site at nuclear plants because the country has not developed a facility to store it.

The United States has 71,862 tons of the waste, according to a recent analysis by the Associated Press (Greenwire, March 23).

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.

"The spent-fuel pools are currently holding, on the average, four times more than their designs intended," said Robert Alvarez of the left-leaning Institute for Policy Studies.

By contrast, Japan reprocesses spent nuclear fuel, turning much of it into new fuel.

Spent-fuel pools, NRC's Burnell said, must be built to withstand the strongest earthquake at their site and are therefore as robust as any structures at a reactor.

"These factors preclude the need for specific containment structures for the pools," he said.

The Union of Concerned Scientists' Lochbaum says the federal government should require spent fuel rods to be stored in dry casks. He said it could take a terrorist attack or other catastrophe to expose the danger of keeping so much spent fuel at the plants to get policymakers to act.

"Why don't we do it now," he said, "and skip the step where a bunch of Americans get killed?"

Glitches Hamper Radiation Warning System In California (LAT)

Half of the 12 EPA detectors in California have problems that could delay alerts.

By Jack Dolan And Rong-gong Lin li,

Los Angeles Times, March 25, 2011

The federal government's radiation alert network in California is not fully functional, leaving the stretch of coast between Los Angeles and San Francisco without the crucial real-time warning system in the event of a nuclear emergency.

Six of the Environmental Protection Agency's 12 California sensors — including the three closest to the Diablo Canyon nuclear power plant near San Luis Obispo — are sending data with "anomalies" to the agency's laboratory in Montgomery, Ala., said Mike Bandrowski, manager of the EPA's radiation program.

The problem delays from 30 minutes to several hours the updating of a database that would be critical for warning the public in case of a sudden radiation danger from air wafting to the United States from a foreign country, for example, or from a radiation leak at a domestic nuclear facility.

The lag has not been a concern during the Japanese nuclear crisis because the minuscule amounts of radiation that have reached California have posed no threat to human health, and the plume of irradiated air from Japan is so widespread that other equipment from Washington to Los Angeles has been able to monitor it in real time, Bandrowski said.

The agency's critics, however, say the weakness in the EPA system could pose a public health concern.

"The unreliability of the EPA monitoring effort revealed by this event raises troubling questions about whether Californians would receive timely warning to evacuate, or take other protective actions, in case of a nuclear accident here," said Dan Hirsch, a nuclear policy lecturer at UC Santa Cruz and president of the Committee to Bridge the Gap, an anti-nuclear group.

The troubled transmissions are part of the federal RadNet system, which is "designed to protect the public by notifying scientists, in near real time, of elevated levels of radiation so they can determine whether protective action is required," according to a recent press release from the agency.

Without immediate information from RadNet, state and local emergency managers would be dependent on the private owners of nuclear power facilities to alert them in the first hours of a dangerous radiation leak from a domestic source.

"I believe the utilities monitor the sensors; they're good about reporting things," said David McIntyre, a spokesman for the Nuclear Regulatory Commission, which oversees nuclear reactors in the US. He added that federal regulations require nuclear plant operators to report small problems that could lead to a release of radiation, so it's unlikely such an event would come as a surprise.

Paul Flake, a spokesman for Pacific Gas & Electric's Diablo Canyon plant, said late Thursday that he did not have details at hand about the company's monitoring system and warning protocols.

Tokyo Electric Power Co., which runs the stricken Fukushima nuclear power plant in Japan, was widely criticized for failing to provide timely, accurate data about the pending danger to the Japanese government, which was reliant on the company for such information.

"There's a natural reluctance to reporting something embarrassing," said Arjun Makhijani, president of the Institute for Energy and Environmental Research.

The California Department of Public Health maintains two of its own sensors at each of the state's nuclear power plants — at Diablo Canyon and at San Onofre near San Clemente — but data from those devices are collected every 48 hours, said Jordan Scott, a spokesman with the California Emergency Management Agency. Before the accident in Japan, data was collected once a week, Scott said.

There are other detectors spread across the United States, including some at universities and some deployed by the Department of Homeland Security in large cities when a terrorist threat is received. But none of those transmits data in real time to a dedicated early-warning system, officials said.

The Comprehensive Nuclear-Test-Ban Treaty Organization, based in Vienna, has four real-time radiation monitors in the continental US. The one in Sacramento, operated by the US Department of Energy, was the first to detect traces of radiation from Japan in California.

But that system is designed to detect evidence of nuclear bomb tests, not to notify the US public to evacuate or take other precautions if elevated levels of radiation are detected.

At the outset of the Japanese crisis, environmentalists noticed that a map on the Environmental Protection Agency's website showing the locations of the monitors nationwide indicated that only about half were "running." Most of the others were producing data that was "undergoing quality review."

The website has since been updated to say that data from the problematic monitors "is being reviewed at EPA's National Air and Radiation Environmental Laboratory" and that the sensors are still collecting data.

Bandrowski said the data from those sensors, transmitted via satellite to the Alabama lab every hour, arrive with problems that mean it can't be added to the database automatically. Instead, a staff member has to manually review the information, a process that can take up to several hours.

"That's the nature of satellite transmissions," Bandrowski said. "There's always going to be glitches."

Feds Charge Worker At TVA Nuclear Site In Tenn. (AP)

By Bill Poovey, Associated Press

Associated Press, March 25, 2011

KNOXVILLE, Tenn. – A subcontractor employee at the Tennessee Valley Authority's Watts Bar Nuclear Plant has been charged with lying about power system inspections at the only site in the nation where a reactor is being built, prosecutors said Thursday.

Matthew David Correll, 31, of Hixson was charged in a two-count indictment with making false statements. Prosecutors said Correll lied about measuring cables that would supply power to a safety system at the reactor site.

The indictment shows the charges, which officials said would not delay the reactor's construction, stem from paperwork filed in August 2010.

Correll, an electrician, appeared Thursday before a federal magistrate in Chattanooga and was released pending a May 23 trial. His attorney, Myrlene Marsa, declined comment.

A conviction carries a maximum possible penalty of five years in prison and a \$250,000 fine on each count.

US Attorney Bill Killian at a news conference in Knoxville declined to discuss a motive and said details would be presented in court when the case goes to trial. He would not say if the investigation was continuing or if there might be other arrests. He and TVA officials said the case poses no harm to the public.

Killian did not mention the nuclear emergency in Japan — where a massive earthquake and resulting tsunami severely damaged a nuclear reactor — other than to say the allegations took place long before the earthquake. TVA has said since the earthquake that its six reactors, including the Watts Bar Unit 1 reactor that came online in 1996, are safe.

TVA nuclear executive Ashok Bhatnagar said at the news conference that the falsified paperwork was found during normal reviews of the employee's work at the plant, where a Unit 2 reactor is about 70 percent completed near Spring City, between Knoxville and Chattanooga.

He declined to speculate about what might have happened if the phony paperwork had not been discovered.

Correll works for Williams Specialty Services, a subcontractor on the \$2.5 billion, 1,200-megawatt reactor project expected to be finished by October 2012. The company's location and contact information could not be found, and TVA could not immediately provide it.

The charges single out one worker, and the company as a whole is doing good work, Bhatnagar said. He said TVA would continue working with the subcontractor.

TVA spokesman Mike Bradley said Correll's employer has about 80 workers at the Watts Bar project. He said the criminal case would not interrupt construction.

"It's not anticipated to slow the pace at all," he said.

The arrest comes two months after an unrelated Nuclear Regulatory Commission letter cited TVA "errors and omissions" in a Watts Bar project fire protection report and excessive delays in providing information. The letter called on TVA to promptly supply information for its review of an application for a reactor operating license.

Soon after the letter was received, site vice president Masoud Bajestani abruptly left his job overseeing the construction project. TVA wouldn't provide details about his departure, calling it a personnel matter, but the utility has contended it wasn't related to the NRC letter.

TVA said in February that it was addressing the NRC concerns and still expected to have the reactor done on time.

TVA, the nation's largest public utility, supplies power to customers in Tennessee, Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia.

TVA Officials: Federal Charges Coming Over Watts Bar Nuclear Site Where Reactor Is Being Built (AP)

Associated Press, March 25, 2011

KNOXVILLE, Tenn. — Federal prosecutors are filing charges related to the only US nuclear site where a reactor is under construction.

Tennessee Valley Authority spokesman Scott Brooks says the charges relate to the Watts Bar facility in Spring City, north of Chattanooga. He said he didn't know the specifics.

A US Attorney's office statement said prosecutors won't discuss the case until a news conference later Thursday in Knoxville. The TVA inspector general is expected to attend.

TVA has one reactor at Watts Bar and is building another.

A Nuclear Regulatory Commission letter in January cited TVA "errors and omissions" in a project fire protection report and excessive delays in providing information. The letter called on TVA to promptly supply information for its review of an application for a reactor operating license.

US Man Charged In False Nuclear Inspection (AFP)

AFP, March 25, 2011

CHICAGO (AFP) – A Tennessee man pleaded not guilty Thursday to falsifying safety inspection reports during the construction of a nuclear power plant, officials said.

The charges come a day after the Nuclear Regulatory Commission launched a two-pronged review of US nuclear power plant safety amid the crisis at a Japanese complex hit by an earthquake and tsunami.

Matthew David Correll, 31, was working as an electrician for a subcontractor at a new nuclear power plant at the Watts Bar Nuclear facility in eastern Tennessee when he allegedly falsified the inspection reports.

He is accused of failing to measure and inspect cables intended to supply energy to safety systems and then falsifying two reports to cover up his failure.

"Cutting corners on the construction of our nuclear power plants is a serious matter," US attorney Bill Killian said in a statement. "Our prosecution will be vigorous and thorough."

Correll faces up to five years in prison and a \$250,000 fine if convicted. He was released on bail pending his trial set for May 23.

Feds Charge Worker At TVA Nuclear Site In Tennessee (AP)

Associated Press, March 25, 2011

A subcontractor employee at the Tennessee Valley Authority's Watts Bar Nuclear Plant has been charged with lying about power system inspections at the only site in the nation where a reactor is being built, prosecutors said Thursday.

Matthew David Correll, 31, of Hixson was charged in a two-count indictment with making false statements. Prosecutors said Correll lied about measuring cables that would supply power to a safety system at the reactor site.

The indictment shows the charges, which officials said would not delay the reactor's construction, stem from paperwork filed in August 2010.

Correll, an electrician, appeared Thursday before a federal magistrate in Chattanooga and was released pending a May 23 trial. His attorney, Myrlene Marsa, declined comment.

A conviction carries a maximum possible penalty of five years in prison and a \$250,000 fine on each count.

US Attorney Bill Killian at a news conference in Knoxville declined to discuss a motive and said details would be presented in court when the case goes to trial. He would not say if the investigation was continuing or if there might be other arrests. He and TVA officials said the case poses no harm to the public.

Killian did not mention the nuclear emergency in Japan – where a massive earthquake and resulting tsunami severely damaged a nuclear reactor – other than to say the allegations took place long before the earthquake. TVA has said since the earthquake that its six reactors, including the Watts Bar Unit 1 reactor that came online in 1996, are safe.

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He declined to speculate about what might have happened if the phony paperwork had not been discovered.

Correll works for Williams Specialty Services, a subcontractor on the \$2.5 billion, 1,200-megawatt reactor project expected to be finished by October 2012. The company's location and contact information could not be found, and TVA could not immediately provide it.

The charges single out one worker, and the company as a whole is doing good work, Bhatnagar said. He said TVA would continue working with the subcontractor.

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The arrest comes two months after an unrelated Nuclear Regulatory Commission letter cited TVA "errors and omissions" in a Watts Bar project fire protection report and excessive delays in providing information. The letter called on TVA to promptly supply information for its review of an application for a reactor operating license.

Soon after the letter was received, site vice president Masoud Bajestani abruptly left his job overseeing the construction project. TVA wouldn't provide details about his departure, calling it a personnel matter, but the utility has contended it wasn't related to the NRC letter.

TVA said in February that it was addressing the NRC concerns and still expected to have the reactor done on time.

TVA, the nation's largest public utility, supplies power to customers in Tennessee, Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia.

Feds: Worker At Nuke Reactor Lied On Inspections (AP)

Associated Press, March 25, 2011

A sub-contractor employee has been charged with lying about inspections at the Tennessee Valley Authority's Watts Bar Nuclear Plant, federal prosecutors said Thursday. The site is the only one in the US where a nuclear reactor is under construction.

The US attorney in Knoxville said Matthew David Correll, 31, of Hixson has been charged in a two-count indictment with making false statements. A news release said Correll lied about measuring cables that were intended to supply energy to safety systems that were to be built at the plant.

Correll appeared Thursday before a federal magistrate in Chattanooga and has been released pending a May 23 trial.

US Attorney Bill Killian declined to discuss any motive.

Review of 104 US nuclear power sites approved

TVA nuclear executive Ashok Bhatnagar said the falsified paperwork was found in the checks and balances procedures at the plant near Spring City, between Knoxville and Chattanooga. Bhatnagar said that the system worked as it should and that there is no danger at the site.

TVA spokesman Scott Brooks said the case is not directly related to the abrupt departure of the former construction site manager at Watts Bar.

A Nuclear Regulatory Commission letter in January had cited TVA "errors and omissions" in a project fire protection report and excessive delays in providing information. The letter called on TVA to promptly supply information for its review of an application for a reactor operating license.

Soon after the letter was received, site vice president Masoud Bajestani abruptly left his job overseeing the construction project. TVA wouldn't provide details about his departure, calling it a personnel matter, but the utility has contended it wasn't related to the NRC letter.

TVA said in February that it was addressing the NRC concerns and still expected to have the reactor completed on time in 2012.

TVA is spending \$2.5 billion over five years to build the 1,200-megawatt reactor, which is expected to supply electricity to 650,000 homes. The Watts Bar Unit 1 reactor started operating in 1996.

TVA, the nation's largest public utility, supplies power to customers in Tennessee, Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia.

Nuclear Plant Employee Charged With Lying On Inspection Reports (CBS)

By Ellis

CBS, March 25, 2011

A worker at a Tennessee nuclear power plant was indicted this week for lying on inspection reports, according to Eastern Tennessee US Attorney's office.

Court papers filed March 22 allege that Matthew David Correll, 31, willingly lied on documents last August in which he stated he had measured safety system cables intended for a new nuclear power plant to be constructed at the Watts Bar Nuclear Facility in Spring City even though he did not perform this inspection.

"The falsification of records is a serious matter, particularly when the records in question involve safety cables at a nuclear power plant," David Lochbaum, Director of the Nuclear Safety Project for the Union of Concerned Scientists told CBS News.

The cables Correll is charged with lying about inspecting were intended to provide electric power to operate safety systems and other equipment in a nuclear power plant being constructed by the Bechtel Power Corporation.

In court today in Chattanooga, Tenn., Correll pleaded not guilty to the charges levied against him. A woman who answered the phone at his residence declined to discuss the charges when contacted this afternoon by CBS News.

Correll's indictment is the result of an investigation initiated by the Tennessee Valley Authority Office of the Inspector General and the US Attorney's Office.

Scott Brooks, a spokesman for the Tennessee Valley Authority, told CBS News, "I couldn't speculate on what his motivation was. We're just glad the system worked the way it was supposed to and it was uncovered."

Correll had been employed by Williams Specialty Services, a subcontractor for the Bechtel Power Corporation, at the time he allegedly falsified inspection reports but his employment with the company ended in September.

"Williams learned of the indictment today and was unaware that federal prosecutors were pursuing this action," Anne Bryant, a spokesperson for Williams Speciality Services told CBS News.

Feds Indict Man On Charges Of Making False Statements About TVA's Watts Bar Nuclear Reactor (TENN)

By Paine

Tennessean, March 25, 2011

A Chattanooga man has been indicted for making false statements about nuclear power plant electrical safety systems at TVA's Watts Bar nuclear reactor that is under construction.

Matthew David Correll, 31, of Hixson, Tenn., has been indicted by a federal grand jury and appeared in court today, entering a not guilty plea to the charges.

Correll was released pending trial May 23, 2011 in US District Court in Chattanooga, according to the United States Attorney's Office there.

He was working for Williams Specialty Services, which is a subcontractor for Bechtel on the project.

The indictment alleges that about August 16 of last year, Correll filled out paperwork saying falsely that he had measured cables that would supply energy to safety systems at the facility.

According to the charges, Correll did not take the measurements, nor make the inspections, and falsely completed the TVA-required forms. The indictment also alleges that he did not perform these measurements.

If convicted, he faces a term of maximum term of five years in prison, a \$250,000 fine and up to three years of supervised release on each count.

"We always take the falsification of federal records very seriously, especially given the nature of these records at these facilities," US Attorney Bill Killian said in an emailed announcement.

"Cutting corners on the construction of our nuclear power plants is a serious matter. Our prosecution will be vigorous and thorough."

The charges come as the nuclear industry struggles to convince the country that nuclear power is safe despite the disaster taking place in Japan where an earthquake and tsunami have resulted in explosions, radioactive releases and concerns about possible meltdowns.

Ashok S. Bhatnagar, Senior Vice President, TVA Nuclear Generation Development & Construction, said that TVA discovered the problem during routine inspections of the man's work. He said the actions show the public power producer's focus on making nuclear plants safe.

The investigation had been conducted by TVA's Office of Inspector General.

(Page 2 of 2)

"This action today is an example of TVA's systems and procedural safeguards working as designed," Bhatnagar said.

"Concerns were discovered and investigated by TVA and, in accordance with procedures, investigated by the Inspector General's Office and other authorities. The system worked."

TVA has been criticized on some of its work related to the construction project.

The Nuclear Regulatory Commission had sent a letter to TVA in January chastising the power producer for "errors and omissions" in the documents it provided on fire safety at its Watts Bar reactor construction project.

The \$2.5 billion project that involves building a second reactor at its Watts Bar plant along the Tennessee River about 60 miles southwest of Knoxville has been scheduled to open in 2012.

Issues with "the timeliness and quality of submittals continue to arise, and these issues are impacting the schedule for completing the licensing review," wrote Eric Leeds, director of the NRC's nuclear reactor regulation office.

"TVA's difficulty in providing the necessary and sufficient supporting information," was among their concerns related to fire safety.

In some cases only partial or no responses were provided by TVA on key matters, including spent fuel pool cooling.

These pools, where the highly radioactive rods of fuel pellets are placed after they are no longer of use in the reactor, have been central to problems at the Japanese reactors after the earthquake and tsunami.

The Japanese have struggled to keep enough water in at least one of the exposed pools there so that a major release of cesium 137 and radioactive iodine does not occur.

Leeds said that the staff felt the delays were "excessive and have disrupted the review process."

TVA officials said at the time that they would take care of any NRC concerns and that the reactor would remain on schedule.

The NRC letter had been sent the day before the head of the building project, Masoud Bajestani, had suddenly left the job. TVA officials have maintained that his departure was unrelated to the NRC's concerns.

According to court documents, Bajestani had told lies on personal financial matters last year in a divorce proceeding and also in dealings several years earlier with a contract employee who he fired after the man reported safety problems.

Bajestani admitted he withdrew \$1.5 million from his deferred compensation account with TVA in 2007 claiming a hardship he didn't have. He and his then wife had wanted the money to invest in property in their native Iran, where much of the money was sent.

Bajestani had fired Robert Klock, a lead startup engineer on the first Watts Bar reactor project, on July 5, 1994, after Klock had reported safety problems with the reactor.

TVA Subcontractor Facing Charges Of "Falsifying Information" (WBIR)

By Brittany Bailey

WBIR-TV, March 25, 2011

The US Attorney's Office has charged a 31-year-old Hixson man with lying about work he performed for the Tennessee Valley Authority's Watts Bar Nuclear Plant, where Unit is under construction.

Federal officials announced the charges Thursday following an indictment released Tuesday.

Matthew David Correll faces two counts of falsifying information. He pleaded not guilty in a Hamilton County federal courtroom on Thursday morning. He faces a maximum of five years for each charge if convicted and \$500,000 in fines.

Officials say Correll lied about measurements he took of power cables that would have been used in the nuclear power-making process.

"Mr. Correll did not take the measurements, nor make the inspections and falsely completed the forms required by TVA, providing them with the false measurements for the cables," Bill Killian of the US Attorney's Office said. "In the event of a nuclear containment problem, these electrical cables help power the safety and containment area."

TVA officials say they hired Bechtel to perform work on the Watts Bar Unit 2 construction project. Bechtel then hired the company Williams Special Services as a subcontractor to perform electrical work. Correll was an employee of Williams Specialty Services.

Correll's alleged crimes were caught by TVA's internal checking process, according to leaders there. They also pointed out that, those incorrect measurements could have caused massive issues at the nuclear plant, but stressed that the internal checking process worked, which is exactly why it is in place.

"We have multiple checks and balances that we've put into our system and through one of these checks after the work was completed, we discovered the discrepancy," Ashok Bhatnagar, TVA's Senior Vice President of Nuclear Generation, Development, and Construction said.

Bhatnagar declined to say what impact having the wrong size cables could have in a nuclear emergency situation at the plant.

Those are hypothetical questions we don't need to get into," he said.

The Southern Alliance for Clean Energy, a group calling for no additional nuclear power facilities applauds the Tennessee Valley Authority for catching the alleged problem.

However, SACE does have some concerns that potential problem employees could have access and work so closely with equipment used in emergency safety situations.

The group says nuclear power plants are not inherently unsafe but they are inherently unforgiving.

"The fundamental question here is, you have to get everything right with a nuclear power plant because there is no room for error. The fact that you have somebody on the worksite, working with critical safety systems, falsifying records— that has got to raise a lot of red flags," Stephen Smith, the Southern Alliance for Clean Energy's Executive Director said.

TVA then contacted the US Attorney's Office and Nuclear Regulatory Commission.

The US Attorney's Office has not said whether anyone else was involved or if there could be any additional charges.

Tied To TVA's Watts Bar Nuclear Site (WATE)

By Kim

WATE-TV Knoxville, TN, March 25, 2011

A worker at the Tennessee Valley Authority's Watts Bar plant in Spring City has been charged with lying about measurements taken at the nuclear facility.

Federal prosecutors say Matthew David Correll, 31, of Hixson, is charged with making false statements. He appeared before a judge Thursday and pleaded not guilty.

TVA is not charged in the case. Correll worked for Williams Specialty Services as an electrician.

Williams is a sub-contractor company working with Bechtel Corp., the lead contractor of the Watts Bar construction project.

The indictments say Correll provided false information about electrical cables at the Watts Bar plant, the only US site where a nuclear reactor is under construction.

Prosecutors said an investigation that led to the indictment began in August 2010 after TVA inspectors found problems with the wiring.

The indictment says Correll filled out paperwork saying he had measured cable that was intended to supply energy to safety systems at the new facility, but in fact had not done the work.

The incident happened in the early stages of the construction project before any installation had begun.

Prosecutors would not say what motive Correll had for giving false information.

If Correll is convicted he could face a sentence of up to five years in prison.

TVA has one reactor at the site north of Chattanooga and is building another.

Prosecutors said Homeland Security officials were not involved in the investigation.

TVA Sub-contractor Arrested For Falsifying Documents (WRCB)

WRCB-TV Chattanooga, TN, March 25, 2011

A sub-contractor with the Watts Bar nuclear site was arrested by federal authorities for falsifying documents at the construction site.

The indictment says last August, 31-year-old Matthew Correll of Hixson completed paperwork saying he measured cables that were intending to supply energy to safety systems, but an investigation revealed he didn't take the measurements, nor make the proper inspections.

Jack Bailey, a Vice President of Nuclear Development with TVA says he was aware of the situation with Correll Thursday Morning and assured members of the Chattanooga Rotary Club no corners were cut during the plant's construction.

Bailey said U-S safety standards are much higher than Japan's and a catastrophic meltdown isn't likely.

Bailey said, "The real question is what happened over and why did it happen and do we have the same vulnerabilities in our plants or not."

The answer depends on how severe a "bad" situation is.

Most nuclear plants are engineered to withstand the worst conditions, and after Japan's tragedy, nuclear power companies in Japan are relaying information to the us on how to avoid such tragedies.

Bailey said, "If there is anything we missed with all the work we have done then we can."

Right now it's too early to call, but Bailey said all the TVA can do is prepare now for any type of danger should disaster strike.

"Right now our only indications are that if you have a design for your plant, you always have to think what if something is different than that or beyond," Bailey said.

If convicted Correll can face up to five years in prison and a \$250,000 dollar fine.

He is due in court in May 23rd.

Feds Charge TVA Contractor At Nuclear Reactor Site (WVL)

WVLT-TV Knoxville, TN, March 25, 2011

The US Attorney for the Eastern District of Tennessee, Bill Killian, personally announcing at a press conference Monday criminal charges against Matthew Correll over construction of TVA's newest nuclear reactor at Watts Bar.

"The indictment charges Mr. Correll with knowingly and willfully making false statements," said Killian. In documents submitted to the TVA. Prosecutors say Correll lied about measuring cables used to power safety systems and performing inspections at the reactor. "And falsely completed the forms required by TVA, providing them with false measurements for the cables," Killian said.

Prosecutors say the falsification is very serious because in the event of a problem at the reactor, the cables would power containment equipment. "My office will prosecute anyone who violates federal law by cutting corners in the construction, maintenance, or operation of nuclear facilities."

As for TVA, the massive power company says multiple layers of checks and balances exposed the shoddy work. But also says failure to detect this problem could've posed a significant danger.

"It could've been, but that's all hypothetical. We actually have processes in place that are designed to do exactly this," said Ashok Bhatnagar, TVA vice president of nuclear construction.

This isn't the first problem at Watts Bar. The Nuclear Regulatory Commission in January raised concerns over errors in documents TVA submitted on fire safety at the site. Still, Killian says the public should rest easy.

"TVA has assured me that these deficiencies have been discovered and remedied, and that there's no harm to the general public."

Latest Comments

Posted by: mary b. Location: sevier co. on Mar 24, 2011 at 12:35 PM

Oh boy, here comes more raising of our rates- what with the public paying for the ash spill instead of TVA taking responsibility and sucking up the cost, the public is going to be gouged again for yet another TVA *oversight*.

TVA Faces Federal Charges Tied To Watts Bar (WTVC-TV)

By Sarah Jennings

WTVC-TV Chattanooga, TN, March 25, 2011

A sub-contractor employee has been charged with lying about inspections at the Tennessee Valley Authority's Watts Bar Nuclear Plant, federal prosecutors said Thursday. The site is the only one in the US where a nuclear reactor is under construction.

The US attorney in Knoxville said Matthew David Correll, 31, of Hixson has been charged in a two-count indictment with making false statements.

Prosecutors say on or about August 16, 2010, Correll completed paperwork and lied about measuring cables that were intending to supply energy to safety systems at the Watts Bar Nuclear plant. Prosecutors say "Correll did not take the measurements, nor make the inspections, and falsely completed the forms required by TVA."

If convicted, Correll faces five years in prison and a \$250,000 fine on each count.

US Attorney Bill Killian said, "We always take the falsification of federal records very seriously, especially given the nature of these records at these facilities. Cutting corners on the construction of our nuclear power plants is a serious matter. Our prosecution will be vigorous and thorough."

Killian however declined to discuss any motive.

This indictment is the result of an investigation by Tennessee Valley Authority Office of the Inspector General.

FULL TVA STATEMENT:

TVA is grateful to those who identified these concerns and those who investigated them. This action today is an example of TVA's systems and procedural safeguards working as designed. Concerns were discovered and investigated by TVA and, in accordance with procedures, investigated by the Inspector General's Office and other authorities. The system worked.

TVA Nuclear construction and operations have a strict focus on compliance with the highest standards, and we do not tolerate any untrustworthy conduct. We have rigorous procedures in place to check and double-check all critical work and testing of critical systems to assure compliance with all laws and regulations. Those procedures help find infractions and mistakes and correct them in a timely and appropriate manner.

In addition, TVA has been reviewing work performed by the individual alleged to be involved to assure similar issues do not exist. The lessons learned will be used to enhance and modify existing processes and procedures.

Electrician At Nuclear Power Site In Tenn. Charged With Making False Claims : The Two-Way : NPR (NPR)

NPR, March 25, 2011

A subcontractor at the site of a nuclear power plant now under construction in Tennessee falsely claimed to have "measured cables that were intending to supply energy to safety systems," The US Attorney for the Eastern District of Tennessee alleged today.

Matthew David Correll, 31, of Hixon, Tenn., was indicted Tuesday on two charges. He has pleaded not guilty.

According to a statement issued by the US Attorney's office:

"The indictment alleges that on or about August 16, 2010, Correll completed paperwork falsely indicating that he had measured cables that were intending to supply energy to safety systems to be constructed in a new nuclear power plant at the Watts Bar Nuclear facility. As alleged in the indictment, Mr. Correll did not take the measurements, nor make the inspections, and falsely completed the forms required by TVA. The indictment also alleges that he did not perform these measurements. Each count concerns a document with false information."

As the Knoxville News Sentinel reports, the Tennessee Valley Authority "is spending \$2.5 billion over five years to build the 1,200-megawatt reactor, which is expected to supply electricity to 650,000 homes. The Watts Bar Unit 1 reactor started operating in 1996."

Tennessee Man Charged With Falsifying Nuclear Reports (REU)

By Tim Ghianni

Reuters, March 25, 2011

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

Chattanooga-area Man Indicted For False Statements On Nuclear Plant Safety Systems (CHTNGA)

By Pam Sohn

Chattanooga Times Free Press, March 25, 2011

A federal grand jury in Chattanooga has returned a two-count indictment against Matthew David Correll, 31, of Hixson, for making false statements that he had measured cables intending to supply energy to safety systems at Watts Bar Nuclear Plant.

The Tennessee Valley Authority is building a new and second nuclear reactor at the Spring City, Tenn., plant.

If convicted, Correll faces a term of maximum term of five years in prison, a \$250,000 fine and up to three years of supervised release on each count.

"We always take the falsification of federal records very seriously, especially given the nature of these records at these facilities," US Attorney Bill Killian said. "Cutting corners on the construction of our nuclear power plants is a serious matter. Our prosecution will be vigorous and thorough."

about Pam Sohn...

Pam Sohn has been reporting or editing Chattanooga news for 25 years. A Walden's Ridge native, she began her journalism career with a 10-year stint at the Anniston (Ala.) Star. She came to the Chattanooga Times Free Press in 1999 after working at the Chattanooga Times for 14 years. She has been a city editor, Sunday editor, wire editor, projects team leader and assistant lifestyle editor. As a reporter, she also has covered the police, ...

Hixson Man Indicted For Falsifying Statements At Nuclear Plant (CHATNOOG)

The Chattanooga, March 25, 2011

Federal prosecutors have indicted a Hixson man for falsifying documents related to an inspection at the TVA Watts Bar Facility, north of Chattanooga. Matthew David Correll, 31, was indicted on two counts of making false statements.

Watts made false statements that he had measured cables for a safety system at the plant.

"We always take the falsification of federal records very seriously, especially given the nature of these records at these facilities. Cutting corners on the construction of our nuclear power plants is a serious matter. Our prosecution will be vigorous and thorough," said US Attorney Bill Killian.

Ashok S. Bhatnagar, senior vice president, TVA Nuclear Generation Development & Construction, issued the following statement regarding the results of the investigation conducted by TVA's Office of Inspector General:

"TVA is grateful to those who identified these concerns and those who investigated them. This action today is an example of TVA's systems and procedural safeguards working as designed. Concerns were discovered and investigated by TVA and, in accordance with procedures, investigated by the Inspector General's Office and other authorities. The system worked.

"TVA Nuclear construction and operations have a strict focus on compliance with the highest standards, and we do not tolerate any untrustworthy conduct. We have rigorous procedures in place to check and double-check all critical work and testing of critical systems to assure compliance with all laws and regulations. Those procedures help find infractions and mistakes and correct them in a timely and appropriate manner.

"In addition, TVA has been reviewing work performed by the individual alleged to be involved to assure similar issues do not exist. The lessons learned will be used to enhance and modify existing processes and procedures."

Correll appeared in court earlier today before US Magistrate Judge Susan Lee and entered a plea of not guilty to the charges in the indictment. He was released pending trial, which has been set for May 23 in US District Court in Chattanooga before Judge Curtis Collier.

The indictment alleges that on or about Aug. 16, 2010, Correll completed paperwork falsely indicating that he had measured cables that were intending to supply energy to safety systems to be constructed in a new nuclear power plant at the Watts Bar Nuclear facility. As alleged in the indictment, Correll did not take the measurements, nor make the inspections, and falsely completed the forms required by TVA. The indictment also alleges that he did not perform these measurements. Each count concerns a document with false information.

If convicted, Correll faces a term of maximum term of five years in prison, a \$250,000 fine and up to three years of supervised release on each count.

The indictment is the result of an investigation by Tennessee Valley Authority Office of the Inspector General. Assistant US Attorney James T. Brooks will represent the United States.

Electrician At Tennessee Nuclear Power Plant Charged With Falsifying Inspections (Fox)

FOX Atlanta, March 25, 2011

Electrician at Tennessee Nuclear Power Plant Charged With Falsifying Inspections

Thursday, March 24, 2011 12:00 AM

(NewsCore) - Federal prosecutors in Knoxville, Tenn., charged a sub-contractor, hired to work on the Tennessee Valley Authority's (TVA) Watts Bar Nuclear Plant, for lying about inspections, WBIR-TV reported Thursday.

Matthew David Correll, 31, a subcontractor hired to perform electrical work on the plant that is currently under construction, pleaded not guilty to two counts of falsifying information. He faces a possible maximum sentence of five years on each charge if he is convicted.

Federal officials claim he lied about the measurements he took of power cables that would have been used in the power plant. The incorrect figures could have led to serious problems at the nuclear plant, but the TVA added its internal checking process caught the mistake.

The US Attorney did not say whether law enforcement was able to determine a motive for falsifying the information.

Read more: WBIR

Hixson Man Faces Federal Charges For Watts Bar Work (WDEF_TV)

By Bill Mitchell

WDEF-TV Chattanooga (TN), March 25, 2011

Hixson Man Faces Federal Charges For Watts Bar Work

Submitted on March 24, 2011 - 5:46pm.

As the nuclear drama continues in Japan, there is only one reactor under construction right now in the United States.

And it's at the Watts Bar plant in Spring City.

The U-S Attorney's office has announced federal charges against a sub-contractor doing work on the new reactor.

The alleged incident at the Watts Bar construction site happened last August, and the Inspector General says it was because the subcontractor completed false paperwork.

It indicated he had measured cables that supply energy to safety systems.

To the layman, that may not appear to be an offense that could send someone to jail for 5 years, but it is.

TVA says it has a system in place to catch such problems.

ASHOK BHATNAGAR, TVA EXECUTIVE "we already have processes in place that are designed exactly to do this..as work is completed, you go through multiple checks..and these checks found this, and will find other issues..and make sure they are corrected."

The prosecutors office did not provide a photo of 31-year old Matthew David Correll of Hixson, but he appeared before US Magistrate Susan Lee Thursday morning to plead not guilty. Correll was released pending a May 23rd trial in Federal District Court.

Specifically, Correll is charged with failing to measure the important cables, and with lying about inspections.

Work is now underway on completing Unit 2 which about 80% complete when it was halted in 1988.

Construction on Unit one at Watts Bar was started in 1973 and completed in 1996.

The original project was plagued by welding concerns and whistle-blower investigations.

TVA says this incident presented no danger.

BILL KILLIAN, US ATTORNEY "As a result of that, I'm told there is no danger that occurred throughout the course of the investigation and not now."

Watts Bar near Spring City, is the nation's only reactor construction site.

Work was re-started in 2007.

Nuclear Industry, Activists At Odds Over Safety Claims (AP)

By Bill Poovey

Associated Press, March 25, 2011

HUNTSVILLE, Ala. — Two executives with the Tennessee Valley Authority said their information and analysis indicate the utility's six reactors would have weathered a powerful earthquake like that which prompted Japan's nuclear emergency, a claim that drew skepticism from an environmental activist.

TVA's senior nuclear communications manager Ray Golden and chief nuclear officer Preston Swafford discussed Japan's nuclear emergency with reporters in Huntsville in describing safeguards at TVA's nuclear plants along the Tennessee River in Tennessee and Alabama. Swafford said some of the differences with Japan's plants stem from "redundant" safety and power systems installed at nuclear plants in the United States after the September 2001 terrorist attack.

TVA has invited the media to a Friday tour at its Browns Ferry Nuclear Plant in Athens, Ala., which has boiling water reactors similar to the malfunctioning reactors in Japan. TVA has said the Browns Ferry Plant was designed to withstand a 6.0-magnitude quake based on its distance from the New Madrid fault.

The TVA's Watts Bar Nuclear Plant at Spring City, Tenn., and its Sequoyah plant at Soddy-Daisy, Tenn., are designed to withstand a 5.8-magnitude quake based on an 1897 tremor at Giles County, Va., officials said.

On Tuesday, Swafford said he and others at TVA "expect to learn a lot from the Japan event" in which the magnitude 9.0 quake touched off a devastating tsunami along a wide swath of Japanese coastline.

Swafford said no TVA nuclear plant is vulnerable to a flooding emergency from a break of any dam or multiple dams.

Stephen Smith, director of the Southern Alliance for Clean Energy, said of TVA's claim: "Without some documentation of the assumptions that were made to come to that conclusion, talk is cheap."

"They should put that documentation up on their web site and let it be examined," Smith said in a telephone interview. "Maybe it's true."

Smith said the nuclear industry is "in full-scale damage control mode right now."

Swafford said TVA has invited the media to a Friday tour at the Browns Ferry Plant, where one of the reactors is currently idle.

Days after the disaster in Japan, TVA called off a long-scheduled media tour at its Watts Bar plant that is the site of a second unit that is the nation's only reactor under construction.

The TVA board at its April meeting in Chattanooga, Tenn., is expected to discuss committing funds to future nuclear projects.

Golden said changing the pace of the utility's nuclear plans would be "up to the board."

TVA, the country's largest public utility, supplies power to about 9 million people in Tennessee, Alabama, Mississippi, Kentucky, Georgia, North Carolina and Virginia.

Tennessee Valley Authority Says Its Nuclear Plants More Robust Than Japan's (BOSH)

Boston Herald, March 25, 2011

Tennessee Valley Authority says its nuclear plants more robust than Japan's

The Tennessee Valley Authority is moving ahead with construction and planning for more nuclear reactors despite the explosion and ongoing radiation leaks at one of Japan's largest nuclear plants.

TVA Chief Operating Officer Bill McCollum Jr. said Wednesday that the federal utility established a centralized response center in Chattanooga to assess the accident at Japan's Fukushima Dai-ichi plant – which was damaged by an earthquake and tsunami – and to evaluate TVA plants' vulnerability to natural or manmade disasters.

While some equipment, training and operating changes are likely at TVA nuclear facilities, McCollum insisted the plants are safe. He said suspending work on new plants would only inflate costs and possibly impede their successful completion.

"I think it's premature, given that we haven't gotten all of the information about the events in Japan, to make any changes," McCollum said during a media briefing in Chattanooga.

Since the Japanese nuclear disaster, Russia, China and Germany have announced plans to suspend work on new nuclear projects. Nuclear opponents have called for a similar moratorium on new nuclear projects by TVA.

The utility is spending nearly \$1 million a day to finish building a second reactor at its Watts Bar Nuclear Plant near Spring City, Tenn. It's the only active nuclear plant now under construction in America and the projected completion date is 2013. TVA also is spending nearly as much – \$248 million in the current fiscal year – for engineering studies on the possibility of finishing an incomplete unit at its Bellefonte Nuclear Plant near Scottsboro, Ala., as soon as 2018.

Nuclear Moratorium

Glenn Carroll, coordinator of the anti-nuclear power group Nuclear Watch South, said TVA's Sequoyah and Watts Bar plants are "the most vulnerable reactors to containment failure" because of their less robust ice condensers.

Three of the six reactors at the crippled Japanese plant share the General Electric boiling-water reactor design used at TVA's Browns Ferry Nuclear Plant and 29 other US reactors.

"The time is ripe to build momentum to stop construction of new reactors and shut down old reactors," Carroll said.

Edwin Lyman, senior scientist for the Union of Concerned Scientists, said utilities and regulators need to reconsider their assumptions and design criteria after the failure of so many safety systems at Fukushima.

Lyman said the lack of any nuclear plant accident since Three Mile Island in 1979 "has made regulators and operators too casual about the severe accident risks at a nuclear plant."

But McCollum said TVA's nuclear plants are designed, built and operated to withstand earthquakes and flooding and are less likely to be crippled by such disasters than the Fukushima plant.

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

TVA plants have hardened vents to prevent the type of hydrogen gas explosions that damaged four of Fukushima's reactors, he said. TVA also has put in more backup power and steam-generating pumps than in the Japanese plant so water will keep circulating even if the power fails.

The main source of backup power – diesel generators that can start up in a matter of seconds – are designed to withstand major floods or storms and are less likely to fail than Japanese equipment did in the tsunami, he said.

The risks of a major earthquake or sudden flooding in the Tennessee Valley also are far lower than in Japan, McCollum said.

To see more of the Chattanooga Times Free Press, or to subscribe to the newspaper, go to <http://www.timesfreepress.com>. Article URL: <http://www.bostonherald.com/news/national/south/view.bg?articleid=1325766>
Angela Merkel calls for nuclear power changes

TVA Assures Its Nuclear Power Plants Are Safe (CNN)

WSFA, March 25, 2011

NASHVILLE (CNN) - In the wake of nuclear crisis in Japan, the Tennessee Valley Authority (TVA) is assuring residents that its three nuclear power plants are safe.

TVA Executive Vice President Preston Swafford said his company's facilities are built to withstand a natural disaster or terrorist attack.

"Our designs are robust," he said. "These are safe nuclear power plants. We have been in this business for quite some time."

Swafford said additional security measures were put in place following the Three Mile Island accident in 1979 and the 9/11 terror attacks.

"We will never let our guard down," Preston said. "We will treat each day with the same seriousness as the day before."

TVA's three nuclear plants provide electricity to about 3 million homes across the Tennessee Valley.

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Official: Maury County equipped to cope with nuclear emergency (CDHTN)

By Swisher

Columbia (TN) Daily Herald, March 25, 2011

The Maury County Courthouse is only about 60 miles away from a nuclear power plant containing reactors similar to the ones that prompted a nuclear crisis in Japan.

But Mark Blackwood, director of the Maury County Office of Emergency Management, said authorities are prepared for a nuclear incident at nearby Browns Ferry Nuclear Plant in Athens, Ala.

He described the chances of a nuclear disaster, such as the one caused by the tsunami and earthquake in Japan, as being minimal.

"There are hazards in anything, but there are many things that we do that are a lot more statistically likely to hurt us than a nuclear incident," Blackwood said. "That would probably include driving through evening traffic in Columbia, Tennessee."

Blackwood said authorities are equipped with radiation-detection devices and would be able to monitor levels and act accordingly. Given Columbia's distance from the plant, authorities expect Maury County's chief challenge in the event of a nuclear incident would be accommodating evacuees.

REACTORS CONCERNS

The Tennessee Valley Authority is working to assure the public that Browns Ferry's reactors are safe, offering reporters an opportunity to tour the plant Friday.

The Alabama plant has three General Electric Mark I boiling water reactors, the same kind of reactor used in the Fukushima Daiichi in Japan. There are 20 other Mark I reactors in the United States.

TVA officials say the reactors at the Browns Ferry plant could withstand a 6.0 magnitude quake. The plant was built to those specifications based on its location from the New Madrid Seismic Zone. The Japan quake, which occurred in a much more geologically active area, measured 9.0 on the Richter scale.

TVA officials also said none of their plants are susceptible to flooding in the event of a dam break.

"Our plants are designed to be very robust against all types of occurrences — natural occurrences as well as others," TVA CEO Bill McCollum Jr. said in a video posted on the authority's website.

TVA operates six nuclear reactors at three nuclear plants that supply about 30 percent of electricity to customers in its seven-state service area.

Mary Olson, director of the Southeast office of the Nuclear Information and Resource Service, said she is skeptical of TVA's statements that the Mark 1 reactors are safe.

"We are calling for an immediate shutdown of the Mark 1s, because they do not have any more robust protections in the United States than they do in Japan," she said.

Her group, which has been critical of nuclear energy, says top US safety officials at the Atomic Energy Commission and later the Nuclear Regulatory Commission have warned for years of safety shortcomings in the Mark 1 reactors.

GE developed the reactors in the 1960s.

In 1972, Stephen H. Hanauer, a safety official with the Atomic Energy Commission, recommended the Mark 1 reactor be discontinued because its smaller containment mechanism made it more susceptible to an explosion.

GE officials have defended the reactors, saying they have a 40-year track record of success. The company said the reactors were modified and retrofitted over the years to reflect technological advances.

RADIATION DETECTORS AND HIPPIE COMMUNES

As TVA defends the safety of nuclear power, one local company is seeing a boom in business as a result of the nuclear crisis in Japan.

Summertown-based SE International Inc. is a designer, manufacturer and distributor of radiation detectors. The company hired an additional employee and moved a part-time position into full-time as a result of the nuclear crisis in Japan.

"Everybody is in overtime," said Beth Cramer, director of sales. "We are back-ordered at least six-to-eight weeks on products. When they come off the line, we are shipping them."

Cramer said she has been sending radiation detectors to Japan and has also fielded hundreds of calls from US residents worried about radiation exposure. That's despite assurances from authorities that the nuclear crisis in Japan will not pose a health hazard in the United States.

Prices for radiation detectors for sale online vary from \$150 to thousands of dollars.

SE International was founded in 1979 by members of the Farm, a hippie commune that was established on 1,750 acres in Lawrence County during the early '70s. About 200 people, including SE's employees, still live on the farm, which is now operated as a cooperative. "We just wanted to be in the business for safety purposes for people, so we started the company," Cramer said. "We did it communally. We were just making it for people to be safe."

Story created Mar 24, 2011 - 16:00:59 EDT.

Slim Nuke Danger Here, But ... (CHTNGA)

Chattanooga Times Free Press, March 25, 2011

Slim nuke danger here, but ...

Since a massive earthquake and tsunami created a radiation danger at nuclear power-generating facilities in Japan, some Americans have anxiously asked whether a similar catastrophe might pose the threat of a nuclear meltdown here.

Fortunately, Tennessee Valley Authority officials do not believe there is a comparable danger at TVA's Sequoyah Nuclear Plant near Soddy-Daisy, the Watts Bar Nuclear Plant near Spring City, Tenn., or at other nuclear facilities in our region.

To provide information, and allay any fears, TVA Chief Operating Officer Bill McCollum, joined by other officials from the public utility, came to the Times Free Press on Wednesday.

First of all, they noted, it is extremely unlikely, judging from history, that the immediate area would be hit by a quake nearly as severe as the recent one in Japan.

Even so, "What if?"

Well, in case of earthquake, any threatened nuclear generator would immediately and safely shut down, the TVA officials said.

Off-site power then would provide electricity needed to continue cooling reactors.

But if needed, multiple on-site, heavily fortified emergency diesel generators would keep the cooling water flowing.

As a subsequent backup, steam power produced by the heat of the nuclear energy itself would be used to circulate water.

Beyond that, in the very unlikely event that it were necessary, smaller, self-contained, diesel-driven cooling equipment could be employed, as could a battery-powered system that can be charged from outside sources.

Of course, all that is in addition to extensive training of TVA workers to respond nimbly in emergencies.

TVA officials pointed out that their reactors have continued to operate safely — and that nuclear power is a vital component of providing the energy we need.

They properly acknowledged, however, that there is no room to be "complacent or arrogant" when it comes to nuclear power. The stakes are simply too high. And they said they are re-examining their programs for responding to disasters — rather than waiting for regulators to make suggestions.

TVA's — and indeed our entire nation's — nuclear plants have a long and commendable record of efficient and safe operations.

It is natural that questions have arisen in response to the tragedy in Japan. But we have confidence that TVA will help keep the United States' record of safe nuclear energy production going.

Capps: Nix CA Nuke Plant's License Renewal Review (AP)

Associated Press, March 25, 2011

LOS ANGELES (AP) – A California congresswoman wants federal regulators to stop considering a license renewal for the Diablo Canyon nuclear plant until earthquake threats are thoroughly reviewed.

Rep. Lois Capps said Thursday that it's irresponsible to consider extending the life of the coastal plant's twin reactors until earthquake faults near the plant are thoroughly and independently studied – especially since the nuclear crisis in Japan.

Pacific Gas and Electric Co. has asked the Nuclear Regulatory Commission to renew its license to operate the reactors near San Luis Obispo, which expire in 2024 and 2025.

The company says the plants are safe.

But the Democratic congresswoman says there are too many unanswered questions about potential earthquakes and plant safety for the NRC to continue consideration of possible 20-year extensions.

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Capps Calls For Halt Of Diablo Canyon Renewal (PACBT)

Pacific Coast Business Times, March 25, 2011

US Rep Lois Capps, D-Santa Barbara, has asked the Nuclear Regulatory Commission to suspend relicensing of the Diablo Canyon Nuclear plant near San Luis Obispo and is seeking an independent review of potential earthquake risk to the area.

The NRC and Diablo Canyon owner PG&E are mid-way through a relicensing process that would extend the 2,300-megawatt generating station's life from 2024-2025 to 2045. Diablo Canyon represents about 10 percent of California's electric generation capacity, and PG&E has said it believes the plant can operate safely.

But the Fukushima Daiichi nuclear plant disaster in Japan has raised new questions about whether a one-two punch of earthquake and tsunami can deliver a blow that is outside the current design standards for any nuclear power station located in an earthquake zone.

"After much consideration, I am calling on the Nuclear Regulatory Commission to stay the license renewal process of the Diablo Canyon Nuclear Power Plant until independent, peer-reviewed advanced studies for all onshore and offshore faults in the area are performed and reviewed by a panel of federal and state agency experts," Capps wrote in a letter to NRC Chairman

Gregory B. Jaczko. "We know the Central Coast is subject to earthquake activity and it's critical this process go forward only after the region's seismic concerns are addressed," she added.

PG&E said it plans to keep pursuing the license extension.

"License renewal is a long and rigorous process with many opportunities for public involvement and interaction with our regulated and elected officials," PG&E spokesman Kory Raftery told the Business Times. "We will continue to move through the NRC process because it is the prudent thing to do for our customers, and we will continue to provide any information requested by the NRC."

The NRC has ordered a quick review of all 104 US nuclear plants. In a hearing earlier this week, State Sen. Sam Blakeslee, R-San Luis Obispo, also raised questions about the safety of Diablo Canyon.

Capps Calls For Halt To Diablo License Renewal (EDHAT)

Santa Barbara (CA) Edhat, March 25, 2011

Today Rep. Lois Capps (D-Calif) requested in a letter to the US Nuclear Regulatory Commission that it stay the license renewal for the Diablo Canyon Nuclear Power Plant and work in collaboration with other oversight and regulatory agencies to provide an independent and thorough review of the area's seismic issues.

"After much consideration, I am calling on the Nuclear Regulatory Commission to stay the license renewal process of the Diablo Canyon Nuclear Power Plant until independent, peer-reviewed advanced studies for all onshore and offshore faults in the area are performed and reviewed by a panel of federal and state agency experts. We know the Central Coast is subject to earthquake activity and it's critical this process go forward only after the region's seismic concerns are addressed.

"After the energy industry catastrophes we've seen during the last year that cost lives and billions of dollars in economic and environmental damages, we cannot accept with blind faith any industry's assurances that it can prevent, or respond to, a disaster involving earthquakes.

"Nothing is more important than the health and safety of our communities. There are simply too many unanswered questions on seismic activity, as well as plant safety and preparedness, for this relicensing process to move forward," said Capps.

A copy of the letter to the Nuclear Regulatory Commission is below.

* * *

March 24, 2011

The Honorable Gregory B. Jaczko Chairman

US Nuclear Regulatory Commission

Washington, DC 20555-0001

Dear Chairman Jaczko:

I am writing to request the Nuclear Regulatory Commission immediately stay the license renewal process for the Diablo Canyon Nuclear Power Plant until further studies demonstrate the plant's design and operations can withstand an earthquake and other potential threats.

As you are well aware, a 2008 California Energy Commission report found very clear warnings of potential new seismic threats surrounding the Diablo Canyon plant. The report also determined that the newly discovered Shoreline earthquake fault should be taken into consideration as part of the license renewal process. In addition to the concerns raised by the California Energy Commission, the California Public Utilities Commission and the California Coastal Commission have filed comments in the license renewal proceedings indicating that many seismic uncertainties remain unstudied and unresolved.

I am very concerned the NRC has not taken action to address the warnings in the Energy Commission's report, nor has it seriously considered the concerns raised by these state agencies and the public. Moreover, the NRC continues to support its evaluation of the Shoreline earthquake fault on an early report based on preliminary findings. Therefore, I request that you also reconsider my earlier request to ensure the NRC is collaborating with other federal and state agencies by creating a joint panel to peer review, upon their completion, independent advanced seismic studies for all onshore and offshore faults in the area as requested by our state regulators and legislature. The urgency of resolving the state's seismic concerns necessitates the formation of such a panel of experts. Furthermore, given that the plant's current operating licenses do not expire for more than a decade, the completion and review of these studies prior to consideration of any relicensing would not impede any process affecting its ongoing operation.

The NRC has a responsibility to maintain both the reliability and economic viability of nation's nuclear energy plants, and to ensure the public's health and safety in surrounding communities is protected. For plants located in seismically active areas, like Diablo Canyon, it is imperative they are designed with sufficient levels of resiliency against the sort of earthquakes experts predict

they could experience. Additionally, from what we witnessed in Japan-an earthquake, tsunami and nuclear accident all occurring in sequence-it is more important than ever that the NRC demonstrate that it has taken all appropriate steps to safeguard against a similar occurrence at any US facility. These safety issues continue to be of great concern to me and my constituents based on a history of incomplete and faulty NRC oversight of the Diablo Canyon plant. While Pacific Gas & Electric has put into place safety measures to address some potential hazards at the plant, there are simply too many unanswered questions on seismic activity and emergency preparedness for this licensing renewal process to move forward. Failure to address this issue in a forthright and transparent manner prior to relicensing is unwise and irresponsible. It will feed public uncertainty about the oversight and safety of nuclear energy and could cost taxpayers billions of dollars to once again belatedly address issues that should have been dealt with beforehand.

Mr. Chairman, you and I agree that nothing is more important than the health and safety of our communities. For that reason, I request the NRC immediately stay the license renewal process until it can fully resolve the state's seismic concerns and adopt whatever lessons are to be learned from the disaster in Japan. My constituents deserve the Diablo Canyon Nuclear Power Plant be as safe as possible and they are looking to the NRC to do everything within its power to ensure such a nuclear tragedy does not occur in our community.

I look forward to working with you to ensure that is the case.

Sincerely,

LOIS CAPPS

Member of Congress

Congresswoman Capps Wants Diablo Canyon Nuclear Plant Relicensing Put On Hold (SCPR)

Southern California Public Radio, March 25, 2011

Congresswoman Capps wants Diablo Canyon nuclear plant relicensing put on hold

A Democratic congresswoman from the central California coast has asked the Nuclear Regulatory Commission to suspend the license renewal of Diablo Canyon nuclear power plant.

With new questions being raised about the safety of nuclear power plants in seismically active areas, Congresswoman Lois Capps wants the US Nuclear Regulatory Commission to put the current renewal process on hold, pending an independent study of all faults in the area.

She says Pacific Gas and Electric's Diablo Canyon was built to withstand a 7.5 magnitude quake. "But that was before the present fault line that has been discovered, and I have believed for a long time that we need to have very many questions answered, and I'm concerned about a secondary power ability should the generator go out."

The lack of electricity at quake-and-tsunami-damaged Japanese plants has made it difficult to cool spent fuel rods. PG&E had no comment on the request for a freeze on Diablo Canyon's license renewal.

Earlier this week, the NRC declared that the Diablo Canyon and San Onofre nuclear power plants are in the riskiest quake zones in the country.

Capps Calls For Delay In Diablo Relicensing (KEYT)

KEYT-TV Santa Barbara (CA), March 25, 2011

Following a recent tour of the Diablo Canyon Nuclear Power Plant in Avila Beach, Congresswoman Lois Capps is asking the Nuclear Regulatory Commission to stop the relicensing process for the plant.

In a letter to the NRC Capps said, "We know the Central Coast is subject to earthquake activity and it's critical this process go forward only after the region's seismic concerns are addressed."

The safety and ability of California's nuclear power plants to withstand a large quake has fallen under scrutiny after a 9.0 earthquake and devastating tsunami caused a partial meltdown at the Daiichi Nuclear Power Plant in Fukushima, Japan.

Both Capps and Senator Diane Feinstein toured PG&E's Diablo site earlier this week.

Capps is asking for independent and peer-reviewed advanced studies be completed for all onshore and offshore faults in the area, and that the results of these studies be reviewed by a panel of federal and state agency experts.

On Monday, State Senator Sam Blakeslee expressed concern over the relicensing process of the plant amid seismic concerns for the area.

Calif. Lawmaker Joins Calls For Nuclear Reviews (REU)

By Emily Stephenson

Reuters, March 25, 2011

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

Pressure Builds On NRC To Halt License Review For Calif. Reactor (EPPM)

By Colin Sullivan

E&ENews PM, March 25, 2011

A California congresswoman today pressed the Nuclear Regulatory Commission to immediately halt the review of a license application for Pacific Gas and Electric Co.'s Diablo Canyon nuclear power facility, citing uncertainty over offshore seismic risks.

In a letter to NRC Chairman Gregory Jaczko, Rep. Lois Capps, a Democrat whose district is home to the plant, cited the recent discovery of an offshore fault close to the 2,240-megawatt plant that she believes should be studied in detail before the renewal application process proceeds.

The plant sits on the coast at Avila Beach near San Luis Obispo in the central part of the state and was built to withstand a 7.5 magnitude earthquake. The biggest seismic threat to the facility is from the onshore San Andreas Fault, with offshore earthquakes long considered less of a concern (Greenwire, March 15).

But Capps wants regulators to look more closely at the newly discovered Shoreline Fault, which was cited in a 2008 study by the California Energy Commission that acknowledged an examination of Shoreline had not been completed.

"I am very concerned the NRC has not taken action to address the warnings in the Energy Commission's report, nor has it seriously considered the concerns raised by these state agencies and the public," wrote Capps, calling on the agency to create a state-federal panel to assess seismic risks.

PG&E's licenses for the plant's two reactors expire in 2024 and 2025. A renewal would let the utility operate the facility through 2045.

Capps' letter, the first from a federal lawmaker to demand review suspension for Diablo Canyon, follows a March 16 letter from California Sens. Dianne Feinstein and Barbara Boxer that urged NRC to thoroughly investigate the vulnerability of the plants. The Democrats asked Jaczko to review both Diablo Canyon and California's other active reactor, Southern California Edison's San Onofre plant in San Clemente.

The senators noted that 7.4 million people live within 50 miles of San Onofre and about 424,000 live within 50 miles of Diablo Canyon.

The pressure on NRC has also picked up back in California. Several state lawmakers have called on NRC to freeze the review for Diablo Canyon, led by Republican state Sen. Sam Blakeslee, a geophysicist and a San Luis Obispo resident. Blakeslee has accused PG&E of blatantly disregarding any new risk assessments following the earthquake crisis in Japan.

"PG&E is now rushing to relicense Diablo Canyon a full 13 years before their current licenses expire, continuing to dismiss any concerns about the safety of the facility," he wrote in a recent editorial. "PG&E confidently maintain that the facility is not vulnerable to a seismic event. The people of Japan were told the same thing."

Blakeslee went on to note that PG&E has not committed to studying the new offshore fault. The utility did not respond to a call seeking comment.

[Click here to see Capps' letter.](#)

Sullivan is based in San Francisco.

Rep. Capps Calls On NRC To Suspend License Renewal Of Diablo Canyon (KSBY)

By Bethany Tucker

KSBY-TV San Luis Obispo (CA), March 25, 2011

Local Congresswoman Lois Capps (D) is calling on the Nuclear Regulatory Commission to suspend the license renewal process at Diablo Canyon Nuclear Power Plant in San Luis Obispo County.

In a letter sent to the NRC Thursday, Capps says she wants the agency to "immediately stay the license renewal process for the Diablo Canyon Nuclear Power Plant until further studies demonstrate the plant's design and operations can withstand an earthquake and other potential threats."

Critics have called on PG&E, the operator of Diablo Canyon, to perform better seismic studies around the plant. Recent seismic maps show there are two fault lines near the plant. But, PG&E says Diablo was built to withstand a magnitude 7.5 earthquake and that the nearby faults aren't capable of generating that large of a temblor.

In a statement today, Representative Capps says, "After the energy industry catastrophes we've seen during the last year that cost lives and billions of dollars in economic and environmental damages, we cannot accept with blind faith any industry's assurances that it can prevent, or respond to, a disaster involving earthquakes."

The licenses for Diablo Canyon Nuclear Power Plant expire in 2024 and 2025.

Board Of Supervisors To Discuss Diablo Canyon Safety On Tuesday (SLOT)

By Bob Cuddy

San Luis Obispo (CA) Tribune, March 25, 2011

A barrage of requests that the Board of Supervisors address safety at the Diablo Canyon nuclear power plant has led Chairman Adam Hill to set aside time to talk about the issue on Tuesday.

In a news release late Thursday, Hill wrote that the public's "overwhelming response" to the crisis in Japan has persuaded him that the board needs to say more.

He is not likely to be the only one speaking. Local activists have been sending around an email telling people to come Tuesday and speak out against PG&E's relicensing of the power plant during the public comment period.

One such "action alert" says "halt licensing now" and is subtitled "Diablo Canyon/Flying Blind in the Seismic Zone MUST STOP - NOW! IT'S UP TO US."

The alert's authors want the board to send letters to the Nuclear Regulatory Commission, the California Public Utilities Commission, and "all federal and state representatives and agencies" telling them to stop the relicensing process "until the 3-D seismic mapping of adjacent fault systems ... is completed and independently reviewed."

In his news release, Hill noted that the Board of Supervisors sent a letter last year to the NRC asking them to delay relicensing the power plant until seismic studies have been completed and include a third-party review.

However, that letter went out before the tragedy in Japan. Many local residents want the board to, at a minimum, restate their position.

Hill said he has been meeting with Rep. Lois Capps, state Sen. Sam Blakeslee and PG&E senior executives about the plant's safety.

The meeting will begin at 9 a.m. at the Board of Supervisors chambers in the county government center, 1055 Monterey St., San Luis Obispo.

Building Nuclear Plants To Get Harder (ATLBIZ)

By Carla Caldwell

Atlanta Business Chronicle, March 25, 2011

Fears following Japan's nuclear crisis will make it more difficult for US power companies to finance construction of new nuclear reactors. Getting permits and loan guarantees from the government is already hard, but the process is expected to get even more complicated, according to the Wall Street Journal.

Companies planning nuclear projects can expect higher financing costs and less political support for government loan guarantees, nuclear experts say. In a note to investors last week, Standard & Poor's said events in Japan renewed fears regarding nuclear power risks.

President Barack Obama and top administration officials continue to support nuclear power, and still support a budget proposal for another \$36 billion in loan guarantees for nuclear plant construction, the newspaper reported. However, the president did express concern following the crisis at the Fukushima plant in Japan and ordered safety checks at all US facilities.

Several US companies have applied for federal loan guarantees, but the Energy Department has extended only one commitment. The department in 2010 offered an \$8.3 billion guarantee to Southern Company (NYSE: SO) to build two reactors near Waynesboro, Ga., about 30 miles from August. However, the Nuclear Regulatory Commission has not yet agreed to the company's project

If the Southern Company project is approved, it will be the first new license granted in the US in more than 30 years, according to the WSJ.

UPDATE 1-US Nuclear Industry Unable To Quantify Quake Costs (REU)

By Eileen O'Grady

Reuters, March 25, 2011

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

Jaczo, Morris, Crane Own Words On US Nuclear Power (BLOOM)

Bloomberg News, March 25, 2011

March 25 (Bloomberg) – US Nuclear Regulatory Commission Chairman Gregory Jaczko, American Electric Power Co. Chief Executive Officer Michael Morris and NRG Energy Inc. CEO David Crane speak about the future of nuclear power in the US in the wake of the nuclear crisis in Japan. This report also includes comments from Shaw Group Inc.'s Jeffrey Merrifield, Constellation Energy Group Inc.'s Michael Wallace, Bloomberg New Energy Finance's Chris Gadowski and Council on Foreign Relations' Michael Levi. (Source: Bloomberg)

What NRC Nuclear Documents Do You Want To See? Here's Our List (MSNBC)

By Bill Dedman

MSNBC, March 25, 2011

The Japanese nuclear emergency has, of course, raised interest in nuclear power in the United States. The federal Nuclear Regulatory Commission's public records staff says it is "experiencing a larger than normal volume" of requests for public records under the federal Freedom of Information Act. To put it mildly, perhaps.

"Due to the high volume of FOIA requests received as a result of the unexpected events in Japan, response times to requests may be longer than normal," the NRC staff says on its FOIA request page.

At msnbc.com we continue to pursue several reporting angles on this story. Here are the FOIA requests that we've filed with the NRC. We'll let you know what we find.

The daily calendar for each of the NRC commissioners for the past year. PDF file.

Any letters or memos documenting exemptions to NRC regulations at a nuclear facility. PDF file.

The NRC personnel roster showing the full name of each employee, date hired, job title, division and branch, and rate of pay. PDF file.

Any e-mail or electronic messages sent or received during the week after the Japan earthquake by any of the senior staff of the NRC. We have 45 people on our list. PDF files here and here.

Any e-mail or electronic messages sent or received during the two weeks after the quake by the 22 key NRC staff involved in seismic issues. PDF file.

What records would you like to see from the NRC? If you're an industry insider with knowledge of a particular situation, what document would you like to see us request?

US Public Support For More Nuclear Power Slips (REU)

By Christopher Doering

Reuters, March 25, 2011

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

Should NY Shutter The Indian Point Nuclear Plant? (CRNYBIZ)

Crain's New York Business, March 25, 2011

As the US reviews the seismic risk of its existing nuclear reactors in light of Japan's earthquake-related near meltdown, Gov. Andrew Cuomo says federal regulators have promised to make the Indian Point nuclear plant their top priority. Mr. Cuomo says that because nearly 6% of the US population lives within 50 miles of the plant, the area can not be evacuated fast enough in an emergency, and he wants the plant to cease operations.

Ken Hall Reports: Time To Rethink Indian Point Evacuation Plans (MTWNHER)

By Ken Hall

Middletown (NY) Times Herald-Record, March 25, 2011

There's a long list of questions I can't answer about the Indian Point nuclear power plants.

If they close, I have no idea how New York will replace the power they provide. If the earth rumbles, I have no idea how much damage it will cause or how that damage will affect the safety systems inside. If somebody finally finds a place to store all that spent fuel piling up at Indian Point and elsewhere, I have no idea if it would reduce the local risk to any extent.

There are many other questions.

On the overall subject of nuclear power plant safety, something that everybody seems to have an opinion on these days, I only have one area of expertise. I know something about evacuations, a tiny bit of knowledge from one incident many years ago. If I apply it to the potential task of getting 15 million people in a 50-mile radius to head out in case of an emergency at Indian Point, I have an idea about how it would work.

My lesson starts with a fire one evening in a nursing home, the kind of fire that never threatened to bring down the building, but produced enough smoke to make staying inside unhealthy for the residents. This home, Eden Park in Brattleboro, Vt., was across the street from Brattleboro Memorial Hospital, very convenient for health care and even better for getting people to fresh air and safety.

Those who could walk and those in wheelchairs could be escorted across the street. Those in beds had to be moved more slowly, so the local ambulance squad and some vehicles from the fire department came to help. It was a quiet night on the emergency front so ambulances from nearby communities joined in the effort.

As the hours went by, most of us who were there observing or helping came to two conclusions.

First, this was a smooth operation, a good example of how all these organizations could work together quickly and efficiently.

Second, we better start rethinking those plans for moving people in case something bad happened at the Vermont Yankee Nuclear Power Plant six miles away.

You could reduce it to a formula.

It took that many members of that many squads that many hours to move that many people across the street. So how many members of how many squads would take how many hours to move how many people with varying degrees of mobility how far in what direction?

Most of those who showed up to help would be working in their own communities. Most of those who were stopping traffic occasionally on Canal Street would be needed on other roads. How would those remaining manage to evacuate those in other nursing homes and hospitals and where would they go?

When it comes to nuclear power plants, a lot of people became big fans of prevention that night because a glimpse of the alternative showed that the numbers don't add up.

NY Pols Sound New Alarms On Indian Point (NYPOST)

By Bill Sanderson

New York Post, March 25, 2011

The federal agency that oversees nuke plants is not properly assessing the safety of the twin Indian Point reactors just 35 miles from the heart of Manhattan, two New York members of Congress said yesterday.

The Nuclear Regulatory Commission is "not required to take into account factors like population, national security and evacuation plans in determining the relicensing of aging nuclear power plants like Indian Point," said Rep. Nita Lowey (D-Westchester).

She and Rep. Eliot Engel (D-Bronx) want congressional hearings into how the NRC licenses nuclear reactors.

It's unclear if the House's GOP leaders will grant the Democrats' request.

Columbia University seismologists determined in 2008 that Indian Point sits near the intersection of two earthquake fault lines -- information that wasn't known when the first Indian Point reactor opened in 1962.

But the NRC decided not to consider the Columbia study as it relicenses the plants, saying there was no proof the new information was relevant.

Engel, Lowey Call For Congressional Hearings On IP Risks, Calhoun Says It Is Safe (MIDHUD)

Mid-Hudson News, March 25, 2011

BUCHANAN -- House Members Eliot Engel (D- Westchester/Rockland) and Nita Lowey (D- Westchester) Wednesday called on the House energy and Commerce Committee to hold hearings on the licensing of nuclear facilities located within an evacuation area containing a high population.

The Indian Point nuclear power plant is in Buchanan and since the Japanese earthquake and tsunami wreaked havoc on nuclear facilities in that country, there has been much concern about the safety of Indian Point since it is close to the City of New York and located near a fault area.

State Assemblywoman Nancy Calhoun (R- Blooming Grove), has toured Indian Point several times and says it is safe. She noted there is a difference between the Japanese plants and Indian Point and said the tsunami, not the earthquake, is what began the chain of events in Japan.

"That was because the facilities were all very much underground. So, when they lost their generating facility, their ability to protect their spent rods and such was curtailed." Calhoun said Indian Point doesn't have that problem but it "should definitely be reviewed. She said people should not panic over the nuclear power plant safety issue.

Calhoun also noted Indian Point generates 30 percent of the electric power for New York City and in the short term, there would be no way to make up for the loss if the nuclear plant was shut down.

Experts: Impact Of Japan Radiation Low Here (AR)

By Ryan Randazzo

Arizona Republic, March 25, 2011

The nuclear disaster in Japan has raised concerns about the nuclear industry and struck fear globally, but its impact has been minimal, according to experts from Arizona State University.

The massive March 11 earthquake and tsunami that knocked out power to the reactors and spent-fuel ponds at the Fukushima Dai-ichi power plant have prompted nations to reconsider nuclear as a viable energy source.

Researchers assembled Thursday by ASU's Global Institute of Sustainability said the event serves as a critical test for nuclear energy, which they said will remain a major part of the world's energy supply, especially if the containment structures keep the plant from a full meltdown despite the devastation from the natural disasters.

"The Japanese event is looked at as a worst-case scenario, and if they can get through it with no loss of containment, that is a very positive statement for what we have in technology," said Kenneth Mossman, a health-physics professor. "If there is a loss of containment, then maybe nuclear power has to be looked at all over again. From a technological perspective, it is very much a test."

The US gets about 20 percent of its electricity from nuclear-power plants, and Japan gets about 27 percent of its electricity from nuclear, according to the Department of Energy.

Students at the ASU presentation asked if the designs for new nuclear reactors being planned today would have fared better against the natural disasters than the decades-old reactors in Japan.

Officials said the problems at the reactors stem from the total loss of backup power and electricity from the power grid, which was not planned for in even a worst-case scenario.

Without any power, the plant's operators struggled to keep the fuel rods cool with a constant supply of water, which is needed even when nuclear plants go into automatic shutdown, as occurred during the earthquake and tsunami.

"I don't suppose that up-to-date control systems would have done anything if power were not available," said Peter Rez, a physics professor.

He said that for all the talk of renewable energy, like solar and wind, utilities essentially need either nuclear power or coal power to supply energy round-the-clock when other resources are not available.

"You have to make choices," Rez said. "You have to cut down your energy usage and have a hotter room in the summer. Or you have two choices: coal or nuclear."

He concurred with Mossman that although the deaths from the earthquake and tsunami are tragic, the nuclear scare has had more psychological impact than actual physical harm.

"Nobody has died, and nobody is likely to die (from radiation exposure)," Rez said.

"Even in this case, where the unexpected happened, nothing really bad has happened (at the nuclear plant), nor is it likely to. If you want that baseline energy load, you are going to have to accept that nuclear power is here to stay."

Three agencies in Arizona are tracking the plume of radiation from Japan as it is carried by air currents over the US

But the Arizona Radiation Regulatory Agency, Department of Emergency and Military Affairs and Department of Health Services so far have said that there is no threat to health in the state from the disaster.

The Radiation Regulatory Agency reports that trace amounts of iodine-131 radioactive material associated with releases from the reactors in Japan have been detected west of metro Phoenix.

The average background radiation can range from 100 to 300 millirems per year, according to the agency. Radiation is measured in millirems.

"The amount of additional radiation we are seeing in Arizona is less than 0.1 millirem," agency Director Aubrey Godwin said. "Such low concentrations of iodine-131 do not pose a public-health threat to Arizonans."

The ADHS has said that taking the health supplement potassium iodide, which can prevent thyroid cancer in severe cases of radiation exposure, is not advised in Arizona now because it can have negative side effects and is not necessary.

"(The radiation from Japan) is very localized around the nuclear plant," Rez said. "Once you are 40 to 50 kilometers away, you are down to background levels. Worrying about it coming to the US is silly. It has a large ocean to cross, and the heavy elements will fall out."

He brushed off a question from the crowd regarding semiconductors and electronics imported from Japan and whether they would need to be decontaminated before being brought to the US

"The best place to be in the event of radioactive fallout would be a (semiconductor) cleanroom," he said. "The impact would be zero. It would not be high on my worries."

Even if the nuclear reactors are contained and have no further problems, the event has sparked concern in Arizona.

The Arizona Corporation Commission, which regulates utilities in the state, will hold a special meeting Tuesday to discuss the safety of the Palo Verde Nuclear Generating Station, 50 miles west of downtown Phoenix.

The US Nuclear Regulatory Commission has launched a review of nuclear power-plant safety in the US

"Examining all the available information from Japan is essential to understanding the event's implications for the United States," commission Chairman Gregory Jaczko said.

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

Durbin, Kirk Vow Tough Questions At Nuclear Forum (CHIT/AP)

By Tammy Webber, Associated Press

Chicago Tribune, March 25, 2011

CHICAGO

Illinois Sens. Dick Durbin and Mark Kirk vowed Thursday to ask a panel of nuclear experts some tough questions about the safety of the state's reactors – especially the four that are almost identical to those involved in Japan's nuclear crisis – during a forum that will resemble a congressional hearing.

Representatives from the US Nuclear Regulatory Commission, the Illinois Emergency Management Agency, Argonne National Laboratory and Exelon Corp., which operates Illinois' nuclear reactors, have been asked to participate in the forum in Chicago on Friday. Illinois has six nuclear plants, with a total of 11 reactors, more than any other state.

"Because Illinois is the most nuclear state in America, we should take this opportunity for a common-sense review of safety procedures and lessons learned," from Japan's crisis, Kirk said.

He and Durbin said they're interested in the state's ability to respond to a nuclear emergency, the storage of spent fuel rods and the safety of Exelon's four Mark I boiling-water reactors, which are the same model and about the same age as those at the Fukushima Daiichi plant in Japan. The reactors – at the Dresden and Quad Cities generating stations – all have surpassed their original 40-year lifespans and have been granted 20-year license extensions.

Nuclear watchdog and environmental groups have criticized those extensions, saying Mark I reactors are more susceptible to problems in the event of a natural or man-made disaster because spent fuel rods are stored above and outside of the reactor containment chamber instead of at ground level, and the containment system is too small and could allow pressure to build quickly in the event of an emergency.

Exelon officials have said all their reactors are safe.

Even so, Durbin said, "As we go through this experience with Japan, I have no reason believe (the US is in) imminent danger but we have to be vigilant and careful."

He and Kirk also said they're concerned about the storage of spent fuel rods at the state's nuclear plants, some of which are close to heavily populated areas and important waterways. At the shuttered Zion Generating Plant on Lake Michigan north of Chicago, for example, spent rods are stored in a ground-level cooling pool about 100 yards from the lake.

But Kirk said he also wants to determine if fuel rods stored in the higher pools at the Mark I reactors should be moved to another facility with separate power and containment systems. He said he worries that if there was an accident at one of those reactors, it would be difficult to get to the coolant pond – like in Japan. He also wants to know if there are redundant systems to cool the cache of spent rods and the reactors, and whether there is adequate power back-up for the reactors.

Ultimately, though, he said he would like all nuclear waste moved out of Illinois, perhaps reviving a stalled plan to bury it in Nevada's Yucca Mountain. The United States has no long-term plans to dispose of its nuclear waste.

"The federal government made a grievous error in stopping construction of Yucca," Kirk said Thursday. "The safety of the nation will be enhanced if we moved the waste to Yucca."

David Kraft, director of Illinois' Nuclear Energy Information System, said he wants to know what it would take to ensure that the Mark I reactors are either retrofitted to incorporate the pool of spent fuel rods into the reactor containment system or relocate the pool.

"I don't care if it's within standards anymore," Kraft said. "They were within the standards in Japan."

Howard Learner, executive director of the Chicago-based Environmental Law & Policy Center, said he also is concerned about Exelon plans "uprate" the Mark I reactors, squeezing out more power from them.

President Barack Obama ordered a review of the nation's nuclear reactors, and Illinois Gov. Quinn ordered state emergency management officials to do the same thing. He also said he wants to impose higher fees on Exelon to help pay for oversight of the company's nuclear plants, in addition to the 2 percent increase he already proposed in his 2012 fiscal year budget. The company current pays about \$20 million a year to the state and hasn't had a fee increase in eight years.

Neither Quinn nor the state's Emergency Management Agency can say yet how much more they need or how exactly it will be used.

Illinois has on-site inspectors at all six of its nuclear plants.

AP-WF-03-25-11 0040GMT

Exelon, Largest US Reactor Owner, Seeks To Reassure (NYT)

By Matthew L. Wald

New York Times, March 25, 2011

WASHINGTON — Exelon, the largest operator of nuclear power plants in the United States, sought to reassure investors and the public about the safety of its 17 reactors on Thursday. The company's chief executive, John W. Rowe, declared that the company was well prepared to "respond to emergencies not contemplated in the original design."

Nevertheless, Mr. Rowe said that he expected that American regulators would impose new safety requirements on nuclear plants after the Japanese crisis. That is likely to add pose "significant costs" to the utilities that operate the plants, he said in a conference call with investors.

Mr. Rowe's comments echo those of others in the nuclear industry, who have said that the 104 American reactors are safe and generally do not face the same earthquake and tsunami risks that played an important role in the problems at the Fukushima Daiichi complex in Japan.

Two utilities planning to break ground on new nuclear plants in Georgia and South Carolina say they are committed to proceeding with their projects despite the accident in Japan. Another nuclear project, proposed in Texas by NRG, was already facing financing problems and is likely to encounter further hurdles in the new environment.

Mr. Rowe, whose company has no new plants in the planning stages right now, is focusing on upgrading the output of Exelon's existing plants. "I believe that there is little opening for new nuclear plants in the near future," he said. "But that view has come from economics, not from safety."

Christopher M. Crane, Exelon's president and chief operating officer, said that American plants had several design features that he did not believe were present at Fukushima Daiichi, including a system to control hydrogen buildup and a hardened vent system to safely remove such gas from the building, both of which would help prevent the type of explosions that apparently occurred in Japan.

In addition, diesel fuel for the emergency generators at American plants is generally kept in buried tanks so it cannot be swept away, as it was in Japan.

None of the 10 Exelon plant sites is in a zone of high seismic activity, the company said. Its only unit near the coast is Oyster Creek, on Barnegat Bay, in central New Jersey, and that plant is 23 feet above sea level and five miles from the ocean.

The effect of the Fukushima disaster on the American nuclear renaissance is hard to measure. Existing plants will most likely face new rules, but the financial impact is still unknown.

As for new reactors, their near-term prospects were already quite limited in the United States. The most advanced project is the Southern Company's Vogtle 3 and 4 units, near Augusta, Ga. The utility has broken ground there, and expects to receive a combined construction and operating license later this year. It is building a new model of reactor that is expected to receive approval by the Nuclear Regulatory Commission later this year despite the events in Japan. Two days after the tsunami, Southern said it "remains committed to completing the new Vogtle units on schedule and on budget."

"Japan is seismically very active and the Vogtle site is not," the company said. And Southern's plant is 130 miles from the coast, at an elevation of 220 feet, and thus not likely to see a tsunami.

Across the river in from Augusta in South Carolina, South Carolina Electric and Gas is moving ahead with two reactors at its V. C. Summer site. Kevin B. Marsh, the president of the company's parent, Scana, noted that the site was not seismically active and was 400 feet above sea level.

"Our intent is to remain on schedule," he said. One complication is that Scana's partner, Santee Cooper, is seeking to sell power or part of its ownership stake.

NRG is seeking to add two new reactors at its South Texas Project with a partner, Toshiba. But NRG said on Tuesday that it was "reducing the scope of development" to give the Nuclear Regulatory Commission time to assess the lessons from Japan.

While NRG said it did not expect any changes in the design it planned to use, it faces other issues. Last May, Tokyo Electric Power Company, which owns Fukushima Daiichi, took a 9 percent stake in the Texas project and said it might increase that to 18 percent. It is unclear whether the Japanese company can still afford the American commitment given the multibillion-dollar cost of the Japan disaster.

Even before that crisis, the South Texas Project was having trouble lining up customers to agree to buy power — a crucial requirement of the Energy Department before it will guarantee the construction loan.

The final project in the advanced stage of planning, an additional reactor at Calvert Cliffs, Md., about 60 miles from Washington, stalled last year. Constellation Energy, which owns the first two reactors at Calvert Cliffs, was in a partnership with Électricité de France to build the third reactor, but Constellation pulled out after complaining that the government's fee for a loan guarantee was too high. The French utility then said it would seek another partner.

UPDATE: Exelon: Nuclear Plants Safe, But Industry Costs To Rise (WSJ)

By Naureen S. Malik

[DOW JONES NEWSWIRES](#), March 25, 2011

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

Exelon Nuclear Fleet 'Safe,' Will Review Fukushima Lessons: CEO (PLATTS)

[Platts](#), March 25, 2011

Exelon nuclear fleet 'safe,' will review Fukushima lessons: CEO

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Exelon's nuclear fleet continues to operate safely and no immediate changes are needed to address issues raised by the ongoing crisis at Japan's Fukushima I plant, Exelon Chairman and CEO John Rowe said Thursday.

"I believe that there is little opening for new nuclear plants in the near future, but that view has come from economics, not safety," Rowe said on a webcast for Exelon investors and analysts. "I believe that plants in the US are safe, especially those at Exelon, and we continue to give safety number-one priority."

Exelon owns and operates 17 nuclear power units, the nation's largest commercial fleet.

Some enhancements will surely be made as a result of reviews being conducted of the Fukushima accident, but "we're not seeing any cost disaster for our nuclear fleet here," Rowe said.

Operators are conducting walkdowns and reviewing safety systems at Exelon's nuclear units, Rowe said, and the US Nuclear Regulatory Commission and nuclear industry are conducting their own reviews.

Rowe said the cost of upgrades that might be required cannot be estimated, even to within an order of magnitude, "because we simply don't know what kind of changes are being talked about for what plants, and indeed no one knows at the moment."

Exelon should have a better sense of what actions might be required "in about six months," when some of these reviews have been completed, Chris Crane, president and chief operating officer at Exelon, said on the webcast.

Exelon said in 2009 that it did not plan to build new nuclear units and would focus instead on capacity uprates at its existing nuclear plants. It said at the time the uprates were expected to add from 1,300 MW to 1,500 MW of capacity over the next several years, the equivalent of one large new nuclear unit.

The company does not expect at this point to change its power uprate plans, though it will review lessons learned from the accident at Fukushima and incorporate changes if and as needed, Rowe said.

Lessons learned from reviews of the Fukushima events will be available before Exelon must apply to US NRC for approval of the more significant capacity increases, so-called "extended power uprates," Rowe said.

Seven of Exelon's reactors are GE-design boiling water reactors, with so-called Mark I containments, similar to the Japanese reactors that were crippled March 11 following an earthquake and tsunami. Those Exelon units are Dresden-2 and -3 and Quad Cities-1 and -2 in Illinois, Oyster Creek in New Jersey, and Peach Bottom-2 and -3 in Pennsylvania.

Mark I BWRs in the US implemented "extensive modifications" in the early 1990s at the request of the NRC, "including design changes to control hydrogen and pressure through venting the containment," Crane said. Hydrogen buildup is believed to have caused explosions last week that destroyed three secondary reactor containment buildings at Fukushima.

Tokyo Electric Power Co. operators lost the ability to cool the Fukushima reactors and spent fuel pools after the earthquake cut offsite power to the plants and, about an hour later, the tsunami washed away fuel tanks for emergency diesel generators, leaving the plant without AC power. By contrast, fuel tanks for generators at Exelon's Mark I BWRs are buried underground or enclosed in vaults, Crane said. The Exelon units also have two different sources of offsite power, he said.

"None of Exelon's plants are in major earthquake zones," and the plants are "designed to withstand [the] highest level of seismic activity for that location, with additional margin," Exelon said in slides accompanying the webcast. None of Exelon's nuclear units are in areas in danger of tsunamis, but the plants are designed to withstand severe flooding, Crane said.

Exelon has various means to replenish water in spent fuel pools at its reactors, even if their cooling systems were to be compromised, Chip Pardee, chief operating officer at Exelon Generation, said on the webcast.

—Steven Dolley, steven_dolley@platts.com

Similar stories appear in Nucleonics Week. See more information at <http://bit.ly/NucleonicsWeek>

CEO Confident Exelon's 17 Nuclear Reactors Are Safe (PHILLY)

By Andrew Maykuth, Inquirer Staff Writer

Philadelphia Inquirer, March 25, 2011

Exelon Corp., which operates 20 percent of the nation's nuclear-power plants, including the reactors closest to Philadelphia, said Thursday that it anticipates US regulators will launch a wide-scale review of the industry in the aftermath of Japan's unfolding nuclear catastrophe.

John W. Rowe, Exelon's chairman and chief executive, told investors in a conference call that the company is confident of the safety of its 17 reactors at 11 sites.

"I think there is nothing obvious to us that needs to be changed," Rowe said.

But he said the company will face undetermined costs to respond to an anticipated review by the Nuclear Regulatory Commission following the tsunami-induced accidents at several Japanese reactors.

Rowe said Exelon believes the NRC's attention will concentrate on the viability of the 10-mile emergency-planning zone surrounding each reactor - the area plant operators and emergency-response officials would evacuate during an accident.

The review would focus on each plant's preparation for seismic events, the on-site maintenance of spent fuel, and the adequacy of the General Electric Mark 1 reactor involved in the accidents at Fukushima nuclear plant.

"We expect to have new hassles and new costs, but we will meet them thoroughly," he said.

Rowe, Exelon president Christopher M. Crane, and Charles G. "Chip" Pardee, chief operating officer of Exelon Generation, said US reactors incorporated additional security measures following the attacks of Sept. 11, 2001, that are not incorporated in the Japanese plants.

"I am confident our plants are safe," said Crane.

Exelon's reactors include the Limerick Generating Station in Montgomery County; the Peach Bottom Atomic Power Station in York County, Pa.; the Oyster Creek Generating Station in Forked River, N.J., and Three Mile Island Unit 1 in Middletown, Pa.

The Oyster Creek plant and the two Peach Bottom units are similar to the Japanese reactors.

Rowe said the Japanese disaster is not as serious as the 1986 Chernobyl accident in Ukraine, but it "is clearly worse than the 1979 accident" at Three Mile Island.

"It is a very serious incident indeed, and we at Exelon are treating it accordingly," he said.

Exelon Corp. also is the parent of Philadelphia's Peco Energy Co.

Exelon's Rowe: 'Significant Costs' Ahead As Nuke Scrutiny Follows Japan Crisis (CRCHIBIZ)

Reuters, March 25, 2011

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

Oldest US Nuclear Reactor: A 'Disaster' In Waiting? (AFP)

By Karin Zeitvogel

AFP, March 25, 2011

LACEY, New Jersey — A sleepy New Jersey town has popped onto people's radar screens because it has the oldest running nuclear power plant in the United States — and, some say, the most dangerous.

Named for a Revolutionary War general, Lacey is the kind of American town that few from outside the seaside settlement knew much about before the earthquake and tsunami in Japan triggered a nuclear crisis.

Down the road from the 1950s-style diner and across from the bridge that locals use as a fishing pier stands the Oyster Creek nuclear plant.

It uses a GE Mark I Boiling Water reactor identical to those that lost power at Japan's Fukushima plant in the March 11 earthquake and then was struck by a tsunami that knocked out its backup generators, causing reactor cooling functions to fail.

US anti-nuclear activists and many residents of Lacey and surrounding Jersey shore townships worry that a similar nuclear disaster could happen at Oyster Creek, and it wouldn't need an earthquake or tsunami to trigger it.

Oyster Creek has been dogged by problems including a corroding liner in the carbon steel containment unit; leaks that allow radioactive tritium to seep into drinking water; and huge volumes of stocked spent fuel rods.

"We have 40 years of radiation on site – two-and-a-half to three times more than in Japan," anti-nuclear activist Jeff Brown told AFP.

"You also have that tremendously stupid design to start with where the spent fuel rods are sitting on top of the reactor," he said, raising a fear among residents that the reactor could be an easy target for a terrorist attack.

"At the very least, we need a no-fly zone over Oyster Creek. We have a no-fly zone over Disney World but not here," said Peggi Sturfels, a program organizer at the New Jersey Environmental Federation.

Oyster Creek is owned and operated by Exelon Corporation, which employs 700 people at the plant. The company disputes the charges by activists, insisting the reactor is safe.

"Nuclear power stations in general are the most hardened and well-protected industrial facilities in existence. Oyster Creek is no exception," Exelon spokesman Craig Nesbitt told AFP.

Half a million people live within what would be the evacuation zone if Oyster Creek were ever to have a radiation accident. In the summer, the population swells with beach-goers heading to the Jersey shore.

The town is 85 miles (137 kilometers) south of New York and 55 miles (88 kilometers) east of Philadelphia.

New Jersey is not in a seismically active zone but meteorologists say the coastal state is long overdue for a Category Five hurricane.

"One good storm surge, and Oyster Creek's backup generators are swamped. It's Japan all over again," Sturfels said.

Nesbitt rejects such assessments, saying the plant is five miles (eight kilometers) off the Atlantic coast, protected by barrier islands, and 23 feet (seven meters) above sea level, far higher than the largest recorded storm tide of seven feet, in 1962.

He also said Oyster Creek "is constantly evaluated and improved," and that more than \$1 billion has been spent on plant upgrades since operations began in 1969.

The Nuclear Regulatory Commission extended Oyster Creek's license for another 20 years in 2009.

The NRC not only gives out nuclear licenses but is the industry safety watchdog. That's a conflict of interest, say critics who liken the situation to the regulation of the oil industry prior to last year's devastating Gulf of Mexico oil spill.

Under pressure from state officials, Oyster Creek's license was rolled back to 10 years, and the plant is now due to close for good in 2019.

Even that's too late, say some residents.

"I don't like it. They should close it sooner," retiree Barbara Murrofsky told AFP as she shopped at a local hardware store.

"What's happening in Japan has made us more aware of the problems we have in our own backyard," she said. "There are so many people who live near here that an accident would be a major disaster. They should shut it down now."

But another local, Rick Gifford, looked philosophically at Oyster Creek.

"It's been running for 40 years with no problem, there's no reason it should start having problems now," he said.

Greg Auriemma, a lawyer for the Sierra Club environmental group, said Gifford's stance was not unusual in Lacey.

"There's a sense of complacency because while the plant has had a lot of negative publicity, no major disaster has occurred. So people look at it and say, 'It's been running for 40 years, what's the big deal?'"

But, Auriemma said, as Japan showed, one tragic event can dramatically change the situation. "There's a potential disaster that could happen right here in our backyard," he told AFP.

Last week, President Barack Obama ordered a "comprehensive review" of US nuclear safety and vowed to learn lessons from Japan's atomic accident.

The NRC on Wednesday launched its review of the nation's 24 US reactors, saying a full report and recommendations will be published in six months.

A federal court hearing a case brought in 2009 by environmental groups against the NRC on Monday asked the nuclear watchdog to advise if Japan's unfolding crisis impacted "the propriety" of renewing Oyster Creek's license.

On the same day, the NRC extended for 20 years the license of another Mark 1 reactor, in the state of Vermont.

The Vermont Yankee reactor has had tritium leaks, a cooling tower collapse and even a fire in the plant's transformer.

Another Look At Oyster Creek (ASBPP)

Asbury Park Press, March 23, 2011

Somebody's listening.

Finally.

And all it took was a devastating earthquake and tsunami a world away.

The Third Circuit Court of Appeals, in a letter dated Monday, asked the US Nuclear Regulatory Commission if events at the Fukushima Daiichi reactor site have changed the agency's thinking about the wisdom of granting a license extension for the Oyster Creek nuclear power plant in Lacey.

The court, which is considering an appeal of the relicensing by a coalition of activists, wants the NRC to explain "what impact, if any, the damages from the earthquake and tsunami at the Fukushima Daiichi Nuclear Power Station have on the propriety of granting the license renewal application for the Oyster Creek Generating Station."

Basically, they're asking the NRC to justify relicensing a boiling water reactor of the same design as those at Fukushima — particularly in light of the questions about whether the containment vessel surrounding the reactor at Oyster Creek is corroding.

The NRC license renewal enabled Oyster Creek owner Exelon Corp. to operate the plant until 2029. But Exelon struck a deal with Gov. Chris Christie to close the plant by 2019, under pressure from state environmental officials who wanted cooling towers built to reduce the plant's daily draw of water from Barnegat Bay.

While the NRC is preparing its defense for having relicensed Oyster Creek, the court also should consider the agency's decision to grant Exelon a fire safety exemption in 2009. The NRC requires certain fire safety features and procedures in order to operate. Citing the cost, Exelon asked for exemptions and the NRC granted them.

Given the age of Oyster Creek, the 550 metric tons of radioactive waste on top of its rusting drywell and a host of other factors, a cascading series of events could place the public at grave risk.

If the NRC can't adequately justify its relicensing decision when it appears before the Philadelphia appellate court in less than two weeks, the plant should go dark. Obviously, shutting down a nuclear plant is not simply a matter of turning out the lights and hanging a "Gone Fission" sign on the door. But the sooner the reactor is closed and fully decommissioned, the sooner New Jerseyans can rest a bit more easily.

US Nuclear Output Little Changed As Entergy Boosts FitzPatrick (BLOOM)

By Colin McClelland

Bloomberg News, March 25, 2011

US nuclear-power output was little changed as Entergy Corp. (ETR) boosted the FitzPatrick reactor in New York and Public Service Enterprise Group Inc. (PEG) slowed Salem 2 in New Jersey, the Nuclear Regulatory Commission said.

Power generation nationwide increased by 209 megawatts from yesterday to 85,393 megawatts, or 84 percent of capacity, according to a report today from the NRC and data compiled by Bloomberg. Seventeen of the nation's 104 reactors were offline.

Entergy Corp. increased output its 852-megawatt FitzPatrick reactor to full power from 55 percent of capacity yesterday. The plant is located 6 miles (10 kilometers) northeast of Oswego.

Public Service reduced power from the 1,130-megawatt Salem 2 reactor to 75 percent of capacity from 90 percent yesterday. The plant is about 18 miles south of Wilmington, Delaware.

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

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

To contact the reporter on this story: Colin McClelland in Toronto at cmcclelland1@bloomberg.net

To contact the editor responsible for this story: Dan Stets at dstets@bloomberg.net.

Nuclear Boogeyman Or Boon? Why America Has Conflicting Fears, Appreciation For The Mighty Atom (WP/AP)

Associated Press, March 25, 2011

WASHINGTON — Nuclear radiation, invisible and insidious, gives us the creeps.

Even before the Japanese nuclear crisis, Americans were bombarded with contradictory images and messages that frighten even when they try to reassure. It started with the awesome and deadly mushroom cloud rising from the atomic bomb, which led to fallout shelters and school duck-and-cover drills.

On screen, Bert, the ever-alert turtle of the government civil-defense cartoons, told us all we needed to do was shield our eyes when the bomb exploded and duck under our desks. Jane Fonda in "The China Syndrome" told us to be worried about nuclear power accidents, and just days later, Three Mile Island seemed to prove her right. Now bumbling nuclear plant worker Homer Simpson, Blinky, the radiation-mutated, three-eyed fish, and evil nuclear power plant owner Montgomery Burns make us giggle and wince.

The experts tell us to be logical and not to worry, that nuclear power is safer than most technologies we readily accept. Producing and burning coal, oil and gas kill far more people through accidents and pollution each year.

But our perception of nuclear issues isn't about logic. It's about dread, magnified by arrogance in the nuclear industry, experts in risk and nuclear energy say.

"Whereas science is about analysis, risk resides in most of us as a gut feeling," said University of Oregon psychology professor and risk expert Paul Slovic. "Radiation really creates very strong feelings of fear — not really fear, I would say more anxiety and unease."

Some experts contend that when a disaster has potentially profound repercussions, we should pay attention to emotions as much as logic.

Nuclear energy hits all our hot buttons when we judge how risky something is: It's invisible. It's out of our control. It's manmade, high-tech and hard to understand. It's imposed on us, instead of something we choose. It's associated with major catastrophes, not small problems. And if something goes wrong, it can cause cancer — an illness we fear far more than a bigger killer like heart disease.

Thirty years ago, before the 1986 Chernobyl nuclear disaster, Slovic took four groups of people and asked them to rate 30 risks. Two groups — the League of Women Voters and college students — put nuclear power as the biggest risk, ahead of things that are deadlier, such as cars, handguns and cigarettes. Business club members ranked nuclear power as the eighth risk out of 30. Risk experts put it at 20.

The only fear that Slovic has seen as comparable in his studies to nuclear power is terrorism.

A Pew Research Center poll after the Japanese nuclear crisis found support for increased nuclear power melting down. Last October the American public was evenly split over an expansion of nuclear power; now it's 39 percent in favor and 52 percent opposed.

"Nuclear radiation carries a very powerful stigma. It has automatic negative associations: cancer, bombs, catastrophes," said David Ropeik who teaches risk communications at Harvard University. You can't separate personal feelings from the discussion of actual risks, said Ropeik, author of the book "How Risky Is it, Really?"

But Ropeik, who has consulted for the nuclear industry, said those fears aren't nearly as justified as other public health concerns. He worries that the public will turn to other choices, such as fossil fuels, which are linked to more death and climate change than the nuclear industry is. He cites one government study that says 24,000 Americans die each year from air pollution and another that says fossil fuel power plants are responsible for about one-seventh of that.

At the same time, health researchers have not tied any US deaths to 1979's Three Mile Island accident. United Nations agencies put the death toll from Chernobyl at 4,000 to 9,000, with anti-nuclear groups contending the number is much higher.

Since 2000, more than 1,300 American workers have died in coal, oil and natural gas industry accidents, according to federal records. Radiological accidents have killed no one at US nuclear plants during that time, and nuclear power has one of the lowest industrial accident rates in the country, said Nuclear Energy Institute spokesman Steve Kerekes.

Alan Kolaczowski, a retired nuclear engineer, consulted with the Nuclear Regulatory Commission on specific probabilities of accidents at nuclear plants. He estimates the risk of a disaster at a given plant at 1 in 100,000 — about the same as your chance of being killed by lightning over your lifetime. For comparison, an American's odds of dying in a car crash are 1 in 88; being shot to death, 1 in 306; and dying from bee stings, 1 in 71,623, according to the National Safety Council. The council couldn't come up with the odds of dying from radiation because it lists zero people dying in the United States from radiation in 2007, the most recent year for which these cause-of-death figures are available.

Ropeik calls this mismatch between statistics and feelings "a classic example of how public policy gets made — not about the numbers alone, but how we feel about them, and it ends up doing us more harm."

Kolaczowski faulted his own industry.

"Those in the industry believe it is so complex it cannot be explained to the general public, so as a result, the industry has a trust-me attitude and that only goes so far," he said. "We're all afraid of the unknown, the ghosts under the bed."

David Lochbaum of the Union of Concerned Scientists, a group that presses for safer nuclear plants, is a former plant engineer. He likens the public's fears to unjustified worries about shark attacks: The risks and deaths are small, but the attention and fears are big.

"It may be an irrational fear, but I don't think it's one that can be educated away," Lochbaum said.

However, calling these fears irrational isn't justified, said Georgetown University law professor and former Environmental Protection Agency associate administrator Lisa Heinzerling. She said people's concerns have been unjustly trivialized.

People have been trained to think about and prepare for low-probability, catastrophic events like the earthquake and tsunami that caused the Japanese nuclear disaster, Heinzerling said. She pointed to homeowner's insurance. Most people won't

have a fire that destroys their home, but “we worry about really big things even if they are improbable because we will be wiped out.”

Americans also have long had an ambivalence toward new technology, going back to worries about the introduction of electric lights in homes 130 years ago, said University of Detroit Mercy history professor John Staudenmaier,

“Americans overreact with adulation and awe, then overreact with fear and anxiety,” said Staudenmaier, editor emeritus of the academic journal *Technology and Culture*.

Trying to explain the fears, nuclear industry spokesman Kerekes said, “There’s a perception gap that exists.” But he adds: “Other industries haven’t had to do deal with an animated cartoon series that lasted, what, 25 years?”

That would be “*The Simpsons*.” Producer Al Jean said the show, which has been on the air since 1989, reflects America’s real feelings.

“There is something that taps into people’s view of big business, and in particular, nuclear power, which is giving profit-minded people complete control over life and death. It is a scary thought, and I think that is a topic for satire,” Jean said.

Jean recognizes that nuclear plant workers aren’t really like Homer Simpson and radiation doesn’t “put a cute third eye on a fish.” But he thinks his show is accurate with its portrayal of the greedy, conniving nuclear power plant owner Montgomery Burns: “Mr. Burns may be representative of some people in the nuclear industry — not just nuclear, but all industries — who seem like they’re more interested in getting the money rather than doing what’s safe. I think that’s what resonates in the public.”

Yet, Jean takes pride in noting that the Springfield nuclear power plant has never blown up.

The lack of transparency in the nuclear industry— including Tokyo Electric Power Co. — has caused some of the problems, said Baruch Fischhoff, a professor of decision sciences at Carnegie Mellon University. It is a charge Kerekes disputes.

“The nuclear industry has behaved in a way that is untrustworthy, both in the sense of not telling people the truth and not having the competence to manage their own affairs,” Fischhoff said. He added that industry is too quick to brush off people’s fears: “Telling the public that they are idiots is certainly not a way of making friends.”

Online:

Paul Slovic’s Decision Research: <http://www.decisionresearch.org/>

The Nuclear Energy Institute: <http://www.nei.org/>

The Union of Concerned Scientists: http://www.ucsusa.org/nuclear_power/

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For Safer Nuclear Power Plants, Leave The '70s Era Behind (CSM)

Christian Science Monitor, March 25, 2011

For safer nuclear power plants, leave the '70s era behind

The Christian Science Monitor

There’s much to not like about nuclear power. In an ideal world people wouldn’t rely on it. But the crisis at the Fukushima Daiichi nuclear power plant in Japan shouldn’t cloud what should be a clear-eyed view of the global energy future: The world needs nuclear in the mix.

Yes, renewables such as solar, wind, and geothermal will play a growing role. The oil price shock and Fukushima Daiichi bear witness to the need to get them online more quickly. But renewables now produce only a tiny fraction of the world’s energy needs. They are far from ready to shoulder the load as a major generator of electricity.

Today’s workhorse fuel for making electricity is coal. But it’s dangerous to mine. Burning it emits particulates into the atmosphere believed to cause about 10,000 premature deaths per year in the United States alone. It’s also a significant source of carbon-dioxide emissions, which contribute to climate change, including the acidification of oceans. These downsides add up to their own potential slow-motion disaster.

Nuclear power has a familiar list of concerns. Unanswered questions include how to protect plants from terrorists, how to prevent spread of nuclear materials that could be made into bombs, and how to permanently dispose of nuclear waste. These issues are likely to persist and may long defy completely satisfying solutions.

Yet nuclear power today provides about 20 percent of the electricity in the US and about 14 percent worldwide. Shutting it down would leave a void that would be difficult to fill. One country that recognizes this is China, which is moving ahead with building nuclear plants while simultaneously pushing hard to develop renewable energy and, unfortunately, also building new coal-fired power plants.

If the US and the world can’t afford to abandon nuclear power, how can it be made safer?

It starts with a safety review of the 104 US nuclear power plants by the Nuclear Regulatory Commission (NRC) begun this week. Plant safety training, systems, and equipment, along with evacuation plans, need to be subjected to fresh assessments. The NRC also should welcome close outside scrutiny of itself, to see if it is adequately performing its watchdog role.

Longer term, safety means “building a new generation of safe, clean nuclear power plants,” as President Obama said in his January State of the Union address. Existing US plants, planned or built in the 1970s, before half of today’s Americans were born, are beginning to exceed their planned lifetimes. Yet they will need to stay online for many more years – as long as they can be kept safe.

New designs operate on the simple-is-better principle, with the idea of making them “walkaway safe.” That means plants shut themselves down safely in an emergency even if their power is cut and their human operators are forced to evacuate.

One new design stores cooling water above the reactor, eliminating the need to pump water to the reactors, which has proved to be a problem at Fukushima Daiichi. It is expected to be 100 times safer than today’s reactors.

Other nuclear plant technologies show promise, including small modular reactors that might be used to power a single industrial factory, gas-cooled (not water) graphite reactors, and the pebble-bed reactor, in which small balls of radioactive material are covered by a graphite coating, making a meltdown highly unlikely. Though many countries have looked at the pebble-bed design, China is leading its development.

Americans today don’t rely on 1970s technology in many aspects of their lives. They communicate on smart phones and tablet PCs, watch high-definition TV and 3D movies, and drive cars with hybrid engines and GPS guidance systems.

Why should America’s crucial nuclear power plants be trapped in the bell-bottom era of technology?

Imagining The US Without Nuclear Power (NPR)

By Jennifer Ludden

NPR, March 25, 2011

It’s been nearly two weeks since reactors at Japan’s Fukushima Dai-ichi nuclear power plant first threatened a full meltdown. The crisis lead countries around the world to rethink their use of nuclear energy. In Germany, Chancellor Angela Merkel last week reversed course. She imposed a moratorium on nuclear power and says she hopes to phase it out for good. In this country, the US Nuclear Regulatory Commission has announced a safety review of all American nuclear power reactors, but President Obama remains a supporter of nuclear power, touting it as a relatively clean energy source that will help cut down on the nation’s greenhouse gas emissions.

Still, the crisis in Japan raises the question: Should this country go without nuclear power? And if it did, what would fill the gap? Later in the hour, with pressure rising across the Middle East, what’s at stake in Yemen? But first, should the US live without nuclear energy? Give us a call. Our number in Washington is 800-989-8255. Our email address is talk@npr.org, and you can join the conversation at our website. Go to npr.org and click on TALK OF THE NATION.

Joining me now to imagine a US without nuclear power is Michael Levi. He’s senior fellow for energy and the environment at the Council on Foreign Relations and director of their program on energy security and climate change. He joins us from the studio at the Council on Foreign Relations. Welcome to TALK OF THE NATION.

Dr. MICHAEL LEVI (Council on Foreign Relations): Good to be with you.

LUDDEN: First, can you just establish for us how significant is nuclear energy in this country?

Dr. LEVI: Nuclear energy supplies roughly 20 percent of US electricity, so that’s a big share. It’s roughly equivalent to the amount supplied by natural gas and about half of the amount supplied by coal. Their balance is made up mostly by hydro-electricity and also by renewables like wind and solar.

The one part of the economy where nuclear isn’t a player is, of course, in transportation, which makes up a huge fraction of our energy demands.

LUDDEN: Right. So am I correct, 104 nuclear power plants in the US?

Dr. LEVI: That’s correct. One hundred and four nuclear power plants. The last one came online in 1996, but the last one to be approved for new construction was in the late 1970s.

LUDDEN: And generally speaking, where are they?

Dr. LEVI: They’re all over the country, from California to New York State. In the Southeast, they are particularly dependant on them, but they are scattered throughout.

LUDDEN: And you said the last one approved was in the '70s? So I’m hearing Three Mile Island - was that kind of a big factor in our energy - nuclear policy?

Dr. LEVI: It’s tricky to disentangle the pieces. Nuclear was already on its way down before Three Mile Island. Costs were going up, both to build the plants and to finance that construction. Might those costs have come down in the 1980s? Perhaps.

We'll never know because Three Mile Island really killed off nuclear, and killed off public appetite for nuclear, while cost was already doing it in.

And that's going to be a question now again. We've still not resolved the cost question. So if we sort out the safety side, we still don't know whether people will want to build these.

LUDDEN: But now the Bush administration had hoped to increase use of nuclear power and President Obama has invested funds to expand it further. Tell us about that.

Dr. LEVI: There has been growing interest in nuclear power across the political spectrum. Republicans have traditionally been enthusiastic about nuclear and President Bush's position reflects that. Democrats have become increasingly positive toward nuclear because of their concern about climate change. We have a variety of options, of possibilities down the road, for zero carbon, zero emissions generation. But right now nuclear is the only one that's established at scale and at a cost comparable to fossil fuels.

And so President Obama, along with a lot of other moderate Democrats, has turned to nuclear as a significant part of their climate change strategy. I don't see these people as being particularly enthusiastic about nuclear, but they've increasingly come to be able to live with it.

LUDDEN: And 8.3 billion in funds just last year for two reactors in Georgia. Is that correct? What's...

Dr. LEVI: So the US government provides support for nuclear power in a variety of ways. The most prominent is a backstop on insuring the reactors and loan guarantees that provide some insulation from risk in financing these plants. There's so much risk in construction and cost escalation, but also in regulatory challenges and in public approval, that in order at least to get a few plants out there, the government decided that it needed to provide these backstops.

The idea was to demonstrate that plants could be built and then to take off the training wheels, as it were, and allow the industry to grow on its own. But there are a variety of other supports. Nuclear is eligible for a small but non-trivial tax credit for production for the first eight years that the plant operates. And there are other pieces, particularly on the research and development side, in helping develop next generation technologies that might be safer and more resistant to nuclear proliferation.

LUDDEN: So how many new plants then are kind of in the works, and where would they be built if that happens?

Dr. LEVI: There are roughly a couple dozen plants that have been proposed, at least on paper. There are none that are really in the - in the substantial stages of construction yet. They're still being pulled together. The proposals extend across the country. I can't list them off for you. But right now the fundamental question facing all of these, aside from the safety issue that's come up recently, is cost.

Two things were driving nuclear as of a few years ago - high natural gas prices and the prospect of climate legislation that would have pushed generation away from coal. Now you have natural gas prices that have cratered, so gas is the cheap alternative and climate legislation has moved to the back burner, which means that gas and coal in particular are much less likely to be penalized in the near term.

It's a perfect storm against nuclear right now.

LUDDEN: Huh. Interesting. Now, you wrote for Slate this week. You asked about what phasing out nuclear energy would mean for the US, but you started by pointing out some things that would not change dramatically, and the first of that being electricity prices. Why is that?

Dr. LEVI: If we phase out nuclear for the United States over an extended period of time, we would be replacing it with generation that's not any more expensive. Now, nuclear that is already established and already out there is relatively cheap. What costs money is building the plants. The fuel is relatively inexpensive. So if you switch very rapidly, you're taking something that's close to free and replacing it with something that costs money.

But over time you replace it with other generation as nuclear - as established nuclear plants become more expensive to operate and you don't have a big change. Now, if we wiped out the US nuclear capacity overnight, yes, rates would go way up, in particular in order to cut demand. That's not the kind of thing that any policy maker is considering. So when we look at nuclear, electricity prices are not the are not the crux on which we should be basing our decisions.

LUDDEN: Okay. One thing that people do talk about is the environment, the trade-off of carbon emissions and so forth. Let's bring someone else in. Frank Zeman is a professor in the School of Engineering and Computing Science at the New York Institute of Technology. He's an expert in carbon management, energy management and environmental engineering, and he joins us now by phone from Kingston, Ontario. Welcome to you.

Dr. FRANK ZEMAN (New York Institute of Technology): Welcome. Thank you very much.

LUDDEN: So proponents of nuclear power will say it's an important part of, you know, reducing our carbon footprint and reliance on fossil fuels like coal and natural gas. And some say it would even be impossible to meet energy needs without - and

reduce carbon emissions without nuclear power. Do you agree, and what would the impact be on greenhouse gas emissions if we scale back the nuclear power?

Dr. ZEMAN: Well, I don't agree that it would be impossible. As was stated by the other speaker, it's a big chunk of our existing power supply - in fact, two-thirds of our non-CO2-emitting power supply. So it's not impossible, but it would have to be done as, as he said, gradually and phasing in a lot of renewable capacity.

LUDDEN: What would - if we had no nuclear power anymore in the US, 20 percent of our electricity no longer came from nuclear power, how would that impact carbon emissions?

Dr. ZEMAN: Well, depends what you replace it with. Right now we have a huge excess of natural gas generating capacity. In fact, the capacity factor, which is really how much a natural gas plant is used, on average in the States is somewhere around 22 percent. So that means we have this large amount of excess capacity - more than enough to make up for the current production of nuclear power.

So the emissions would go up somewhere between five to six percent for the US economy as a whole if we replaced all of nuclear with natural gas. So it wouldn't be a big emissions increase. The question is, can you find that gas and how much do you have to pay for it?

LUDDEN: OK. And so would it impact global - I mean, anything that we can say would impact global climate change? Or is that just impossible to really guess?

Dr. ZEMAN: Well, any emission impacts climate change. But when the US is producing roughly six billion metric tons a year, adding, you know, 322 more isn't going to really make a big deal.

LUDDEN: OK, Michael Levi?

Dr. LEVI: If we move along our current course when it comes to greenhouse gas generation, frankly, this change on the margin with nuclear would be quite inconsequential. The bigger question is if we decide to take a serious go at reducing our emissions, will we need to rely on nuclear? And that's an open question right now. The nuclear, like I said before, is the only near-zero carbon source of electricity that's being demonstrated at scale. We have, and at a reasonable price, we have possible alternative options. We have renewables if we can develop the systems for storage and if we can get the costs down. We may have carbon capture and sequestration, where we take the emissions from coal and gas and bury them underground.

Those may materialize at a reasonable cost and at a reasonable scale. They may not. And so we can't constantly predict whether we will need nuclear in order to meet aggressive greenhouse gas reduction objectives 10, 20, 30 years down the road.

LUDDEN: Frank Zeman, what about - you know, existing capacity could not then pick up the slack?

Dr. ZEMAN: Our existing renewable capacity, you mean?

LUDDEN: Yes.

Dr. ZEMAN: No, we don't have - I mean, wind power is the main sort of - what people think of as renewable on the market. And it's only one-third of the nameplate capacity of nuclear power. And then its capacity factor - because the wind doesn't blow all the time - is much, much lower than a nuclear plant, which runs virtually all the time.

So you could do it but you'd have to increase our wind power by almost a factor 20 in capacity to do that.

LUDDEN: All right. We're talking with Michael Levi of the Council on Foreign Relations and Frank Zeman with the New York Institute of Technology. And we'll take your calls as well. Should the US phase out nuclear power? What would replace it? We'll get to more of your calls. 800-989-8255, or you can send us an email, talk@npr.org. I'm Jennifer Ludden and this is TALK OF THE NATION from NPR News.

(Soundbite of music)

LUDDEN: This is TALK OF THE NATION. I'm Jennifer Ludden in Washington.

Workers at the Fukushima Dai-ichi nuclear plant in Japan made progress today in bringing the damaged reactors under control. The lights are back on in the control room of unit number one. Engineers can now see what needs to be fixed. But the cooling pumps are still not working and two people at the plant were hurt when they walked in radioactive material. Both were being treated at a hospital.

The ongoing crisis in Japan has made many countries rethink their use of nuclear power. Switzerland and Taiwan are looking into reducing their reliance on nuclear power and ramping up renewable energy from sources like wind and solar.

We'll talk more about that in a moment. Should the US live without nuclear energy? Give us a call. Our number is 800-989-8255. The email address is talk@npr.org. Or join the conversation at our website. Go to NPR.org and click on TALK OF THE NATION.

Our guests are Michael Levi, director of the Council on Foreign Relations Program on Energy Security and Climate Change. He also wrote the book "On Nuclear Terrorism." And Frank Zeman, an expert in carbon management - energy management and renewable energy. He directs the New York Institute of Technology's Center for Metropolitan Sustainability.

Michael Levi, I just want to ask you about some of the other countries that have been rethinking their policy. Germany really has taken this very seriously and made quite a shift in its policy. Tell us about that.

Dr. LEVI: There was already an alignment of political forces in Germany pushing things away from nuclear power. Germany has swung back and forth in its policy toward nuclear power over the years. That can be explained in substantial part because it has a Green Party that carries a lot of political weight, particularly given its peculiar parliamentary system. And so the chancellor was in some ways looking for an opportunity to move in a political season away from nuclear, and this provided her with an opportunity.

You've seen in contrast with that, in France the public is generally pro-nuclear and the alternative options are quite limited because France already relies on nuclear for 80 percent of its electricity. There hasn't been a significant change and you wouldn't expect there to be one.

LUDDEN: And why - I'm just curious why France does rely on it so much. At what point was that decision made and was there not much opposition to it?

Dr. LEVI: I actually don't have a good answer for you on that. But the reason that France has been able to build that much nuclear is because it's essentially a state-run enterprise. So the risks and costs are socialized. You don't have the same problems of uncertainty and regulatory issues and financial issues that you do in this country.

It's also been part of a broader industrial strategy. France is not into this only for domestic electricity production but also for exports of nuclear technology.

LUDDEN: All right. Do you see other countries out there where some serious rethinking is happening and could actually change where policy really could change?

Dr. LEVI: Well, clearly we'll watch Japan. Japan has other things to focus on right now. There are places where people will take another look at their regulatory systems. China has a pause on new approvals in order to revisit its regulatory system. I'm sure India will take a look, and nuclear is politically controversial in India.

One place I'll be interested in watching is the UK, where there is a governing coalition between the - essentially between the right the liberal left. One of the key points of disagreement when they entered that coalition was over the future of nuclear power. They agreed to disagree. It will be interesting to see whether they can continue to do that.

LUDDEN: All right. Let's bring some callers in. Nat is on the line from Buffalo, New York. Hi, Nat.

NAT (Caller): Hi, how are you?

LUDDEN: Go right ahead. Good. Go right ahead.

NAT: OK. Well, I think, environmentally speaking, phasing out nuclear energy would be very dangerous for us, where I feel that nuclear plants should provide us with carbon-free energy, especially in the short term, while we, you know, spend more time and time money putting research and development into making solar more efficient and cost effective, especially on the individual scale, where people can buy it, put it in their home and kind of go off-grid.

You know, the US has one of the largest Kraytons, I think, on the planet and stability and safety-wise, you know, we could place these nuclear plants in areas where, you know, they're not on a faultline or at risk of tsunami flooding. I just think it would be very irresponsible for us and hysterically wrong to phase out a nuclear program in the US

LUDDEN: All right. Thanks for the call. Frank Zeman, would you agree with that? Or...

Dr. ZEMAN: Well, I think it's he's - the caller is correct. It's always wrong to act in hysterics, but I don't think it's wrong to phase it out on the sense of replacing it with renewables because it is in fact only 20 percent of our power. Even though that's a large number, we do have the natural gas backup existing and we do have the land mass to produce - wind essentially is the only thing that's near market.

So I don't think it's wrong to consider phasing it out because these plants are getting old, and even if we started to full bore construct nuclear plants, could we keep up with the pace that the old ones have to be decommissioned?

And where's the waste going to go? Nobody's answered that question.

LUDDEN: Right. Waste is a big question. Before we get to waste, is there an age limit on these plants? I mean, what's their lifespan?

Dr. ZEMAN: I don't know. That's a tough question. I mean, the plant in Japan was 40 years old, to my knowledge, and as Mr. Levi said, the last plant commissioned in the States was in the '70s, so you're approaching that limit. But concrete itself, roughly speaking, is about 60 years. So what happens to the concrete?

LUDDEN: Is there a 60-year-old plant in the world, in the US?

Dr. ZEMAN: Sorry?

LUDDEN: Is there a 60-year-old nuclear plant anywhere that we know? We don't have a precedent for this?

Dr. ZEMAN: I can't answer that question. I don't know.

LUDDEN: All right. Let me ask you then about the waste. Where does the waste go and how much is that a factor in figuring out what to do next? Either one of you can go ahead.

Dr. LEVI: I can quickly address the lifetime issue.

LUDDEN: Sure.

Dr. LEVI: Plants are initially licensed for 40 years. They then apply for extensions on 20-year periods. So far roughly half of the operating reactors in the United States have been re-licensed for another 20 years. And analysts tend to assume - or have tended to assume that after 60 years these plants might actually be re-licensed for 20 years more. The lifetime matters a lot because a power plant, a nuclear plant, is very expensive to build. So the longer period of time you can spread that capital cost over, the lower the average price of electricity, the more competitive the plant.

With age comes some other issues. There's a design issue. Newer designs tend to be better and safer. But there are also structural issues, and whatever the lifetime of concrete is in a normal situation, you also have exposure to radiation and to other corrosive chemicals that cause concerns and that are addressed in the re-licensing process.

Right now with waste we do have a big issue. We have waste basically stored onsite in cooling pools like has been the case in Japan. And a lot of the attention in Japan has been focused on the safety of those spent fuel pools. We have a stalled debate on a long-term repository. Yucca Mountain was supposed to be the destination but it has been consistently blocked. In the interim we do have a prudent, sensible step we can take. We can rearrange the pools in order to make accidents less likely. And after a short period of cooling we can move spent fuel into what's called dry cast storage above ground, where fires are less likely and are easier to put out. That's been recommended for several years. It's been resisted. It is a relatively inexpensive step that we could take in the near term that has been done elsewhere in order to improve safety and provide at least a medium-term way of addressing the waste challenge.

LUDDEN: Frank Zeman, what about - are you confident in long-term plans for dealing with waste?

Dr. ZEMAN: Well, I don't doubt that geologically you can find a place that's relatively stable. Nothing is perfect and I think that's where the risk comes in. Even if the chance of something going wrong is infinitesimal, people are going to feel uncomfortable with it. Keeping things onsite is an interesting option because what do you do with the reactor if it's radioactive itself? If you're going to have to entomb the reactor and you can't get the rods off-site because nobody wants them there, what about leaving them just on the site itself, creating a giant tomb like they did at Chernobyl?

LUDDEN: All right. Let's bring another caller in. Michael is in Hermosa, South Dakota. Go right ahead.

MICHAEL (Caller): Hello. I have a two-part question. First, about the environmental costs of mining uranium, and then also about how much fuel is available in the world, especially compared with the amount of fuel in solar and wind.

LUDDEN: So you want to know cost to the consumer?

MICHAEL: No, the environmental costs of mining uranium.

LUDDEN: OK. Frank? And then Michael. Go right ahead.

Dr. ZEMAN: Oh, well, the environmental costs with uranium mining really have to do with two things. One, tailings disposal, and tailings is the sort of leftover material after you get the ore out. And modern mines tend to build dams to keep them keep the tailing wet so that they don't fly around in the dust. And the second is at the shaft. Do you have water leaking into the shaft and then flowing out?

So I mean, mining isn't perfect and you tend to make a big mess. That's why they tend to be in far-flung places. So it's a very localized cost in some ways, but it adds up, is what I would say.

LUDDEN: And Michael Levi, is there plenty of uranium out there?

Dr. LEVI: There is plenty of uranium out there. Look, we're going to run out of uranium sooner than we run out of the sun and the wind. But at current plans we are going to have economical resources of uranium for many decades. And we can move to recycling techniques which are unwise right now, by which might make sense considerably further down the road if we have limited resources.

Obviously the amount available at a reasonable price will depend on how quickly the nuclear fleet grows. But for all plausible growth scenarios, people are not concerned about hitting economic limits on recoverable uranium supplies.

LUDDEN: Okay, Michael. Thanks for the call. Terry is in Robbins, Tennessee. Go right ahead.

TERRY (Caller): Thank you, Jennifer and your guests. How many wind turbines could you build for the price of one nuclear power plant? Also wind turbines and solar panels. And how much faster can they be online versus the nuclear plant? And there's a lot of costs involved in nuclear that's never been touched.

LUDDEN: Frank Zeman.

Dr. ZEMAN: Well, it's a trick question, I think, because nobody actually knows what nuclear power costs, because the government - we all know how much waste disposal is going to cost yet; the government provides insurance at a discount. So - I mean, to get an actual cost for nuclear would be, I think, at best a guess at this point, so we don't really know.

I mean, the wind turbines have the - and solar panels have the advantage of being mass produced. So you can build a factor that produces parts and they're shipped to the site. So I think it's doable. The cost - you know, solar panels tend to be, you know, three to four times the cost of wind. So it would probably be smarter to start with wind, but it's certainly doable. It's really above what people want to pay for and whether they want to see their power.

The nice thing about nuclear power is you have a giant facility producing a gigawatt of electricity instead of 1,000 one-megawatt wind turbines on the landscape. So it's about what people want to see in some parts.

LUDDEN: Hmm. Michael Levi?

Dr. LEVI: It's essentially impossible to do a head-to-head comparison, not necessarily for the reasons that Frank identifies, but because nuclear provides a different sort of power service from wind and solar. Nuclear provides what we call base load power, that's that consistent, steady level of power that you need at all times. Wind and solar provide what we call peaking power. So they provide inconsistent power that, if well-designed, delivers energy at times when demand is higher. So there's this matching to load that makes comparison very difficult.

You generally compare wind and solar with natural gas, which is also able to vary with time. And right now wind is not competitive with gas at its current price. But if gas got a little bit more expensive, there might be a more competitive situation. And solar is simply uncompetitive with other resources.

There are some solar technologies that might deliver competitive power with nuclear well down the road. We talked about something called solar thermal that allows you to smooth out that power delivery over time.

And if we could add storage, we might change the equation too. But we have no idea how expensive that storage would be, which makes it essentially impossible for us to predict the net price.

LUDDEN: All right. Terry...

Dr. ZEMAN: I would just jump in there quickly and say you could actually consider a wind system with 100 percent gas backup. And that would allow you to provide a base load-type scenario, especially given the fact that nuclear is only a fifth of our power. So it's a large chunk again. I don't want to underestimate the size of the nuclear power. But you could conceivably price out a gas backup...

LUDDEN: All right. Terry...

Dr. ZEMAN: ...you can have this capacity.

LUDDEN: ...thanks for that phone call. We're talking about whether the US should reduce its use of nuclear power. You're listening to TALK OF THE NATION from NPR News.

We've got an email from Steven in San Rafael, California, who asks: Besides the waste, another issue I never hear discussed is the amount of cooling water these plants use and the hot water they emit back to the environment. Is this an environmental problem, especially if the plant uses fresh water? Michael or Frank?

Dr. LEVI: It's certainly part of the equation. One of the challenges you've seen recently is that on particularly hot days, when electricity demand happens to be high, that's when the thresholds you need to set for discharge of hot water from nuclear plants are the strictest, because bodies of water are already close to the thresholds that you don't want to cross. So certainly hot water discharge is part of it. But as many people have pointed out, there are environmental risks associated with all conventional forms of electricity generation, whether it's coal, natural gas, hydro or nuclear. You need to decide which poison you want to pick.

LUDDEN: All right. We've got a caller from Cleveland, Ohio. Hi there, Jeff.

JEFF (Caller): Hi. Good afternoon. I served in the nuclear navy in the '70s. I lived on top of two reactors for four years, had no problems with it whatsoever. In the military environment, nuclear power is extremely safe. The moment you make it part of the profit equation, the safety goes out the window. And we can see that in the Japanese reactors, in that the corporation that owns those reactors hesitated to use salt water to immediately cool them down because they feared damaging their equipment permanently.

LUDDEN: Hmm.

JEFF: You can't trust a corporation to do this.

LUDDEN: Well, thanks for the call there. Frank Zeman, how about that idea?

Dr. ZEMAN: Well, again, I would go back to saying nuclear is not all that corporate in the sense that the corporations just would never take this on on their own and would never seek insurance on the competitive markets for this type of thing. So...

LUDDEN: So all the ones in the United States are - I don't even know this -government administered?

Dr. ZEMAN: No. They're run by corporations, but the corporations run them. They don't build them and insure them, and they haven't - the liability for the waste disposal isn't on their books, as far as I know.

LUDDEN: Huh. Okay.

Dr. LEVI: The corporations pay into a fund for waste disposal. The whole insurance backup question is very complicated. You have a similar situation for offshore drilling. There are two separate issues. One is whether you can price the risk and it seems that you can't. The other is whether there's any insurance company big enough to absorb the blow if something bad happens. If you have a very low probability, very high consequence event, it's almost always impossible for private actor - for private insurance companies to insure that, even if the net risk - probability times consequences - is quite low. So there's potentially a legitimate role for the government there that shouldn't be considered a subsidy, as long as the government charges the right amount to those companies for providing that extra insurance backstop itself.

LUDDEN: All right. We just have a few seconds left, but let's wrap up. I'd like to ask each of you, what do you think, if anything - what impact will the Japan crisis have on our own nuclear policy here? Frank Zeman?

Dr. ZEMAN: I'm not sure it'll have much. I think it'll slow things down, and everybody will be more cautious and review everything. But trying to get a plant built in the US, even before this happened was going to be a really big challenge, and I don't think it's really going to change much. It'll delay it a bit.

LUDDEN: Michael Levi?

Dr. LEVI: Well, first, let's see what actually happens in Japan. This isn't over yet. And the exact consequences will certainly have an impact on how people in the United States react. If we look at the polls a year from now, I wouldn't be surprised if public opinion had shifted, but not all that much. The question will be, what happens to those moderates who had become accepting of nuclear power because of the climate benefits?

LUDDEN: All right.

Dr. LEVI: Will they stick with that position or change?

LUDDEN: Michael Levi of the Council on Foreign Relations, and Frank Zeman at the New York Institute of Technology, thanks so much.

Coming up, what's at stake in Yemen.

I'm Jennifer Ludden. It's TALK OF THE NATION from NPR News.

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PSEG Nuclear Monitors Fukushima Reactor Crisis While South Jersey Nuke Plan Proceeds (NJN)

By Joe Tyrrell

New Jersey Newsroom, March 25, 2011

Crisis conditions at the damaged Fukushima reactor complex in Japan are giving PSEG Nuclear more to consider as it decides whether to build another power plant in South Jersey.

Like the rest of the industry and its regulators, the company is looking for more information on the Japanese situation, according to spokesman Joe Delmar.

"We're still trying to get an understanding of what has or has not happened there," in the wake of a massive earthquake coupled with a tsunami, he said.

But given the different conditions in Japan and New Jersey, the events abroad have not affected the regulatory process here, he said. By the time regulators and the company are ready to decide whether to go ahead with the new reactor, market conditions are likely to weigh more heavily than the current crisis.

In August, the Nuclear Regulatory Commission agreed to review PSEGNuclear's application for an early site plan permit for the new reactor in Lower Alloways Creek near its existing Salem and Hope Creek plants.

"Nothing's changed" with the application, Delmar said. "It's about a 40-month review process, and there are no milestones associated with it at this time."

The company is not expecting an NRC decision until 2013, and that is just one step, he said. The permit would be valid for 20 years, and if necessary the company would be able to apply for a 10-to-20-year extension. In all, the NRC likely would take five to eight years to decide on an operating permit for a new plant.

President Barack Obama is committed to increasing nuclear power in the United States, but that is likely to be a harder sell in the wake of the spread of radiation in Japan from the damaged reactors.

Last year, the administration failed to get US Senate approval for an energy policy including a so-called "cap and trade" system for polluting power plants. The proposal would have created a marketplace where plants that beat pollution standards could sell credits to those that exceed them.

That would have improved the financial outlook for nuclear power, whose plants are expensive to build but release far less air pollution than coal- and oil-fired plants, which have been required to buy the credit.

Uncertainty about the costs and returns of the proposed nuclear plant is "the big thing" PSEG Nuclear must resolve before deciding whether to build, Delmar said. "That, and natural gas prices."

While natural gas prices have risen slightly in the wake of the Japan disasters and the turmoil in the Middle East, the United States has been insulated by steadily increasing domestic production. That situation makes natural gas cheaper than new nuclear capacity.

But the gas industry's expansion into new areas has spurred concern about environmental damage from hydraulic fracturing or "fracking," the high-pressure injection of liquid into shale formations to free gas.

That has been a particular issue in the Delaware River basin, publicized by Josh Fox' Oscar-nominated documentary "Gasland." Last month, 39 New Jersey legislators asked the Delaware River Basin Commission to maintain a moratorium on natural gas drilling until the US Environmental Protection Agency completes a study next year.

Nuclear power proponents cite its cleanliness compared to coal and oil, and the good safety records of many plants around the world, which supply an estimated 14 percent of the globe's electrical needs.

Skeptics point to the localized environmental damage from many plants, which can use vast amounts of water for cooling and return it still warm to surrounding waterways. There is also the possibility of a catastrophe if something does go wrong.

A Japanese government spokesman said today it will review its nuclear policy because "public confidence... has greatly changed" as nuclear workers battle to regain control of the reactors and stop releases of hazardous radiation.

Tokyo supermarkets were hit by runs on bottles water this week after residents were advised not to give tap water to babies less than a year old because of unsafe radiation levels.

That followed earlier findings of radiation exceeding safety standards in milk and vegetables from the Fukushima area. The United States, Hong Kong, and Australia restricted food imports from the area, while Canada increased screening.

Japan's 55 nuclear reactors supply about 30 percent of the country's electrical power. Already one of the higher percentages in the world, that was scheduled to grow to 50 percent through an expansion program over the next 25 years.

But New Jersey has already surpassed that mark. Nuclear power supplies 55 percent of electricity generated in the state, which ranks second in the United States after Vermont.

That total stands to drop if PSEG Nuclear does not go ahead with its new project. In December, the Christie Administration reached a deal with the Exelon Corp. which had threatened to close its Oyster Creek nuclear plant in 2019 if required to add a cooling tower. Under the deal, the cooling tower was dropped but the company is still scheduled to close plant, the oldest in the country.

PSEG Nuclear expects to hear from the NRC by June on license renewals for its Salem and Hope Creek plants, Delmar said. The two plants are built to withstand earthquakes of 6.5 on the Richter scale.

That is far smaller than the monster 8.9 Japanese quake, but well beyond anything recorded in this region, he said. Each full point on the Richter scale represents ten times more shaking amplitude.

Hope Creek uses a General Electric boiling water reactor like those in Fukushima, so the PSEG Nuclear will consider whether the disaster raises any design issues, Delmar said. But a fact sheet released by the company in the wake of the Japanese disaster says systems at Hope Creek offer six different ways to supply cooling water to the reactor in the event of an emergency.

The statement points out the Salem/Hope Creek complex withstood a small 2.8 earthquake in July 2009 with no effects. The location along the Delaware River is better buffered from a tsunami than an ocean site, according to the company. The plants are built to withstand floods of 22.9 feet, white the highest recorded was 8.5 feet, again according to the company.

Joe Tyrrell may be reached at This e-mail address is being protected from spambots. You need JavaScript enabled to view it

South Texas Nuke Plant Delays Lead To Layoffs (HOUBIZ)

By Casey Wooten

Houston Business Journal, March 25, 2011

At least 60 positions at Bay City's South Texas Project nuclear plant will be eliminated because of a plan to slow down the facility's expansion.

Nuclear Innovation North America LLC said on March 22 it is scaling back plans to add an additional two nuclear reactors to the facility, which already operates two reactors.

Nuclear Innovation a joint partnership between New Jersey-based NRG Energy Inc. (NYSE: NRG) and Toshiba Corp.

One hundred employees, some staff members of the South Texas Project Plant, some contract workers, were working on expansion plans.

Some of the South Texas Project employees will be transferred to other parts of the plant, said David Knox, spokesman for NRG Energy.

Official: Disaster Risk Very Low From Spent Big Rock Fuel (PETOSKY)

Petoskey (MI) News-Review, March 25, 2011

While much of the world watches as officials in Japan try to get a handle on the crisis at a nuclear power plant brought on by a recent earthquake and tsunami, experts in this country have said there is no reason to fear radiation from the disaster area on the West Coast of the US much less here in the Michigan.

Although grave, the accident in Japan is two orders of magnitude lower than the 1986 Chernobyl incident, Dr. Wolfgang Bauer, chairperson of the department of physics and astronomy at Michigan State University told the Petoskey News-Review in an interview last week.

"With the amount of radiation that's released right now from there (Japan), even with the most sensitive equipment, you would not be able to measure anything here (in Michigan)," said Bauer.

While most area residents may take comfort in knowing the disaster half a world away won't likely affect us here, some may wonder about the risk of a natural disaster causing a similar problem with the spent nuclear fuel that is still stored just a few miles north of town on the site of where the Big Rock Nuclear Power Plant once stood.

The short answer is: It's just about as unlikely as radiation from Japan reaching us here.

Although part of the problem crews in Japan's nuclear power plants are facing is keeping water on spent nuclear fuel rods, there's a big difference between that spent fuel and what's stored near Big Rock Point, a spokesman for the company that now owns the Big Rock site said.

Mark Savage, a spokesman at for Entergy Corporation based at its Palisades nuclear energy plant near South Haven said the spent fuel at the Big Rock site was once stored in pools just like the spent fuel in danger at the plants in Japan. However, that's where the similarities end.

While the fuel at the plant in Japan is still giving off enough heat that it must be cooled by water to avoid overheating, the spent fuel at the Big Rock site has cooled enough that the heat that it still gives off can be dissipated just by the air that flows through the dry casks in which it is now stored.

"This is a completely passive system with no moving parts, pumps or motors involved. Radiation energy is blocked by the dense steel and concrete containers that make up the system," Savage said in an e-mailed response to questions from the Courier last week.

As for natural disasters, even though Northern Michigan is not prone to earthquakes or tsunamis like Japan and other parts of the US, Savage said, "The cask system is designed to withstand a host of natural disasters, including a tornado and anomalies on Lake Michigan such as storm surges and seiches. The storage system was designed with these worst-case scenarios built in."

He also noted that the storage pad site (also known as an independent spent fuel storage installation) is fenced and protected 24/7 by a security force.

The spent fuel stored at Big Rock Point is expected to remain on the site until the federal government's nuclear waste storage facility becomes available, which likely will be many years from now.

Fermi's Safety (WINDSTAR)

Windsor Star, March 23, 2011

Nuclear reactors are easy targets for criticism these days, and to some degree that's understandable. The explosions and radiation leaks at the Fukushima power plant have contributed to a nightmare scenario for Japan - already reeling from the impact of a devastating earthquake and tsunami.

Anyone in the shadow of a nuclear reactor -and that includes the Windsor region -will be thinking about the issue of safety.

However, local NDP MP Joe Comartin's recent fingerpointing at the Fermi 2 nuclear plant in Monroe, Mich., seems more intent on playing on people's fears than encouraging a constructive discussion.

"I've always had a sense that Fermi was a plant not at the top of the list for guaranteeing safety," Comartin said last week. "When you are faced with that history, if there ever were a natural disaster, you'd have to be highly suspicious of their ability to respond in an effective way."

But Guy Cerullo, a spokesman for DTE Energy, owner of the Fermi 2 plant, disagreed with Comartin's assessment.

"We deal in fact rather than senses and feelings," he said.

According to DTE, Fermi was designed to withstand a 6.1 magnitude earthquake, even if the epicentre was beneath it. DTE says that's 10 times higher than anything seen in Michigan since the 1800s.

Jack Davis, senior vice-president of nuclear operations for DTE, has said that although the Fermi plant design is similar to the Fukushima reactors, it's a newer design and has better protection for safety systems. The plant is also specifically designed to deal with waves and lake surges.

Davis said the backup emergency diesel generators are in concrete bunkers that could not be flooded, so that power to reactor control systems can be maintained. And pathways to vent any pressure from the reactor are much sturdier than the Fukushima plant, minimizing the chances that pressure buildup would cause the kind of building explosions that were witnessed in Japan.

A little more balanced perspective on the part of the MP from Windsor-Tecumseh would have been more helpful.

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FPL Eager To Expand Nuclear Capacity, Suppress Alternatives (PALMBEACHP)

By Stan Smilan

Palm Beach Post (FL), March 25, 2011

The nuclear disaster in Japan has focused attention on the risks of nuclear power as a means to obtain energy independence. Meanwhile, Florida Power & Light is pursuing a license application to build two more nuclear reactors south of Miami - using a creative financing plan that relies on loans guaranteed by the federal government and advance-construction payments extracted from residents and businesses.

In 2007, Congress voted to provide 100 percent guarantees for loans to promote nuclear-power construction. More recently, Florida's Legislature authorized the Public Service Commission to allow the electric utility to charge upfront construction costs to consumers - thereby, providing FPL with the equity portion of the investment. Simply put, FPL will get all the upside profits while shifting the risks to a gullible and unsuspecting public. In effect we are being required to co-sign the loan, and accept all liability if something goes wrong with the project.

However, the PSC balked at the scheme. In response, FPL used political pressure and court proceedings in attempts to oust PSC members - such as Nathan Skop and Chairwoman Nancy Argenziano, who resigned in protest.

At Ms. Argenziano's Oct. 12 news conference announcing her resignation, she said former state Senate President Jeff Atwater, now the state's chief financial officer, had been responsible for inserting the scheme to have ratepayers cover advance construction costs for FPL's nuclear projects.

Unlike Japan, Florida may not be in imminent danger from earthquakes; hurricanes, however, pose a threat to nuclear power. In 2004, following Hurricane Frances, the St. Lucie nuclear plant was shut down, and without power from the grid, diesel generators were the only source of power for circulating water to the reactor and cooling ponds. Hutchinson Island was evacuated, two bridges were immobilized, and 120 National Guard troops were deployed to guard the nuclear plant on the barrier island.

On July 15, 2010, I appeared at a Nuclear Regulatory Commission meeting in Homestead and requested that FPL be required to furnish an EPA statement with a comprehensive assessment of the consequences and costs that could result from a terrorist attack on the two additional nuclear reactors FPL wants to build there. I called the NRC's attention to the official 9/11 commission report that stated the initial Al-Qaeda plot was to hijack 10 to 12 airplanes and attack nuclear power-plants in addition to such national symbols as the World Trade Center.

Additionally, I stated that, "without a comprehensive assessment of the consequences of a terrorist attack on the nuclear facility, no meaningful cost-benefit analysis can be made to obtain informed public consent for FPL's proposed \$20 billion nuclear project."

To date, the NRC refuses to require an assessment of the consequences of a terrorist attack. I noted for the NRC record that 80 percent of Florida's reactors already were concentrated on a 135-mile stretch of coastline in Southeast Florida and that Mohamed Atta and members of his Al-Qaeda cell had been living in Delray Beach prior to the 9/11 attacks .

I noted that a safer alternative to nuclear power was the decentralized cogeneration technology used by the Massachusetts Institute of Technology that doubles energy efficiency providing 21 megawatts of electric power, heating and cooling for the entire campus. The Texas Medical Center in Houston also has an on-site cogeneration power plant that produces 100 megawatts of electricity.

FPL presently sends 60 percent of its energy up the smokestack for discharge as waste. So only 40 percent is useful energy. Remarkably, FPL's survival as a growth company hinges on a strategy of expanding nuclear power and suppressing competition from alternative energy sources such as decentralized cogeneration.

Stan Smilan is a retired airline pilot and former candidate for the Florida Legislature. He lives in Lake Worth.

GE-Hitachi Reactor Design Advances In US Agency Review (BLOOM)

By Simon Lomax

Bloomberg News, March 25, 2011

A reactor designed by a venture of General Electric Co. (GE) and Hitachi Ltd. (6501) is a step closer to winning approval for use in the US, the Nuclear Regulatory Commission said.

The NRC proposed certifying GE-Hitachi Nuclear Energy's boiling-water reactor design after finding the unit meets safety requirements, according to a statement posted today on the agency's website. The agency will seek comments for 75 days.

The NRC is reviewing the design as Japan seeks to avert a meltdown of 1970s-era boiling-water reactors at Tokyo Electric Power Co.'s Fukushima Dai-Ichi plant. The reactors' cooling systems were knocked out by a magnitude-9 earthquake and tsunami on March 11. Helicopters and firetrucks have doused the crippled reactors with water as utility workers and government officials restore power to the plant.

The GE-Hitachi design, known as an Economic Simplified Boiling-Water Reactor, "includes passive safety features that would cool down the reactor after an accident without the need for human intervention," the NRC said. Detroit Edison Co., a subsidiary of DTE Energy Co. (DTE), may build a GE-Hitachi unit at its Fermi nuclear plant in Newport, Michigan, if the design is approved, the NRC said.

The final safety report on the GE-Hitachi design, which was submitted for review in 2005, was completed on March 9, two days before the Japanese earthquake, according to the NRC's website. The NRC is aiming to make a final decision in September, according to the website.

GE rose 11 cents, or 0.6 percent, to \$19.64 at 12:22 p.m. in New York Stock Exchange composite trading.

NRC Requests Public Comment On New GE Reactor Design (GWIRE)

By Jenny Mandel

Greenwire, March 25, 2011

The Nuclear Regulatory Commission is seeking public comment on a proposal to certify a new reactor designed by GE-Hitachi, a milestone for the company that carries less promise for new sales in light of recent events.

The company's Economic Simplified Boiling-Water Reactor (ESBWR) passed a staff review earlier this month with a technical determination that the design was safe (E&ENews PM, March 9).

In this next step, NRC will accept public comments for 75 days on a proposed rule to certify the design for use in the United States. When finalized, that rule will allow a utility to apply for a license to operate the reactor without having to independently defend its safety.

The regulator's documentation for the ESBWR reactor also includes an environmental assessment that looks at potential design alternatives designed to mitigate severe accidents, officials said.

The ESBWR is drafted to be significantly safer than the existing fleet of commercial reactors, all of which are decades old. It includes "passive" safety features that are intended to function without external power, which could help to address scenarios like the one unfolding in Fukushima, Japan, where loss of power has led to loss of control at the plant.

Passive safety features on the ESBWR design include a taller reactor vessel, shorter core and improved water flow, all of which are designed to improve natural water circulation and a gravity-powered cooling system intended to maintain water levels if reactor pressure drops.

Final design approval for the ESBWR is expected this fall, though GE expects the first sales to be overseas via ongoing talks in India and Europe, company officials have said. DTE Energy Co. has also selected the design for a new project next to its existing Fermi 2 plant south of Detroit, and NRC is reviewing an application for that Fermi 3 plant.

But the fate of new nuclear buildout remains unknown as stakeholders await resolution of the emergency at the Daiichi plant in Japan, which uses a much older GE design, the Boiling Water Reactor Mark 3. Even once the reactors and spent-fuel

ponds are brought fully under control and the immediate crisis ends, it will likely be years before an autopsy of the reactors reveal the full extent and nature of the damage.

[Click here for the Federal Register notice of the public comment period.](#)

NRC Seeks Comment On New GE-Hitachi Nuclear Design (REU)

By Scott DiSavino

Reuters, March 25, 2011

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

NRC Officials Cite Problems At SC Nuclear Reactor (AP)

By Page Ivey

Associated Press, March 25, 2011

HARTSVILLE, S.C. – Federal nuclear regulators and Progress Energy officials said Thursday they were disappointed with last year's performance at the company's reactor in north-central South Carolina.

The Nuclear Regulatory Commission held a public hearing to discuss issues at the H.B. Robinson plant that drew a larger-than-usual crowd, in part because of the problems at Robinson last year and the Japanese nuclear facilities swamped by a tsunami and earthquake this month.

"This has gotten attention at the highest levels of the NRC," agency division director Richard Croteau told company executives during the meeting. "We were disappointed with the regulatory performance at H.B. Robinson last year."

Incidents last year included two fires, a faulty breaker on an emergency generator and inadequate procedures and training for plant operators. Those issues led to four unplanned outages.

"We found we had let our internal standards slip over time," said Robert Duncan, Progress Energy (CPWLP.OB - news - people) vice president for the Robinson plant.

Duncan said it had made changes to leadership, increased training, filled open positions and increased staffing.

None of the issues reported by Progress Energy or found during inspections created a safety threat to the public, NRC officials said. The incidents were categorized as the second-lowest level of concern. Overall, they said, the plant performed safely last year.

But Robinson will be under heightened regulatory scrutiny for at least a year while the issues are addressed.

A few dozen people attended the meeting, some students of Coker College where the meeting was held, some were older residents and others were there representing organizations that oppose nuclear power plants.

Peggy Brown with the Florence chapter of the Sierra Club questioned why Robinson was relicensed last year to operate another 20 years following its original 40-year licensing period.

Of the nine white-level incidents reported at the nation's 104 nuclear reactors last year, three of them were at Robinson.

"I think that's a high-risk for this area," Brown said. "I think this is an old plant that needs scrutiny."

"What happened to the inspection process to pick up some of those failures?"

The NRC said it would be reviewing its on-site inspection methods that did not pick up some issues last year before they became problems.

Robinson's age is a factor in one issue - employee training.

"Progress Energy's been operating this plant for 40 years, there's starting to be a turnover there, their experience level is dropping," said Randall Musser, who is in charge of onsite inspectors at Robinson.

The procedures the plant has used for decades worked fine with more experienced workers, he said. "Now we have newer people in those places and the procedures don't work as well for the newer people."

Part of the increased turnout at the public hearing was attributed to issues going on in the Japanese nuclear industry and it showed. People asked about whether the Robinson plant was the same design as the Japanese plants - it's not - and whether seismic activity in an area is considered when plants are licensed - it is.

Croteau said while the issues in Japan will be studied to see whether changes need to be made in the operation of US plants, he said those problems haven't had an impact yet on the next generation of nuclear power plants waiting for regulatory approval from the NRC. Some of those plants, including two reactors proposed for the V.C. Summer nuclear site near Jenkinsville, could get a public hearing as early as this year, Croteau said.

Nuclear Regulatory Commission Officials Disappointed With SC's Robinson Nuclear Power Plant (AP)

Associated Press, March 25, 2011

HARTSVILLE, S.C. — Nuclear Regulatory Commission officials say they are disappointed in the performance of Progress Energy's South Carolina nuclear reactor near Hartsville.

Regional director Richard Croteau said Thursday that problems at the H.B. Robinson Nuclear Power Plant had gained attention at the highest levels of the agency.

Incidents last year included two fires, a faulty breaker on an emergency generator and inadequate training for workers.

Those issues led to four unplanned outages at the plant. Progress Energy vice president Robert Duncan says the company had let internal standards slip, but was taking corrective action.

NRC Disappointed In Hartsville Plant Performance : News : CarolinaLive.com (WPDE)

By Tonya Brown

WPDE-TV, March 25, 2011

The Nuclear Regulatory Commission says its disappointed in the 2010 safety performance of Progress Energy's HB Robinson Nuclear Plant near Hartsville.

Commissioners made the statement during their annual public meeting to review and discuss the plant's safety performance Thursday at Coker College in Hartsville.

"Their level of performance was not what we expect. Some of the issues that they had the even in March of last year was a fairly significant event. We expect better performance. They did not meet the regulatory requirements that we set forth," said Rick Croteau, NRC. The NRC did say Robinson operated in a manner that preserved public health and safety,

In March, a high voltage power cable failed at the Robinson plant causing a fire. Several hours after that fire was put out, workers re-energized the cable that had started the first fire. The cable was still in failure and ignited a second fire.

Then in October, an electrical problem in the cooling pump led to a shutdown of the plant.

In its follow up inspections, the NRC found three areas of concern at the plant that centered around inadequate procedures, operator training and human performance.

As a result, the NRC has increased oversight and will conduct a series inspections at the plant.

Thursday's meeting held by the NRC was attended by dozens of people, including Peggy Peck, who lives very close to the plant "Being so close you don't want to turn to toast," she said, "You want to know what's going on. My neighbors want to know what's going on. We're really ignorant when it comes to this type of thing and we want to learn more about it."

Commissioners told the crowd that the two March fires, and the cooling pump failure in October presented a low to moderate safety significance but had a common theme of inadequate procedures.

That's alarming to Peck. "That's very scary because it's human failure and humans makes mistakes."

Progress Energy, which operates the Robinson plant, says they've already already started to resolve the issues.

Robert Duncan is Vice President of the Robinson plant. "We went through quite a bit of procedural upgrades. We went through operator training and equipment performance. So, we made some modifications at the plant that were vital to safety of the plant and we continue to assess these."

The NRC's Rick Croteau says they don't just take the company's word for it. "We have detailed inspections, with many inspectors scheduled to come out here once they're ready in late May or early June to satisfy ourselves, they've taken the corrective actions."

Peck appreciates that Progress Energy owned up to the failures cited by the NRC but says she feels safer knowing the NRC is watching Robinson closely.

Last year, the NRC spent nearly 5,000 hours inspecting the Robinson plant. Two NRC inspectors actually work at the facility every day.

Storage Of Nuclear Waste Gets New Scrutiny (WSJ)

By Stephen Power

Wall Street Journal, March 25, 2011

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

Nuclear Waste, And Worries, Fester At US Site (AFP)

By Shaun Tandon

AFP, March 25, 2011

RICHLAND, Washington (AFP) – It sounded like a good idea at the time. Racing to build an atomic bomb during World War II, US authorities sealed off a pristine desert and created the first-ever plutonium reactor.

But 68 years later, Hanford remains off limits. Not because of weapons work, which has long ago ceased, but because it is the Western hemisphere's most contaminated nuclear site with 53 million gallons (200 million liters) of radioactive waste stored in aging tanks.

With billions of dollars a year invested in cleanup, there is little palpable fear of a catastrophe among residents here in the northwestern state of Washington. Some 12,000 people work at Hanford, which at 586 square miles (1,518 square kilometers) is twice the size of Singapore.

But with a crisis in Japan raising global alarm about nuclear safety, some people are calling for a new sense of urgency to cleaning up Hanford which has been hit by delays, cost overruns and charges of causing illness.

"It's a ticking time-bomb sitting there. Sooner or later, something's going to happen," said Walt Tamosaitis, a top engineer at the plant until last year.

"It would be monumental if those tanks cracked," he told AFP. "They would have no way in heck of ever stopping it."

Tamosaitis, who had 40 years experience, said he was removed after he raised concerns about the design. He said a contractor once even voiced hope that he would choke on cherries offered at a meeting – a joke, but one he said showed management's thinking.

"Their attitude is, why should we worry?" Tamosaitis said. "It's like driving a car with the tires worn down. You didn't have a flat tire for the first 30,000 miles, but that doesn't mean you won't have one as soon as you back out of your driveway."

Officials declined to speak in detail about Tamosaitis' case because he has filed a lawsuit. But they said they put a top priority on safety and were making concrete progress on disposal of the waste.

The key part of the cleanup is turning the waste into glass -- a state-of-the-art process that involves heating toxic sludge the consistency of peanut butter to 2,100 Fahrenheit (1,150 Celsius) and placing it in eternal storage. Managers hope to complete the plant in 2016 and start operating it in 2019.

"Operations are within our reach and I think that there is some excitement here. We are seeing some momentum," said J.D. Dowell, an official at the US Energy Department. "This is a national commitment."

Managers also said they were making progress on protections to the Columbia River, which flows past Hanford to Portland, Oregon, and pointed to the recent demolition of two powerhouses that had been operated when the site was active.

Tamosaitis said he raised a number of technical questions including the design of an instrument to move sludge as well as a decision to try to manage small hydrogen explosions in the pipes instead of avoiding them altogether.

Tamosaitis said that, in a sense, Japan's ill-fated Fukushima nuclear plant was better prepared. Its design was functional, but it was hit by an unprecedented whammy of a 9.0-magnitude earthquake and tsunami.

In Hanford, "we don't even have the design down adequately," he said.

Dowell said that a comparison between Fukushima and Hanford was like "apples and oranges." The Japanese plant involved active nuclear reactors, while Hanford is a long-term clean-up.

Hanford does have a Japanese connection, however. The plutonium produced here built the bomb that the United States dropped on Nagasaki, killing 70,000 people in the world's second and last nuclear attack.

Tom Carpenter, executive director of the advocacy group Hanford Challenge, said that the waste posed a constant risk due to the possibility of terrorists or other disturbed people entering the site.

"I don't know that governments last forever. Will there be someone here in 100 or 1,000 years to assure that the materials are protected, intruders don't get in and the groundwater isn't contaminated?" he said.

He also warned of a grave stakes if a natural disaster struck. The Pacific Northwest coast is overdue for a major earthquake, although the area near Hanford is only known to experience small tremors. Hanford is also home to a functioning nuclear power station.

The safety concerns are not just theoretical. Until the 1960s, Hanford poured some of its waste into the open. The government has acknowledged that at least one million gallons (3.8 million liters) of toxic material leaked from tanks, some entering the groundwater.

In 2005, a jury awarded damages to two people who said they suffered thyroid cancer due to Hanford. Residents have also filed a class action suit seeking broader compensation.

"We had a garden all growing up, and I lived right in town, so I was right in the immediate vicinity," said Gloria Wise, 67, who was awarded \$317,251 in 2005.

"I'm sure it got onto our food. Plus, we had a dairy that was delivered when I was a baby, you'd drink that milk and, I mean, I learned all these things, they didn't tell us what was going on," she said.

The lawsuits were filed against chemical giant Dupont and General Electric Co., which were major players in Hanford.

Multiple companies have also been involved in the cleanup. In 2000, the United States awarded Bechtel an 11-year, \$4.3 billion-dollar contract to spearhead the cleanup after previous British designers rose cost projections.

A 2006 report to Congress found that under Bechtel, the project has also run over goals for completion and financing – due to technical challenges but also "the contractor's performance shortcomings" and Energy Department management problems.

With the United States now seeking to cut spending, some Hanford watchers feared there would be corner-cutting.

"We're very concerned that the cleanup momentum is going to stall with the 2012 budget," said Susan Leckband, who heads the Hanford Advisory Board which brings together stakeholders.

Richard Fleming, 57, grew up near Hanford and said he worked there until he fell ill. He believed that managers' overriding concern was political – a desire for the project to appear to be going smoothly.

"I know every square inch," he said. "I know what's out there. I know how dangerous these things are."

"We're talking about the most complicated machine probably ever built. And we don't even know if it's going to work."

NM Nuclear Waste Site May Get Different Waste (AP)

By Sara A. Carter

Associated Press, March 25, 2011

A nuclear waste repository in southeastern New Mexico could be burying an additional type of low-level radioactive waste in the future.

The US Department of Energy is eyeing the Waste Isolation Pilot Plant east of Carlsbad and other sites around the country for waste known as greater-than-Class C low-level radioactive waste and greater-than-Class C-like waste.

Such material consists of low-level radioactive waste generated by various activities, including electricity production by nuclear power plants, producing and using radioisotopes to diagnose and treat disease, oil and gas exploration, and other industrial uses, the DOE said.

It does not include spent nuclear fuel or high-level waste.

The Energy Department has issued a draft environmental impact statement on the possible disposal sites — WIPP, Los Alamos National Laboratory in northern New Mexico, the Hanford Site in Washington state, the Idaho National Laboratory, the Nevada National Security Site and the Savannah River Site in South Carolina. The impact statement does not list a preferred site.

WIPP, which opened in 1999, buries defense-related radioactive waste in rooms mined from an ancient salt formation 2,150 feet below the desert floor.

The DOE plans hearings on the document in New Mexico next month: April 26 in Carlsbad, April 27 in Albuquerque and April 28 in Santa Fe.

"They are coming out here for the public meetings, but in this case, WIPP is not a 'preferred alternative' for the disposal of the waste," said Deb Gill of the DOE's Carlsbad Field Office.

Information from: Carlsbad Current-Argus, <http://www.currentargus.com/>

DOE Eyes WIPP For Disposing Different Kind Of Waste (ALBQJ)

Hearings set next month on proposal to dispose of Greater-Than-Class C low-level radioactive waste.

Albuquerque Journal, March 25, 2011

The US Department of Energy has issued a draft environmental impact statement on using the Waste Isolation Pilot Plant near Carlsbad as a possible site for disposing of an additional type of low-level radioactive waste, the Carlsbad Current-Argus reported.

The DOE would like to use WIPP to dispose of Greater-Than-Class C low-level radioactive waste, which consists of a small volume of waste generated by activities licensed by the Nuclear Regulatory Commission, including electricity production by nuclear power plants, production and use of radioisotopes for disease diagnosis and treatment, oil and gas production and other industrial uses, according to DOE documents.

The draft EIS also includes Greater-Than-Class C-like waste, which consists of DOE-owned or generated waste and non-defense transuranic waste for which no disposal facility currently exists, the Current-Argus said.

Neither category of waste includes spent nuclear fuel or high-level waste, according to the Current-Argus.

WIPP is currently authorized for the disposal of defense-generated transuranic waste and prohibits the disposal of commercial, low-level and high-level radioactive waste, the paper reported.

A public hearing on the draft EIS is scheduled for 5:30-9:30 p.m. April 26 at the Pecos River Village Conference Center in Carlsbad, with additional hearings set for April 27 and 28 in Albuquerque and Santa Fe, the Current-Argus said.

Several sites besides WIPP are under consideration, including the Hanford Site in Washington state, the Idaho National Laboratory, Los Alamos National Laboratory, the Nevada National Security Site and the Savannah River Site in South Carolina, according to the paper.

Protection of US nuclear arsenal faulted by experts (GOVEXEC)

Government Executive, March 25, 2011

The federal agency charged with protecting the country's nuclear weapons arsenal is not effectively securing its facilities, according to a report released on Thursday by the National Research Council.

The report faulted the National Nuclear Security Administration, a semi-autonomous agency within the Energy Department, for lacking a comprehensive understanding of different enemy attack scenarios that could threaten NNSA storage facilities, and warned that security at the agency's sites would remain "out of balance" without strengthened agency leadership and a "major shift in approach."

NNSA leaders also do not understand the full extent of the "interactions and dependencies among security [systems]," NRC asserted. Sarah Case, the NRC program officer who was study director of the report, declined to elaborate on the security interactions and dependencies referenced in the report, citing the full report's classified status. The public report noted some recommendations "that were judged too sensitive to reproduce" were left out of the abridged public version.

The Senate Appropriations Committee requested the report in 2008 to address ballooning security costs at NNSA, which have grown from \$550 million in fiscal 2002 to more than \$900 million in fiscal 2010. NNSA management has been questioned by the Government Accountability Office. In January, NNSA received a program management award from the nonprofit Project Management Institute for IT work relating to President Obama's Global Threat Reduction Initiative.

The NRC report warned against using a quantitative strategy – which NRC was specifically tasked to evaluate – to better assess security risks while keeping an eye on overall costs. "There is no comprehensive analytical basis for defining the attack strategies that a malicious, creative and deliberate adversary might employ," the report concluded. But it was acknowledged that a "rigorous assessment of security risk" would prove useful to NNSA.

In part, the report restated a line familiar to outside evaluators of NNSA: Serious communication and information issues within the agency continue to hinder its ability to manage projects and fulfill its mission.

To secure its facilities more efficiently, NNSA should better integrate its own security efforts and better coordinate with cooperating agencies, the report said: "Coordination, communication and joint exercises that include all relevant security organizations are necessary" to improve NNSA facility security.

An NNSA spokesman did not respond by publishing time to a request for comment.

Hoag Named Y-12 Site Office Deputy Manager (OAKR)

Oak Ridger, March 25, 2011

OAK RIDGE, Tenn. —

Daniel K. Hoag has been named deputy manager for the National Nuclear Security Administration's Y-12 Site Office.

In his new position, according to a news release issued this morning, Hoag serves as the federal chief operating officer at Y-12 and will assist in program oversight, contract and administrative management, technical evaluation and assessment.

YSO is responsible for ensuring the safe, secure, and cost-effective operation of the Y-12 National Security Complex (Y-12), a key facility in the U.S Nuclear Security Enterprise.

More on this story in Friday morning's print edition of The Oak Ridger, your source for local news.

Weekly Standard: Against A Fossil Fuel Renaissance (NPR)

Op-ed

By Steven F. Hayward

NPR, March 25, 2011

Steven F. Hayward is the F. K. Weyerhaeuser fellow at the American Enterprise Institute and author of the Almanac of Environmental Trends.

The catastrophe at Japan's Fukushima Daiichi nuclear power plant is being regarded as the atomic power equivalent of the Deepwater Horizon oil spill in the Gulf of Mexico, which set back offshore oil drilling just as it appeared on the brink of a substantial expansion. This means we've now come full circle, as critics of offshore drilling compared the Gulf oil spill to Chernobyl. At the very least the events in Japan are going to reinforce the reluctance of Wall Street to invest in new nuclear power in the United States, deter insurance companies from covering nuclear plants, and increase resistance on Capitol Hill to extending the loan guarantees the nuclear industry says are essential to kick-starting more nuclear installations.

The big winner in the short and intermediate term will be fossil fuels — especially coal and natural gas — which will be used to fill the breach in Japan and elsewhere to generate electricity. Which means that the biggest loser is ironically the environmental community, which had been slowly abandoning its longtime opposition to nuclear power because it offered an important component in reducing greenhouse emissions linked to climate change. Although many environmentalists are enjoying an "I-told-you-so" moment, the new cloud over nuclear power means that global carbon dioxide emissions will go up faster. Germany, for example, is shutting down several of its nuclear reactors for several months as a precaution, even though they are not vulnerable to tsunamis. One early estimate is that German carbon dioxide emissions will rise by as much as 4 percent this year because of the nuke shutdown. Japanese CO2 emissions will surely rise by more than this as the country replaces its lost nuclear capacity with coal, gas, and even oil in a few old oil-fired power plants it will be forced to bring online. The Kyoto Protocol emissions targets for 2012, already doubtful, can be tossed on a nuclear waste pile.

But unlikely as it may seem at the moment, the final irony is that if we keep our heads, the aftermath of this disaster may give us a clear view of how a new generation of nuclear power might be possible. As of press time it is still difficult to know exactly what is happening at the reactors, as contradictory and tentative information pours forth on an hourly basis. It will be weeks or months before we have an accurate understanding of what has occurred. The Department of Energy, the Nuclear Regulatory Commission, and the private-sector Nuclear Energy Institute were reluctant to comment all week because of the fast-moving situation.

Two aspects seem certain as of now. First, the reactors themselves appear to have survived intact an earthquake 40 times the size they were designed to withstand. It was the failure of the backup diesel generators necessary to keep the cooling systems operating, swamped by the 33-foot tsunami, that touched off the crisis and subsequent explosions. But for this arguable lack of foresight, the reactors might have come through unscathed. Plainly the first task for operators of ocean-side reactors, such as California's San Onofre and Diablo Canyon plants, is to ensure their backup power systems are not similarly vulnerable, even though the tsunami risk to these plants is much lower than the Japanese plants. Second, the necessary decision to flood the reactors with corrosive seawater means the reactors will be a total loss, costing Japan billions in cleanup costs and lost power capacity. A third aspect is likely to become evident over time: The radiation risks — even in the worst-case scenario of a total breach of the containment structures — will turn out to be more modest than the media hype would have you believe.

This is not to make light of a very serious situation at the reactors or the health risks to the courageous workers on the site who may be exposed to dangerous levels of radiation when new explosions and breaches occur. But the media coverage of the whole episode is a textbook example of the inability to gauge risks, weigh trade-offs, and put a story in its proper perspective. Instead the media have done what they do best: generate panic.

The prize for the most egregious treatment belongs to Germany's Die Welt newspaper, which said that Japan's nuclear catastrophe will have the same political and psychological consequences as 9/11. Japan lost probably more than 10,000 people to the immediate quake and tsunami, and thousands more face much more acute risks than radiation in the coming weeks from cold weather, shortages of water, and failing sanitation systems. But these risks make for boring news copy. Instead we are treated to breathless media reports, recycled from the glory days of Three Mile Island, the nuclear accident that caused zero health impacts on local residents, according to follow-up studies, and Chernobyl, whose health effects turned out to be less than one-tenth as large as the initial estimates. At the time of Chernobyl in 1986, most accounts suggested the accident would lead to at least 50,000 deaths (since the Soviets, unlike the Japanese, failed to evacuate the nearby population in a timely way); subsequent studies have placed the number closer to 4,000. By contrast, the Environmental Protection Agency estimates that 21,000 Americans contract lung cancer every year from radon exposure in their homes, and another 50,000 Americans succumb to premature deaths from air pollution from fossil fuel energy. Both are probably overestimates, but even if they overestimate the toll from radon and air pollution by a factor of ten, it is clear that nuclear power poses lower health risks than other energy sources.

There is no question that this is nuclear energy's worst moment. Will we have the maturity to learn from this catastrophe and move forward, as we did after Apollo 1 and the two space shuttle disasters and the early failures of commercial jet aircraft design like the British Comet of the 1950s? Over the last decade opinion polls have shown steadily rising public support for

nuclear power in the United States following two decades of strong public opposition. The aftermath of the Japanese nuclear crisis will reveal how robust this shift is.

An additional irony of Japan's disaster is that had we not abandoned nuclear power 30 years ago, we might have begun deploying new-generation nuclear designs, such as small modular thorium reactors or light pressurized water reactors that either can't melt down or have passive redundancy features that do not depend on human action to shut down in the event of earthquakes or other disasters. Instead, we have extended the use of the large old light-water reactors, like the Fukushima Daiichi, long after their intended life span.

In 1980, science writer Ron Bailey points out, the US government thought we might have as many as 1,000 nuclear reactors up and running in the United States by now, instead of the 104 aging plants we do have. Our nuclearphobia led us to build hundreds of coal- and gas-fired power plants instead.

Unlike the administration reaction to the Gulf oil spill last year, President Obama and Secretary of Energy Steven Chu have reiterated their support for nuclear power even in the face of the unfolding disaster in Japan, an encouraging sign. Obama and Chu could go one step better, though, and give a major address when the Japan crisis is over, calmly laying out all the facts and making the case to carry on.

Vestas Sees Asia Adding Wind Farms After Japan Nuclear Crisis (BLOOM)

By Rakteem Katakey And Dinakar Sethuraman

Bloomberg News, March 25, 2011

Vestas Wind Systems A/S, the world's largest maker of wind turbines, said demand for wind projects may increase after Japan's worst earthquake triggered a nuclear crisis.

Asia Pacific nations installed about 19 gigawatts of wind power including 16.7 gigawatts by China last year and this year's additions may be higher, Sean Sutton, president of Vestas' Asia-Pacific business, said in an interview in Singapore yesterday. Nations excluding China may add 4 gigawatts of wind power this year, he said.

"We don't have a rush of orders since the earthquake but the possibilities are there," said Sutton, who oversees Asia Pacific, excluding China. "I project a growth in wind after what happened in Japan."

Japan is trying to prevent a meltdown at the Fukushima Dai- Ichi nuclear complex after cooling systems were knocked out by a 9.0-magnitude earthquake and tsunami on March 11, prompting nations including Germany and China to review their plans to expand nuclear power. Financing for wind projects in the Asia- Pacific region may increase as policy changes in Australia and India draw lenders, Sutton said Nov. 3.

India added 2.1 gigawatts in wind-power capacity last year compared with 1.2 gigawatts in 2009, Sutton said.

"India should exceed 3 gigawatts a year in additions soon," Sutton said.

China, planning to build more nuclear reactors than any other country, said on March 16 it suspended approval of all new atomic projects until a safety review is carried out. The country's existing reactors use second-generation technology, the official Xinhua News Agency said on July 22.

German Chancellor Angela Merkel has put plans to extend the life of Germany's reactors on hold for three months while the implications of events at Fukushima are examined. The British government ordered a review of nuclear safety, and Swiss policy makers put projects to renew three of their country's five nuclear power stations on hold, the Environment Ministry said on March 14 in an e-mailed statement.

Investment in the wind sector slowed since the end of 2008 as the global credit crisis prompted banks to restrict loans to wind-energy developers and a sovereign debt crisis limited prospects for economic growth in Europe, the world's biggest wind market by region.

To contact the reporters on this story: Rakteem Katakey in Singapore at rkatakey@bloomberg.net; Dinakar Sethuraman in Singapore at odinakar@bloomberg.net;

To contact the editors responsible for this story: Amit Prakash at aprakash1@bloomberg.net Clyde Russell at crussell7@bloomberg.net

IN THE BLOGS:

Iranian Hackers Suspected In Recent Security Breach (NYT)

By Riva Richmond

New York Times (blog), March 25, 2011

The internet security firm Comodo Group said it had been victim to a hacker attack that appeared to have been part of a larger scheme to eavesdrop on encrypted e-mail and chat communications that may have been sponsored by Iran.

Comodo, a digital certificate authority and security software maker, said on Wednesday that it unwittingly issued fraudulent digital certificates for Web sites operated by Google, Yahoo, Microsoft, Skype and Mozilla. Digital certificates are used to vouch for the authenticity of a site owner and facilitate encrypted communications between sites and their users. Comodo revoked all of the certificates immediately upon discovery of the incident and notified the site owners, the major browser makers and relevant government authorities, it said.

The firm described the attack as well-planned and deployed with “clinical accuracy” from computers located mainly in Iran, though it pointed out in a company blog post that those computers could have been used to “lay a false trail.” But it said that the characteristics of the attack, and the fact that Iran has sought to penetrate online communication services in the past, led it to “one conclusion only” — that the attack was likely to be “state-driven.”

The Iranian government, like others in the Middle East facing opposition movements leveraging the Internet to organize protests and press for democratic change, has aggressively sought to restrict and monitor Internet access by its citizens.

With the certificates, a hacker would be able to set up server computers that would appear to work for the targeted Web sites. A government that controls Internet traffic inside its country would be able to use such a server to gain access to encrypted e-mail and chat conversations and collect user names and passwords for individuals’ accounts, said Mikko H. Hypponen, chief research officer at the security firm F-Secure, in a blog post.

Even without a grip on Internet traffic, a hacker could lure dissidents or other Web users to the rogue server and then intercept their communications and account details, said Roel Schouwenberg, a senior researcher at the security firm Kaspersky. “You can ‘own’ a target without having to compromise anything at the target’s end,” he said. “It might not be easier, but it might be ‘cleaner.’”

The fraudulent certificate for Mozilla, which was for its Firefox add-on site, might have allowed the attacker, posing as Mozilla, to install malware on targeted PCs or to block the installation of Firefox extensions that help users bypass government-imposed censorship filters, Mr. Hypponen said.

“Everything points to this being an intelligence operation,” Mr. Schouwenberg said, noting that theft of certificates has become a favored tactic among governments.

The Stuxnet worm that targeted Iranian nuclear installations last year also made use of stolen certificates, though those certificates were stolen from hardware companies who owned and used them to “sign” their products, not the certificate authorities that issued them.

In this recent attack, Comodo, one of several companies with the authority to issue digital certificates to Web sites, said one of its partners in Southern Europe, a so-called registration authority, which acts as an intermediary between it and some Web-site customers, suffered a security breach on March 15. That breach allowed the hacker to set up a bogus account and quickly prompt Comodo to generate the nine certificates.

News of the breach led to calls for increased scrutiny of the entire certificate system.

“This should serve as a wake up call to the Internet,” wrote Jacob Appelbaum in a blog post for Tor Project, a nonprofit group that makes free software that dissidents, journalists and other privacy-conscious people use to surf the Web anonymously and defeat online monitoring. “We need to research, build, and share new methods for ensuring trust, identity, authenticity, and confidentiality on the Internet,” he wrote.

Comodo said it has evidence that the hacker tried to use one bogus certificate for Yahoo, but no evidence of use for the other companies singled out. Yahoo said it was aware of the incident and “will continue to monitor this closely.”

Skype also said it was monitoring the situation and had taken steps to mitigate an attack on its service. “We do not expect any issues as a result,” Skype added in a statement.

Google said it had not detected any use of fraudulent Google certificates.

The major browser makers have all issued updates for their software to block the bogus certificates. Google pushed out an update to users of its Chrome browser on March 17. Mozilla said in a blog post Tuesday that it issued an update to its Firefox browser and urged users to download it. Microsoft did the same on Wednesday.

Hack Obtains 9 Bogus Certificates For Prominent Websites; Traced To Iran (WIRED)

By Kim Zetter

Wired (blog), March 25, 2011

In a fresh blow to the fundamental integrity of the internet, a hacker last week obtained legitimate web certificates that would have allowed him to impersonate some of the top sites on the internet, including the login pages used by Google, Microsoft and Yahoo e-mail customers.

The hacker, whose March 15 attack was traced to an IP address in Iran, compromised a partner account at the respected certificate authority Comodo Group, which he used to request eight SSL certificates for six domains: mail.google.com, www.google.com, login.yahoo.com, login.skype.com, addons.mozilla.org and login.live.com.

The certificates would have allowed the attacker to craft fake pages that would have been accepted by browsers as the legitimate websites. The certificates would have been most useful as part of an attack that redirected traffic intended for Skype, Google and Yahoo to a machine under the attacker's control. Such an attack can range from small-scale Wi-Fi spoofing at a coffee shop all the way to global hijacking of internet routes.

At a minimum, the attacker would then be able to steal login credentials from anyone who entered a username and password into the fake page, or perform a "man in the middle" attack to eavesdrop on the user's session.

Comodo CEO Melih Abdulhayoglu calls the breach the certificate authority's version of the Sept. 11 terror attacks.

"Our own planes are being used against us in the C.A. [certificate authority] world," Abdulhayoglu told Threat Level in an interview. "We have to up the bar and react to these new threat models. This untrusted DNS infrastructure cannot be what drives the internet going forward. If DNS was trusted, none of this would have been an issue."

Comodo says the attacker was well prepared, and appeared to have a list of targets at the ready when he logged into the company's system and began requesting certificates.

In addition to the bogus certificates, the attacker created a ninth certificate for a domain of his own under the name "Global Trustee," according to Abdulhayoglu.

Abdulhayoglu says the attack has all the markings of a state-sponsored intrusion rather than a criminal attack.

"We deal with [cybercriminals] all day long," he said. But "there are zero footprints of cybercriminals here."

"If you look at all these domains, every single one of them are communications-related," he continued. "My personal opinion is that someone is trying to read people's e-mail communications. [But] the only way for this attack to work [on a large scale] is if you have access to the DNS infrastructure. The certificates on their own are no use, unless they have access to the DNS infrastructure itself, which a state would."

Though he acknowledges that the attack could have originated anywhere, and been routed through Iranian servers as a proxy, he says Iranian president Mahmoud Ahmadinejad's regime is the obvious suspect.

Out of the nine fraudulent certificates the hacker requested, only one — for Yahoo — was found to be active. Abdulhayoglu said Comodo tracked it, because the attackers had tried to test the certificate using a second Iranian IP address.

All of the fraudulent certificates have since been revoked, and Mozilla, Google and Microsoft have issued updates to their Firefox, Chrome and Internet Explorer browsers to block any websites from using the fraudulent certificates.

Comodo came clean about the breach this week, after security researcher Jacob Appelbaum noticed the updates to Chrome and Firefox and began poking around. Mozilla persuaded Appelbaum to withhold public disclosure of the information until the situation with the certificates could be resolved, which he agreed to do.

Abdulhayoglu told Threat Level that his company first learned of the breach from the partner that was compromised.

The attacker had compromised the username and password of a registration authority, or R.A., in southern Europe that had been a Comodo Trusted Partner for five or six years, he said. Registration authorities are entities that are authorized to issue certificates after conducting a due-diligence check to determine that the person or entity seeking the certificate is legitimate.

"We have certain checks and balances that alerted the R.A. [about the breach], which brought it to our attention," he said. "Within hours we were alerted to it, and within hours we revoked everything."

It's not the first time that the integrity of web certificates has come into question.

Security researcher Moxie Marlinspike showed in 2009 how a vulnerability in the way that web certificates are issued by authorities and authenticated by web browsers would allow an attacker to impersonate any trusted website with a legitimately issued certificate.

INTERNATIONAL NUCLEAR NEWS:

Nuclear Crew Returns To Reactor As Tokyo Dispenses Water (BLOOM)

By Tsuyoshi Inajima And Aki Ito
Bloomberg News, March 24, 2011

Engineers at Japan's damaged nuclear plant resumed work on reconnecting power as Tokyo authorities prepared to hand out bottled water to families after determining that tap water may be unsafe for babies.

City officials will hand out 240,000 bottles today to 80,000 families, according to the local government. Radioactive iodine levels taken two days ago at a treatment facility in Katsushika ward were double the recommended limit for infants.

Restoring power is key to ending a nuclear crisis sparked by the March 11 earthquake and tsunami, including radiation leakage into the sea and air. Revelations of contamination in water and food have triggered bulk buying at supermarkets even as the government says that health risks are minimal.

"This is an evolving crisis and we don't know whether the problem of radiation has reached its peak," said Yoshimasa Maruyama, senior economist in Tokyo at Itochu Corp. (8001), an Osaka-based trading company that gets about 30 percent of its sales from food. "The challenge will be whether the government can continue to manage the situation to keep people from panicking."

Workers at the Tokyo Electric Power Co.'s Fukushima Dai-ichi power plant, located 220 kilometers (135 miles) from Tokyo, resumed attempts to restore power to the No. 3 reactor at 4:50 a.m., said Takeo Iwamoto, a spokesman for the utility. Power is required to help circulate cooling water to the units. The company is investigating the source of steam and smoke seen at the No. 2 and No. 4 reactors, he said.

The plant will attempt to restore power to the No. 5 reactor's pump today, Hidehiko Nishiyama, a spokesman for Japan's nuclear safety agency, said today. That unit was shut down for maintenance when the quake hit and is considered less of a radiation threat.

The Nikkei 225 (NKY) Stock Average fell 0.2 percent as of 10:58 a.m. in Tokyo trading. The gauge slumped 1.7 percent yesterday after Tokyo issued the water advisory.

"It's hard to tell people they're ingesting radiation in any way that won't provoke a panic," said Jeff Kingston, director of Asian Studies at Temple University's Tokyo campus. "But the government has been far more transparent than in any case I can recall."

Levels of iodine-131 in Tokyo's tap water rose to 210 Becquerels per kilogram (2.2 pounds) two days ago, according to the Tokyo city government. The recommended limit is 300 for adults and 100 for infants.

The Health Ministry yesterday advised against eating leafy vegetables produced near the disaster site. The degree of contamination detected isn't harmful, Chief Cabinet Secretary Yukio Edano said at a Tokyo briefing. While parents shouldn't use tap water to mix baby formula, it can be drunk safely by adults and children, he said.

Hong Kong, Singapore and Australia banned imports of vegetables and fruits harvested in five quake-stricken prefectures in Japan. Singapore suspended imports of milk and milk products, seafood and meat from those areas of Japan. Indonesia will temporarily stop importing fish and other aquaculture products from Japan, Investor Daily Indonesia reported, citing Maritime and Fisheries Minister Fadel Muhammad.

Water filters made by Panasonic Corp. (6752) and Toray Industries Inc. (3402) aren't designed to eliminate iodine, spokesmen for both companies said in telephone interviews yesterday. Children are susceptible to radiation poisoning from iodine, which can accumulate in the thyroid and cause cancer, according to the World Health Organization.

The death toll from Japan's worst postwar disaster climbed to 9,487 yesterday, with 15,617 people missing, according to the National Police Agency in Tokyo. The magnitude-9 earthquake and tsunami devastated the country's northern coastline and forced several hundred thousand people to evacuate.

The maximum radiation reading reported so far at the nuclear plant is 500 millisieverts per hour, meaning a worker in the vicinity would receive the maximum recommended lifetime dose in 30 minutes.

To contact the reporters on this story: Tsuyoshi Inajima in Tokyo at tinajima@bloomberg.net; Aki Ito in Tokyo at aito16@bloomberg.net

To contact the editor responsible for this story: Timothy Coulter at tcoulter@bloomberg.net

Smoke Stops, Work Resumes At Troubled Japanese Nuclear Plant (CNN)

CNN, March 25, 2011

(CNN) – One day after black smoke prompted an evacuation, workers returned Thursday to the Fukushima Daiichi nuclear plant – employing myriad methods to try to prevent more radiation from seeping into the atmosphere.

After several days of setbacks and billowing smoke, authorities Thursday addressed issues at each of the facility's six reactors.

"We are working to resume (operations)," Japanese Chief Cabinet Secretary Yukio Edano said. "We cannot be too optimistic, and we are still taking cautious measures."

Japan Atomic Industrial Forum, an industry trade group, reported Thursday that -- despite previous fears to the contrary -- the No. 3 reactor's containment vessel was "not damaged."

This news came the same morning that smoke stopped rising above the reactor, according to Hidehiko Nishiyama, an official with Japan's Nuclear and Industrial Safety Agency.

He said the cause of the smoke remains unknown, speculating it may have come from burning oil or machinery nearby.

On Wednesday, the same day the black smoke appeared, Edano said three workers were exposed to water contaminated by radioactive material while laying cable in the No. 3 reactor's turbine building. They stepped into the water, which seeped into the shoes of two of the men, according to Tokyo Electric Power Company.

All three men were exposed to between 173 and 181 millisieverts of radiation, and two went to a hospital for treatment, a Tokyo Electric Power Co. official said.

A person in an industrialized country is naturally exposed to 3 millisieverts a year. But Japan's health ministry recently raised the maximum level of exposure for a person working to address the crisis at the nuclear plant from 100 millisieverts to 250 millisieverts per year.

The three workers reached the highest level of millisieverts recorded so far, Tokyo Electric said. The two admitted to the hospital were a man in his 30s who was exposed to 180.7 millisieverts, and a man in his 20s who tested at 179.37 millisieverts. The third man, who was exposed to 173 millisieverts, did not go to the hospital, as his boots were high enough to cover his skin, Tokyo Electric said.

Seventeen workers so far have been exposed to radiation at levels over 100 millisieverts, Tokyo Electric said Thursday, including the three involved in the water incident.

By Thursday, work had resumed at that reactor. Beginning shortly after 5:30 a.m., crews began injecting about 500 tons of seawater into it, Nishiyama said.

Authorities intend to eventually switch to fresh water, he said, without providing an explanation as to why or a timetable.

In addition, firefighters from Tokyo and Yokohama are preparing to spray another 500 tons of water toward that reactor's nuclear spent fuel pool, which Nishiyama said could happen Thursday or Friday.

These pools contain fuel rods that, if not cooled down, can overheat and, in the process, release radioactive vapors into the air.

Edano said Thursday "there has been no spike in temperatures" at the No. 3 reactor.

The secretary also downplayed concerns about white smoke reportedly rising from other reactors.

The "vapor" rising near the No. 1 reactor at the plant is "only natural" and not a cause for alarm, he said, especially since water is now in that unit's nuclear spent fuel pool.

He added that the temperature at the No. 1 reactor "right now is going down."

Nishiyama added that by decreasing the rate of water being pumped into the reactor early Thursday, authorities had also decreased pressure that had earlier been rising.

Previous buildups of hydrogen gas have contributed to at least three explosions -- several of which caused injuries and coincided with spikes in radiation -- at the power plant's Nos. 1, 2 and 3 units.

Light was restored Thursday in the No. 1 reactor's central control room, a Tokyo Electric Power Co. official told CNN.

But it was just a partial restoration, as workers continued to try to get electricity going for control panels and cooling system pumps at the reactor. Nishiyama said that the hope is to begin cooling the unit's spent fuel pool Friday using outside power.

While describing the No. 2 unit as "quite stable," Nishiyama did note -- but did not explain -- "high radiation readings" nearby.

Seawater continues to be pumped in an effort to cool down nuclear fuel rods and prevent the further emission of radioactive material into the atmosphere.

Members of Japan's self-defense forces Thursday doused the nuclear spent fuel pool at the No. 4 reactor. Nishiyama estimated that this effort should wrap up Friday.

And Nos. 5 and 6 reactors appear safe for now, the nuclear safety official said.

The temperatures at both units are relatively low, though that could change after their cooling system gave out Wednesday.

Nishiyama said workers hope to get that machinery back into working order soon.

"Until we get power restored to the power plant, continuing doing what they have been doing for the last 12 days is, quite honestly, the only game in town," Michael Friedlander, a former senior operator at three US nuclear power plants who has been following the situation at the Fukushima Daiichi plant, said Wednesday.

"It's absolutely essential that they keep the reactor covered with water as well as continuing to refill it," he said. "But getting the power restored and getting the equipment moving so they can get back on track is essential. At that point, we can determine the emergency is in the final stages."

He predicted power would be restored gradually to the plant over the next few days. "The power source is going to the main control room because that is the main nerve center of the entire plant," he said. "Once they get that restored, then we have some instrumentation and we can figure out what's going on in the power plant that up to this point has been almost impossible to figure out."

Once that is done, he said, power will be sent to individual pieces of equipment and the situation will be analyzed. He estimated it could take two weeks or more to get the plant "in a stable, cold shut-down configuration."

Lake Barrett, a nuclear engineer who led the initial cleanup and response of the Three Mile Island plant in Pennsylvania following a partial core nuclear meltdown in 1979, said there's likely no saving the plant – though much can, and still needs, to be done to keep the crisis under control.

"It is an industrial catastrophe," Barrett said. "It's a huge plant, and it's been basically destroyed internally and has high contamination levels inside. There are areas in the building where no human is going to go for a long time."

But Barrett said the situation should be controlled and the radioactive fallout limited enough such that the long-term repercussions for the public health will be relatively minimal.

"It's also not a health catastrophe – as long as the people follow the instructions from the government, they're going to be safe in Japan," he said.

Meanwhile, Japanese authorities added another vegetable to the list of restricted foods originating in prefectures near the Fukushima plant. On Wednesday, health officials said they found high levels of radioactive substances in the mizuna, or potherb mustard, shipped to Kyoto from Ibaraki Prefecture. While there was no immediate health risk, authorities instructed distributors and buyers to remove the vegetable from stores. Consuming 20 grams of the vegetable would be the equivalent of 1/400th the radiation of a stomach X-ray, officials said.

CNN's Whitney Hurst contributed to this report.

2 Japanese Nuclear Workers Hospitalized For Radiation Exposure (LAT)

Two men working at reactor No. 3 of Japan's Fukushima Daiichi nuclear power plant are hospitalized after radiation-contaminated water seeps into their boots.

By Julie Makinen, March 25, 2011

Los Angeles Times, March 25, 2011

As Japan marked two weeks since the giant earthquake and tsunami, the number of people dead or missing grew to more than 27,000, with at least 200,000 others in shelters and radioactivity from a stricken nuclear plant continuing to cast a pall over daily life.

Two workers at Japan's hobbled Fukushima Daiichi nuclear facility were hospitalized for radiation exposure Thursday after stepping into contaminated water during repair operations, officials at the nation's nuclear safety agency said. A third exposed worker did not require hospitalization.

The two hospitalized workers received a dose of 170 to 180 millisieverts of radiation while laying electrical cables in the basement of the building housing reactor No. 3, officials said. The average American, by comparison, is exposed to 6.2 millisieverts of radiation a year from natural sources, according to the US Environmental Protection Agency.

Water used in the cooling process seeped into the workers' boots and came into contact with their skin, authorities reported. The third worker was protected by his clothing. All three were equipped with radiation-detection devices, which sounded an alarm, but they continued to work, officials with Tokyo Electric Power Co. said. That revelation prompted Japanese nuclear officials Friday to call for a review of safety procedures at the site.

Water-spraying operations at reactor No. 3, interrupted Thursday by an evacuation, were expected to resume Friday.

Tokyo Electric Power Co., which operates the facility about 150 miles north of Tokyo, said 17 workers have been exposed to more than 100 millisieverts of radiation since the March 11 earthquake and tsunami disabled the cooling systems at the nuclear complex.

Meanwhile, in Tokyo, consumers continued to clear store shelves of bottled water a day after the government warned that infants should not be allowed to consume tap water because elevated levels of radioactive iodine from Fukushima were detected at a municipal treatment plant.

The levels of radioactive iodine-131, which had been double the level considered safe for infants under 12 months, later dropped to safe levels, prompting a cancellation of the warning. But the government continued distributing bottled water to 80,000 households with infants less than a year old.

Kakuzo Shiokawa bought four small bottles of water Thursday at the Ecchu-ya convenience store in Tokyo's Ginza district, saying she didn't grab more so that "other customers could have some too." She said her daughter-in-law was two months pregnant and was worried about consuming tap water.

"It's quite a panic," Shiokawa said.

The US Embassy in Tokyo advised pregnant women, and children under 3, to avoid tap water. Elevated levels of radioactive iodine were reported Thursday in tap water in Chiba prefecture. The government has found elevated levels of radiation in vegetables from several prefectures near the nuclear plant and imposed a shipment ban. On Friday, officials said they had detected contamination on vegetables grown in a government research facility in Tokyo.

Data compiled by the Mainichi newspaper suggest the cumulative amount of radiation in the air of Fukushima city, 40 miles from the plant, for the week of March 14-21 would have exceeded the average yearly radiation exposure for Japanese citizens. Although the data assumed a person would remain outside that entire time, the calculations raised questions about the long-term effects on those living near the plant.

The death toll climbed past 10,000, with 17,541 missing, the National Police Agency said Friday. About 220,000 people remain in emergency shelters.

julie.makinen@latimes.com

Times staff writer Thomas H. Maugh II in Los Angeles contributed to this report. Times wire services were also used.

More Japanese Crew Exposed To Radiation (FT)

By Jonathan Soble, Tokyo

Financial Times, March 25, 2011

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

Lack Of Data From Japan Distresses Nuclear Experts (LAT)

Nuclear scientists and policy experts say the quality and quantity of information coming out of Fukushima has left gaping holes in their understanding of the nuclear disaster nearly two weeks after it began.

By Ralph Vartabedian

Los Angeles Times, March 25, 2011

How did Japanese workers at the crippled Fukushima nuclear plant jury-rig fire hoses to cool damaged reactors? Is contaminated water from waste pools overflowing into the Pacific Ocean? Exactly who is the national incident commander?

The answers to these and many other questions are unclear to US nuclear scientists and policy experts, who say the quality and quantity of information coming out of Japan has left gaping holes in their understanding of the disaster nearly two weeks after it began.

At the same time, they say, the depth of the crisis has clearly been growing, judging by releases of radioactivity that by some measures have reached half the level of those released in the Chernobyl accident of 1986, according to new analysis by European and American scientists.

Photos: Japan's earthquake, tsunami and nuclear crisis

The lack of information has led to growing frustration with Tokyo Electric Power Co., known as Tepco, and the Japanese government, which has parceled out information with little context, few details and giant blind spots. It has left the international community confused about what is happening and what could come next.

"Information sharing has not been in the culture of Tepco or the Japanese government," said Najmedin Meshkati, a USC engineering professor who has advised federal agencies on nuclear safety issues. "This issue is larger than one utility and one country. It is an international crisis."

Almost every step of the way, the problems at the Fukushima Daiichi plant have been understated by those in charge in Japan, outside experts say, leaving observers scrambling to analyze the situation as best they can from afar.

The public health concern is growing with news that the radiation has spread, leading to advisories on food and water. An Austrian meteorological institute, the Central Institute for Meteorology and Geodynamics, said this week that computer models showed the emissions of radioactive cesium from the plant might already amount to 50% of what was released from Chernobyl, and that releases of radioactive iodine could be 20% of the Chernobyl total.

Edwin Lyman, a physicist with the Union of Concerned Scientists in Washington, said Thursday that his own modeling of the data had confirmed the Austrian analysis, suggesting that Japan might ultimately have to exclude humans from a large area and face a remediation effort more costly than thought.

"Confusion seems to be growing," Lyman said.

But Masaru Tamamoto, a professor of Asian and Middle Eastern studies at the University of Cambridge in Britain, said the handling of the crisis by Japanese government and corporate authorities is consistent with a culture that carefully guards information from the public and leaves decisions in the hands of anonymous bureaucrats.

Japan, Tamamoto said, lacks a nonprofit sector of government watchdog organizations that work closely with the news media to investigate and publicize government coverups. It leaves the public comfortably reliant on official pronouncements, he said.

"The public lives this way every day, and that's the way things are," Tamamoto said. "Even if you demanded the information, nobody has the information. Even the prime minister blurted out at one point that he didn't have information."

Tamamoto said that even significant nuclear contamination in the country might not be enough to prompt a change in this highly controlled and guarded bureaucracy, adding, "If this doesn't do it, I can't imagine what else would do it."

Experts contrast the events at Fukushima with the US handling of the Deepwater Horizon oil spill in the Gulf of Mexico last year. Even though American watchdogs were highly critical of the accuracy of information, the national incident commander overseeing the crisis provided daily televised briefings. A video of oil leaking at the bottom of the gulf was put on the Internet.

By contrast, critics say, until recent days few detailed photographs of the equipment or the personnel working at the Fukushima plant have been made public.

It remains unclear whether there is an incident commander managing the day-to-day crisis and exactly who holds the authority for the operations at the plant. Tepco officials have never said whether water poured onto the reactors and the pools of still-radioactive spent fuel are draining directly into the Pacific or flooding the sub-basements of the reactor buildings.

"I have this image that they are forcing seawater through the piping somehow," said Frank N. von Hippel, a Princeton University physicist. Von Hippel said he wasn't quite sure how the repair efforts were accomplished, but added, "I have a lot of sympathy for these people."

It's also unclear how hydrogen gas escaped from the reactors and exploded. And though Japanese officials have said there may be a breach in one of the reactors, they have offered no details, photographs or data about it.

Even US government agencies, including the Energy Department and the Nuclear Regulatory Commission, have been circumspect about what's going on at Fukushima, saying they are there at the invitation of Japan and cannot become the primary source of information.

But in at least two instances, US officials have asserted an independent voice and offered candid warnings and explicit data. The NRC last week advised US citizens to evacuate from within a 50-mile zone around the plant, more than double what Japanese citizens had been told to do. And this week the agency released radioactivity data that showed a highly radioactive plume on the ground extending northwest of the plant.

Nuclear experts have sharply criticized the International Atomic Energy Agency, which promotes the peaceful use of nuclear energy and reports to the United Nations, for not taking a more aggressive role in the crisis.

"The IAEA has been missing in action," said Meshkati, the USC professor. He testified before a U.N. commission in 1993, calling on the IAEA to adopt an international capability to respond to nuclear emergencies, a proposal he said fell on deaf ears.

"We don't have an international mechanism to deal with a nuclear crisis," Meshkati said. "We are still in the same place we were all these years after Chernobyl."

On Wednesday, when black smoke was seen rising from one of the Fukushima reactors, US scientists had to speculate about whether it was coming from a motor that caught fire or a reactor that was sending up radioactive particulates. The answer was not forthcoming from sources in Japan.

ralph.vartabedian@latimes.com

Radiation In Tokyo's Water Has Dropped, Japan Says (NYT)

By David Jolly

New York Times, March 25, 2011

TOKYO — Levels of a radioactive isotope found in Tokyo's water supply fell by more than half on Thursday, testing below the country's stringent maximum for infants, even as three workers at a stricken nuclear plant in northern Japan suffered radiation burns as they struggled to make emergency repairs.

The lower readings in Tokyo's water were made hours after Yukio Edano, the chief cabinet secretary, said the isotope, iodine 131, had been detected in the water supply of Kawaguchi City, just north of Tokyo, as well as in those of two of Tokyo's neighboring prefectures, Chiba and Saitama. On Wednesday, the authorities cautioned those in the affected areas not to give infants tap water.

The problem is not likely to end soon; nuclear workers will have to keep venting radioactive gases from the damaged reactors, adding to the plume of emissions carried by winds and dispersed by rain. The public has been warned not to consume food and milk from the area near the plant.

Mr. Edano said the three injured workers had sustained radiation burns to their legs while dragging an electrical cable through contaminated water in an effort to restore a crucial pump at Reactor No. 3 at the crippled plant, the Fukushima Daiichi Nuclear Power Station. The workers were burned as contaminated water poured over the tops of their boots, soaking their feet and ankles, the Asahi Shimbun newspaper reported, citing sources with the Tokyo Electric Power Company, the plant's operator.

Two workers were taken to Fukushima Medical University Hospital and were expected to be transferred to the National Institute of Radiological Sciences in Chiba City. Hiro Hasegawa, a Tokyo Electric spokesman, said that the third man had not been hospitalized.

The three were employed by a subcontractor of Tokyo Electric, Mr. Edano said, and were trying to connect a cable in the basement of the turbine building next to Reactor No. 3. They were exposed to more than 170 millisieverts of radiation, he said. That is more than the old maximum of 100 millisieverts for workers but less than the new maximum of 250 millisieverts instituted in the days after the disaster. The injuries would appear to raise questions about whether the new maximum was too high.

Linda Gunter, a spokeswoman for the power company, said Friday that the two hospitalized workers would remain under observation. The third man had been wearing higher boots and had not gotten his legs wet; he will take a rest day and return to work, she said.

"It's not a good thing to get a dose of this size," she said, adding that "it still doesn't exceed the limit." She said that one chest X-ray accounted for about 20 millisieverts of radiation.

Halting progress was reported in the efforts to restart cooling systems at the plant that were knocked out in the earthquake and tsunami on March 11.

A Tokyo Electric official said workers had managed to restore lighting in the central control room of Reactor No. 1, an important step toward restarting its cooling system. The temperature in the reactor pressure vessel has been showing a worrisome increase, and Mr. Edano said efforts were being focused on resolving the problem.

Officials of Japan's Nuclear and Industrial Safety Agency said Reactors No. 1 and No. 4 were giving off white smoke, but repair work had not stopped.

The warning on Wednesday over the heightened levels of iodine 131, which can accumulate in the thyroid and cause cancer, set off widespread anxiety and a run on bottled water in Tokyo. On Thursday morning, the authorities were distributing water to an estimated 80,000 children and were considering importing bottled water.

Emissions from the damaged plant have largely blown east; elevated levels of iodine 131 and another dangerous isotope, cesium 137, were found 18 miles off the coast, according to the International Atomic Energy Agency.

Japan's limits on iodine 131 are far lower than those of the international agency.

Reporting was contributed by Chika Ohshima and Ayasa Aizawa from Tokyo, and by Keith Bradsher and Kevin Drew from Hong Kong.

Japan Radiation Levels Uncertain: Should Evacuation Zone Be Bigger? (CSM)

Christian Science Monitor, March 25, 2011

Conflicting data on radiation levels is making it difficult to judge the dangers posed by the damaged Fukushima Daiichi nuclear plant – and heightening anxiety among average Japanese. Skip to next paragraph

On Thursday, store shelves across Tokyo were bare of bottled water one day after authorities warned that the level of radioactive iodine in tap water was twice the allowable level for infants. But follow-up tests conducted Thursday showed the iodine level had fallen back below acceptable limits.

Some nearby cities were showing elevated levels of radioactive iodine 131 in their municipal water supplies, however. And new estimates from Japan's Nuclear Safety Technology Center seemed to indicate that atmospheric radiation levels might be too high for infants at some spots outside the 12-mile evacuation zone surrounding the Fukushima Daiichi nuclear complex.

"There is continuing scattered information about contamination exposures that is not entirely consistent," said Edward Lyman, a senior staff scientist at the Union for Concerned Scientists, a nuclear watchdog group in Washington. "Confusion seems to be growing."

Given the scale of the crisis, such confusion is to be expected, said Dr. Lyman. Similar problems would occur anywhere multiple reactors suffered total power blackouts and apparent fuel rod damage.

Why is it so hard to measure radiation? It is not like measuring temperature, or barometric pressure, or some other easily-discernable weather variable. Emissions from Fukushima have been a mix of different kinds of radioactive materials, which disseminate into the atmosphere differently, and travel in the air in different ways.

Though the analogy is not exact, it is somewhat like trying to map the spread of different aromas released from the same general area, taking into account wind, rain, and other environmental factors.

Plus, some of the measurements released so far measure things over different time frames. Others are projections or the results of computer monitoring.

For instance, the city of Fukushima itself had a radiation level of .00685 milliSieverts (mSv) per hour at 7 p.m. local time on Tuesday, according to Japanese authorities.

Given that an average person receives 2.4 mSv per year from sunlight and other natural sources, that particular Fukushima reading does not sound so bad.

But that is per hour, remember. At times during the crisis, it has spiked considerably higher.

Estimates from the Japanese Nuclear Safety Technology Center, in contrast, were an attempt to figure out possible cumulative doses that might have affected people in the path of a radiation plume.

According to these estimates, an infant just outside the 12-mile evacuation zone around the Fukushima plant could theoretically have absorbed more than 100 mSv of radiation since the crisis began.

To accumulate a worrisome dose, an infant would have had to be outdoors constantly since last the earthquake on March 11, noted Japanese Cabinet Secretary Yukio Edano. Buildings shield humans from some of radiation's effects.

Edano said that it remains unnecessary to expand the 12-mile exclusion zone.

"As a precautionary measure, I would like to recommend that if people [near the exclusion zone] are on the leeward of the nuclear power plant, they close their windows and stay indoors inside sealed buildings as [much] as possible," he said.

The US has recommended that US citizens within 50 miles of the Fukushima complex evacuate to a safer place. Lyman believes the Japanese government should follow suit, at least for children and pregnant women.

"It looks like there are going to be areas considerably further than the 12-mile zone that are going to require significant decontamination or condemnation," he said Thursday.

Tokyo Shoppers Clean Store Shelves Of Basic Goods (AP)

By Shino Yuasa And Tomoko A. Hosaka, Associated Press

Associated Press, March 25, 2011

TOKYO – Nearly two weeks of rolling blackouts, distribution problems and contamination fears prompted by a leaking, tsunami-damaged nuclear plant have left shelves stripped bare of some basic necessities in stores across Tokyo. Some people are even turning to the city's ubiquitous vending machines to find increasingly scarce bottles of water.

At the source of the anxiety — the overheated, radiation-leaking nuclear plant — there was yet another setback Thursday as two workers were injured when they stepped into radiation-contaminated water. The two were treated at a hospital.

Supplies of bottled water grew scarce in Tokyo, one day after city officials warned that the level of radioactive iodine in the tap water was more than twice what is considered safe for babies to drink. Tests conducted Thursday showed the levels in the city's water fell to acceptable limits for infants, but they were up in neighboring regions.

Frightened Tokyo residents hoping to stock up on bottled water and other goods flocked to shops across the city, some of which tried to prevent hoarding by imposing buying limits.

"The first thought was that I need to buy bottles of water," said Reiko Matsumoto, a real estate agent and mother of a 5-year-old, who rushed to a nearby store to stock up on supplies. "I also don't know whether I can let her take a bath."

The shortages were mainly limited to basic staples, such as rice, instant noodles and milk. Vegetables, meat and tofu, meanwhile, were readily available in most places.

Japan has been grappling with an avalanche of miseries that began with a massive, 9.0-magnitude earthquake on March 11. That triggered a violent tsunami, which ravaged the northeast coast, killed an estimated 18,000 people and left hundreds of thousands homeless. The quake and tsunami also damaged the critical cooling system at the Fukushima Dai-ichi plant, which overheated and began spewing radiation into the environment.

Workers have been struggling to get the cooling system operating again, but their efforts have been hampered by explosions, fires and radiation scares. Lighting was restored Thursday to the central control room at Unit 1 for the first time since the quake and tsunami.

But two workers were hospitalized after stepping into contaminated water while laying electrical cables in one unit, nuclear and government officials said. The water seeped over the top of their boots and onto their legs, said Takashi Kurita, spokesman for plant owner Tokyo Electric Power Co.

The two likely suffered "beta ray burns," Tokyo Electric said, citing doctors. They tested at radiation levels between 170 to 180 millisieverts, well below the maximum 250 millisieverts allowed for workers, said Fumio Matsuda, a spokesman for the Nuclear and Industrial Safety Agency.

The men will be transferred to a radiology medical institute Friday, said Hidehiko Nishiyama, another nuclear agency spokesman. Their injuries were not life-threatening.

More than two dozen people have been injured trying to bring the plant, located 140 miles (220 kilometers) northeast of Tokyo, under control.

The death toll from the earthquake and tsunami continued to rise, meanwhile, with more than 9,800 bodies counted and more than 17,500 people listed as missing. Those tallies may overlap, but police from one of the hardest-hit prefectures, Miyagi, estimate that the deaths will top 15,000 in that region alone.

The crisis has stoked fears about the safety of Japan's food and water supply. Radiation has been found in raw milk, seawater and 11 kinds of vegetables, including broccoli, cauliflower and turnips, grown in areas around the plant.

The US and Australia halted imports of Japanese dairy and produce from the region, Hong Kong said it would require that Japan perform safety checks on meat, eggs and seafood, and Canada said it would upgrade controls on imports of Japanese food products. Singapore, too, has banned the sale of milk, produce, meat and seafood from areas near the plant.

Concerns also spread to Europe. In Iceland, officials said they measured trace amounts of radioactive iodine in the air but assured residents it was "less than a millionth" of levels found in Europe in the wake of the 1986 Chernobyl disaster — the world's worst nuclear accident.

Radioactive iodine is short-lived, with a half-life of eight days — the length of time it takes for half of it to break down harmlessly. However, experts say infants are particularly vulnerable to radioactive iodine, which can cause thyroid cancer.

In Tokyo, government spokesman Yukio Edano pleaded for calm over the water contamination, and said the government was considering importing bottled water from other countries to cover any shortages. Officials urged residents to avoid panicked stockpiling and the city began distributing 240,000 bottles — enough to give each of the 80,000 children under age 1 three small bottles of water.

New readings Thursday showed the city's tap water was back to levels acceptable for infants, but the relief was tempered by elevated levels of the isotope in two neighboring prefectures: Chiba and Saitama. A city in a third prefecture, just south of the plant, also showed high levels of radioactive iodine in tap water, officials said.

Tap water in Kawaguchi City in Saitama, north of Tokyo, contained 210 becquerels of radioactive iodine — well above the 100 becquerels considered safe for babies but below the 300-becquerel level for adults, Health Ministry official Shogo Misawa said.

In Chiba prefecture, the water tested high for radiation in two separate areas, said water safety official Kyoji Narita. The government there warned families in 11 cities in Chiba not to give infants tap water.

"The high level of iodine was due to the nuclear disaster," Narita said. "There is no question about it."

Radiation levels also tested dangerously high in Hitachi in Ibaraki prefecture, about 70 miles (120 kilometers) south of the Fukushima plant, city water official Toshifumi Suzuki said, adding that officials were distributing bottled water.

The limits refer to sustained consumption rates, and officials said parents should stop using tap water for baby formula, although it was OK for infants to consume small amounts.

Despite the appeals, shelves were bare in many stores across Tokyo.

Maruetsu supermarket in the city center sought to impose buying limits on specific items to prevent hoarding: only one carton of milk per family, one 5-kilogram (11-pound) bag of rice, one package of toilet paper, one pack of diapers. Similar notices at some drug stores told women they could only purchase two feminine hygiene items at a time.

Maruetsu spokeswoman Kayoko Kano acknowledged that the earthquake and tsunami resulted in delays of some products.

Some frustrated shoppers have turned to the city's many vending machines as an alternative. The machines are found everywhere in the city and one can feature about three dozen different beverages — ranging from hot coffee and green tea to power drinks and juice. A 500-milliliter bottle of imported water costs about 100 yen (about \$1.25).

A spokesman for Procter & Gamble Japan said its plant was fully operational but that rolling blackouts in Tokyo may be affecting distribution. "Consumers are nervous, and they may be buying up supplies," Noriyuki Endo added.

Worse hardships continued in the frigid, tsunami-struck northeast. Some 660,000 households still do not have water, the government said. Electricity has not been restored to some 209,000 homes, Tohoku Electric Power Co. said. Damage is estimated at \$309 billion, making it the most costly natural disaster on record.

In one bright spot of economic news, Toyota Motor Corp. — which had suspended production due to damage to suppliers' factories and power shortages in the quake zone — said it will soon resume production of the Prius and two other hybrid models.

But rival Honda Motor Co. said the suspension of car production at its Saitama and Suzuka factories will be extended to April 3.

The economic woes spawned by the disasters were especially painful for farmers in the region near the nuclear plant.

Sumiko Matsuno, a 65-year-old farmer in Fukushima, spent Thursday frantically harvesting vegetables from her fields.

"We are digging up all our carrots and onions as fast as we can. We can't sell them but we need them ourselves for food," she said. "We are really worried about our future. If this goes on, it is going to really hurt us."

Associated Press writers Eric Talmadge in Fukushima, and Mari Yamaguchi, Elaine Kurtenbach, Yuri Kageyama, Kaori Hitomi, Jean H. Lee and Ian Mader in Tokyo contributed to this report.

Anxiety Grows Over Japan's Food And Water Supply (WP)

By Chico Harlan And David Nakamura

Washington Post, March 25, 2011

TOKYO — At a downtown grocery store, a line of anxious mothers cleaned the shelves of bottled water seven minutes after the doors opened. At an organic farm on the city's outskirts, a group tested spinach with a hand-held radiation detector. And at the prime minister's headquarters, the chief cabinet secretary announced that Japan is considering importing drinking water.

As emergency crews battled Thursday to contain nuclear fallout from the badly damaged Fukushima Daiichi power plant in northeast Japan, a nervous uncertainty spread as far away as Tokyo, 150 miles to the southwest, as radiation was reported in parts of the food chain and millions tried to understand the implications.

In Vienna, the International Atomic Energy Agency reported Thursday that Japanese scientists have found "measurable concentrations" of radioactive iodine-131 and cesium-137 in samples of seawater collected off the coast from the Fukushima plant.

"The iodine concentrations were at or above Japanese regulatory limits, and the cesium levels were well below those limits," the IAEA said on its Web site. The samples were gathered Tuesday and Wednesday at several points 18.6 miles from shore, the U.N. nuclear watchdog agency said.

A day after Tokyo officials warned of elevated iodine levels in the city's tap water and the national government restricted shipment of 11 leafy vegetables in several prefectures, residents scrambled to stock up on the essentials, which are now in short supply.

Tokyo officials distributed 240,000 bottles of water to households with infants, who are more susceptible to radioactive iodine-131. The US Embassy handed out to American citizens potassium iodide pills, which can block radioactive iodine from building up in the thyroid gland.

"If the situation isn't better in one week, I actually might have to move in with my parents," said Yuki Ochiai, 32, mother of an 8-month-old girl who was among two dozen customers in line at the Tokyu grocery store 20 minutes before it opened. "My husband is already encouraging me to leave."

As residents fretted, the casualty rate continued to mount. Two weeks after the March 11 earthquake and tsunami, the number of deaths from the catastrophe officially topped 10,000, the National Police Agency reported. More than 17,000 people remain missing.

Meanwhile, the struggle to prevent more radiation from escaping the nuclear plant continued. Engineers successfully hooked up lighting to a control room at the unit 1 reactor — an incremental, but hopeful, step toward cooling overheated spent fuel rods. At the unit 3 reactor, workers prepared to test a cooling pump that would allow them to pour in fresh rainwater instead of less effective seawater.

But there were setbacks. Three workers suffered radiation burns after stepping in contaminated water while attempting to lay electrical wiring at one of the buildings. Two of the workers, exposed to 170 to 180 millisieverts of radiation, were hospitalized, said Chief Cabinet Secretary Yukio Edano, who did not disclose the status of the third employee. The Associated Press quoted Fumio Matsuda, a spokesman for the Nuclear and Industrial Safety Agency, as saying that radiation levels of 170 to 180 millisieverts were well below the maximum 250 millisieverts allowed for workers.

It was a day that required people to sift through information about a complicated and rapidly changing problem. In Chiba and Saitama, two prefectures neighboring Tokyo, officials discovered iodine levels exceeding the legal limit for infants. Yet Tokyo's water, which had tested high a day earlier, showed a decrease Thursday.

For some, the brief water warning was a tipping point, a sign that the environment had become a threat. At the Tokyu grocery, an employee opened the store doors at 10 a.m. and a half-dozen pregnant women and young mothers rushed to the far aisle.

Within seven minutes, all 80 two-liter bottles were gone. Ochiai, cradling her daughter, held two of them. Her parents, who live in Hokkaido, a northern island, were sending 12 more bottles of water by airmail, she confided.

"I actually feel sorry standing here with my two bottles of water," Ochiai said. "All these other mothers are here now, and they are too late."

As mothers fretted over supply, farmers worried about demand for their food, tainted by the government's advisory that residents not eat 11 leafy vegetables grown in prefectures near the Fukushima facility, citing elevated levels of radioactive materials in them.

The advisory has left farmers nationwide wondering about the effect on their livelihood as consumers weigh the risks.

At a spinach farm in Chiba, about 1 1/2 hours outside Tokyo, the proprietor, Masayuki Kumate, 45, looked on as Sumito Hatta, a food researcher, used a dosimeter to take a radioactivity reading of a lone row of green plants sprouting from the dark brown soil.

Kumate shook his head. Although Chiba officials had not banned any produce, Kumate said he has "been worried since Day One" of the disaster.

"It's so clear what was going to happen," he said of the nuclear fallout. "For Fukushima farmers, it is impossible [to recover]. The soil is contaminated. They will have to get rid of that before they start again. It takes a very long time. It will be a very big problem."

Hatta and a friend, Shinya Takeda, launched a blog and Facebook page dedicated to informing the Japanese people and the world about the plight facing Japan's farmers and asking for donations.

Japan's Ministry of Agriculture, Forestry and Fisheries sent a letter to banks this week encouraging them to provide loans to farmers seeking to rebuild. And the government has pledged that the Tokyo Electric Power Co., which operates the nuclear plant, will provide stipends to farmers whose crops have been contaminated.

"The farmlands that were soaked with saltwater will not be revived as farmland," the Facebook page reads. "This reality is another destruction for the farmers. . . . Now people in Japan are buying up all food at supermarkets and oil at gas stations due to the anxiety. Our food sovereignty is in great danger."

harlanc@washpost.com

nakamurad@washpost.com

Special correspondents Akiko Yamamoto and Kyoko Tanaka contributed to this report.

Japanese Jittery Over Shortages, Food Safety (USAT)

By Peter Eisler, Usa Today

USA Today, March 25, 2011

Residents in Tokyo and other major Japanese cities scrambled to find bottled water and basic foodstuffs Thursday amid changing reports about tap water and produce tainted by radiation from the country's crippled nuclear reactors.

New public advisories said that radioactive iodine in Tokyo's tap water no longer exceeded safety thresholds for consumption by infants — a warning that had been issued the previous day. The news was tempered by reports that contamination levels remained elevated in three neighboring prefectures, or districts. The government still insists the contamination levels pose no immediate risk to infants, but it has advised families to stop using tap water for baby formula.

Stores in many communities were running out of bottled water, milk and food supplies as a jittery public struggled with the water warnings and ongoing bans on the distribution or sale of milk or produce from areas near the stricken Fukushima Dai-ichi nuclear power plant.

"The current situation is not drastic, and they're being prudent in what they're doing" with the government restrictions, said Jeff Patterson, a radiation expert with Physicians for Social Responsibility and professor at the University of Wisconsin School of Medicine and Public Health.

The extent of contamination in areas around the plant remains unclear, Patterson said, and that has led to some confusion on what precautions are necessary to protect the public. "They are truly trying to manage the unmanageable," he added, "so there are no hard and fast answers on what the truly correct response is."

The crisis at the nuclear plant began March 11, when Japan suffered the worst earthquake in its recorded history, a magnitude-9.0 quake that triggered an almost immediate tsunami. The one-two punch ravaged the country's northeast coastline, wiping out communities. So far, the death toll has risen to more than 10,000, with 17,440 missing.

The disaster knocked out primary and backup power at the nuclear plant. That shut down systems used to cool the nuclear fuel in the plant's six reactors and prevent their cores from melting into a highly radioactive mass that could spread radiation into the environment. It also knocked out systems that circulate water through pools that store reactors' used or "spent" fuel, which must be sealed off from the atmosphere and kept at specific temperatures to prevent radiation-spewing fires.

In the ensuing days, the plant suffered explosions and fires as fuel rods in its reactors and the storage pools overheated. Radioactive steam and smoke vented into the atmosphere, dispersed by wind currents before settling back to Earth, in some cases over crops and water supplies.

Engineers continued to restore power at the plant Thursday and said reactor temperatures had stabilized at safe levels. They also have been restoring water levels in the plant's spent-fuel pools. Both situations remained fluid, and more releases of steam had not been ruled out.

Assessing contamination could take months.

Radioactive iodine, a chief component of the radiation released from the plant, dissipates in days. Other radiation types, such as cesium, can linger in the environment for hundreds of years.

"A lot of (the impact) depends on how much of this stuff blew out over the Pacific and how much blew over land," said Arjun Makhijani, an engineer specializing in nuclear fusion and president of the Institute for Energy and Environmental Research. "I don't think anybody can say at this point how much contamination has occurred."

Global Food Scare Widens From Japan Nuclear Plant (AFP)

By Karyn Poupee

AFP, March 25, 2011

TOKYO (AFP) – Countries across the world have shunned Japanese food imports as radioactive steam leaked from a disaster-struck nuclear plant, straining nerves in Tokyo.

The grim toll of dead and missing from Japan's monster earthquake and tsunami on March 11 topped 26,000. Hundreds of thousands remained huddled in evacuation shelters and fears grew in Tokyo over water safety.

The damage to the Fukushima nuclear plant from the tectonic calamity and a series of explosions has stoked global anxiety. The United States and Hong Kong have already restricted Japanese food, and France wants the European Union to do the same.

Russia ordered a halt to food imports from four prefectures – Fukushima, Gunma, Ibaraki and Tochigi – near the stricken plant some 250 kilometres (155 miles) northeast of Tokyo.

Moscow also quarantined a Panama-flagged cargo ship that had passed near the plant and put its 19 crew under medical supervision after detecting radiation levels three times the norm in the engine room.

Australia banned produce from the area, including seaweed and seafood, milk, dairy products, fresh fruit and vegetables.

It said, however, that Japanese food already on store shelves was safe, as it had shipped before the quake, and that "the risk of Australian consumers being exposed to radionuclides in food imported from Japan is negligible".

Canada implemented enhanced import controls on products from the four prefectures.

Singapore suspended imports of milk products and other foodstuffs from the same four prefectures, as well as all food products from two more – Chiba and Ehime.

The city-state's move came after officials found "radioactive contaminants" in four samples of vegetables from Japan, though the authorities stressed the radiation levels in the produce were still very low.

The Philippines banned Japanese chocolate imports, and Indonesia asked that Japan certify its exported processed foods as radiation-free.

"Food safety issues are an additional dimension of the emergency," said three UN agencies in a joint statement issued in Geneva, pledging they were "committed to mobilising their knowledge and expertise" to help Japan.

Japan was taking the right actions, said the International Atomic Energy Agency, World Health Organization, and Food and Agriculture Organization.

In greater Tokyo, an urban sprawl of more than 30 million people, strong aftershocks served as uncomfortable reminders that Japan's capital itself is believed to be decades overdue for a mega-quake.

The anxiety was compounded by the Tokyo government's revelation Wednesday that radioactive iodine in the drinking water was more than twice the level deemed safe for infants, although it remained within safe adult limits.

The news triggered a run on bottled water in shops and the city's ubiquitous vending machines, while the Tokyo government started to give families three 550-millilitre (18.5-ounce) bottles of water per infant.

A measurement on Thursday was in the safe zone for infants again, officials said, but this was not enough to calm all parents of young children and many bought up what bottled water they could.

Authorities in Chiba, Tochigi urged parents not to give infants tap water after finding levels of radioactive iodine breached the safe limit for babies.

Japan's government has also halted shipments of untreated milk and vegetables from Fukushima and three adjoining prefectures, and stepped up radiation monitoring at another six, covering an area that borders Tokyo.

The health ministry has detected 82,000 becquerels of radioactive caesium – 164 times the safe limit – in the green vegetable kukitachina, and elevated levels in another 10 vegetables, including cabbage and turnips.

At the source of the radiation – the Fukushima plant located on the Pacific coast – white smoke was seen wafting from four of the six reactors.

Fire engines again aimed high-pressure water jets at the number three reactor, a day after a plume of dark smoke there forced workers to evacuate, in a bid to avert a full meltdown that would release greater radiation.

Highlighting the risks taken by the emergency crew, three workers were exposed to high radiation – at least 170 millisieverts.

Two of them were sent to hospital after they stepped into a puddle of water that reached the skin on their legs despite their radiation suits.

Engineers have now linked up an external electricity supply to all six reactors and are testing system components and equipment in an effort to restart the tsunami-hit cooling systems and stabilise the reactors.

On Thursday, they partially restored power to the control room at reactor number one.

The grim statistics from Japan's worst post-war disaster kept on rising, with 9,811 now confirmed dead and 17,541 listed as missing by national police.

Scientists at the Port and Airport Research Institute meanwhile found that the tsunami that swallowed entire towns was even bigger than first thought. In devastated Ofunato, Iwate prefecture, it topped 23 metres (76 feet).

Japan: The Business Aftershocks (WSJ)

From Chips to Banks, Companies Scramble

By Andrew Dowell

Wall Street Journal, March 25, 2011

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

Japan Will Rebuild From Quake But Faces Other Daunting Tests (WSJ)

By John Bussey

Wall Street Journal, March 25, 2011

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

Police: More Than 10,000 Dead From Japan Disaster (AP)

Associated Press, March 25, 2011

TOKYO – Japan's police agency says the death toll from the earthquake and tsunami two weeks ago has topped 10,000.

The National Police Agency said Friday that more than 17,440 people are listed as missing.

Japan Faces Its Next Chore: Cleaning Up (AP)

By Tim Sullivan, Associated Press

Associated Press, March 25, 2011

HIGASHIMATSUSHIMA, Japan – Where do you even start?

Do you start by carting away the Chokai Maru, the 150-foot (45-meter) ship that was lifted over a pier and slammed into a house in this port town? Do you start with the thousands of destroyed cars scattered like discarded toys in the city of Sendai? With the broken windows and the doorless refrigerators and the endless remnants of so many lives that clutter the canals?

In the first days after a tsunami slammed into Japan's northeast coast on March 11, killing well over 10,000 people, it seemed callous to worry about the cleanup. The filth paled beside the tragedy. Now, nearly two weeks later, hundreds of communities are finally turning to the monumental task ahead.

The legacy of Hurricane Katrina, which devastated the US Gulf of Mexico coastline in 2005, gives an idea of both the immensity of the job and the environmental hazards Japan could face for years to come.

"In Katrina, you had debris that had seawater, sewage, chemicals, gasoline, oil, that was all mixed together in a toxic soup," said David McEntire, a disaster expert at the University of North Texas. "And you're going to have similar problems with the disaster in Japan."

Three years after Katrina, which spawned enough debris to cover Britain, the US government had said the mess was not even close to being cleaned up.

The mess looks endless in Japan, and hauling it away seems unimaginable. The cost? No one really knows, though the crisis is emerging as the world's most expensive natural disaster on record, with Japanese officials saying losses could total up to 25 trillion yen (\$309 billion). The World Bank says reconstruction could take five years.

So there's nothing to do but start.

Mayumi Hatanaka began with the knee-high mud that had flooded into her little seafood restaurant in the small seaside city of Shiogama.

"It's been four days, and we've been working, working," she said, standing beneath a sign that promised food "Straight From The Fishery To You."

She and her daughter were scraping the muck down their driveway and into the street. The thick, dark goo looked almost volcanic. Workers hired by the city used a gargantuan truck-mounted vacuum, normally used for well-drilling, to hose it up. The noise of the pump and the sucking splutter of the hose nearly drowned out her voice, and she had to shout to be heard.

Simply carving out an aisle in the restaurant took three days, Hatanaka said, so she has no idea when she'll be able to reopen. "I think we'll never finish," she said, only briefly willing to set aside her shovel before getting back to work.

Much of the official cleanup effort so far has been to support rescue teams. Soldiers and city crews have cleared streets of debris so rescuers can get through, and some buildings have been pulled apart in search of survivors.

Now, with little chance left of finding anyone still alive, the concern is to avoid accidentally clearing away corpses with the debris.

Takashi Takayama is a city official in Higashimatsushima, a port town brutalized by the tsunami, leaving nearly 700 people dead. He said the city, where the Chokai Maru ship was thrown ashore, is still cleaning up — and footing the bill — from a major earthquake in 2003.

"I don't know how long it will take," he said. "The last time it was just parts of houses that were destroyed. Now it's the whole house. So I don't know how we'll do it."

With city workers desperately overworked, officials turned to a local association of construction companies to help. Those private contractors helped clear the roads and have started piling up debris in small hills, soon to be small mountains, on city land near the port.

Japan is a country where separating trash into its various components is almost sacrosanct: There are the burnables, the food items, the array of different recyclables. Takayama is already dreading the arguments when disaster-weary residents refuse to categorize their garbage properly.

"Sorting everything out will be the first challenge," he said.

A 2004 tsunami, which killed 230,000 people in 14 Asian and African countries, left thousands of cities and towns facing a task similar to Japan's today.

In Indonesia, the United Nations employed 400,000 workers to clear 1.3 million cubic yards (1 million cubic meters) of debris just from the urban areas of the hard-hit city of Banda Aceh.

Many of the countries affected by that disaster were less developed than Japan and lacked sophisticated waste disposal systems. In the initial cleanups, some burned debris in the open air, dumped it in makeshift landfills and used other environmentally risky methods, polluting wells, inland waterways and the nearby seas.

Japan will presumably use state-of-the-art incinerators and sanitary landfills, though technological prowess doesn't guarantee there won't be problems. In the United States, there were allegations of corruption by cleanup companies after Hurricane Katrina, including claims that hazardous debris was improperly dumped in landfills.

Associated Press writers Joji Sakurai in Tokyo and Denis Gray in Bangkok contributed to this report.

Extent Of Damage To Japan's Infrastructure Still Unclear (NYT)

By Henry Fountain

New York Times, March 25, 2011

Nearly two weeks after the earthquake and tsunami struck Japan, engineers still do not know the full extent of damage to roads, bridges, rail lines and other infrastructure.

While much attention has been focused on the crisis at the Fukushima Daiichi nuclear plant, only fragmentary information has become available about damage to other large complexes, like water distribution and sewage treatment plants.

Even Japanese government agencies and professional engineering groups appear to have limited knowledge of the scope of the destruction along the northeastern coast of Honshu Island, where the tsunami hit on March 11, and further inland, where the quake damaged buildings and other structures and caused landslides.

"We don't understand the real situation," Hiroyuki Yanagawa of the Japan Society of Civil Engineers wrote in an e-mail. "We cannot investigate the area." The group is based in Tokyo, far from the affected region, where entry has been restricted largely to emergency vehicles.

In the United States, earthquake engineers who often travel to the scene of a major quake within days have been unable to go to Japan because of concerns about radiation.

Stephen Mahin, a structural engineering professor at the University of California, Berkeley, and the director of the Pacific Earthquake Engineering Research Center, said that he and others had been planning to go but that the university had canceled their travel insurance.

He now expects to go next week, but will most likely be limited to Tokyo, about 140 miles from the damaged reactors.

"Inspecting earthquake damage is a risk, but it is a risk we know about," Dr. Mahin wrote in an e-mail. "Being dependent on public release of information on radiation hazards (or evacuation orders) that we have little control over is a different thing entirely."

The National Science Foundation, which finances field research after disasters and supported an engineering team that went to New Zealand after the recent earthquake there, said it was accepting proposals for Japan. The review process takes several weeks.

Some information about infrastructure damage is now trickling out. Incomplete as it is, the information helps explain why the Japanese government says that apart from the damage caused by the problems at the nuclear plant, recovery will take five years and cost hundreds of billions of dollars.

The Japanese Ministry of Land, Infrastructure, Transport and Tourism, which had been posting limited information about road and rail service since the quake, now says all expressways in the region are passable, and that high-speed rail service has been restored on all but two lines that have long stretches with damage to rails or to overhead electric lines. All airports are open to commercial traffic except the one in Sendai, where video cameras recorded a wall of water reaching as high as the jetways.

The ministry reported damage to about 50 sewage treatment plants. Other agencies reported that gas and water distribution had improved, though there were still many towns with limited or no service. None of the reports outlined the degree of damage to specific facilities.

Other assessments have been cobbled together by engineers based on reports from local agencies, photographs and, in some cases, personal observations. Engineers at the University of Tokyo listed 17 bridges that had been washed away by the tsunami; five sewage plants either damaged or destroyed; flooding at one damaged dam; and dozens of landslides and deposits of debris that have closed roads. In one case, they reported tsunami damage along an 18-mile stretch of coastal roads south of Iwaki.

A report by an engineer at Tokai University in Shizuoka, south of Tokyo, was more anecdotal, with photographs of roads blocked by landslides or warped as the ground underneath them subsided; rail lines tossed about like strands of spaghetti; collapsed electrical pylons; sewage plants buried in debris; and, in Sendai, huge storage tanks toppled over at a brewery.

A few engineers who study tsunamis lived through the disaster and described the destruction around them. Shunichi Koshimura, a researcher at the tsunami engineering laboratory at Tohoku University, and others reported that the lab was effectively destroyed and that much of the university was heavily damaged.

A day after the quake, Dr. Koshimura, who published a study last year about coastal effects of the 2004 Indian Ocean tsunami, tried to conduct a field study by car of the damage in the flatlands around Sendai but was turned back by debris and water.

Kit Miyamoto, an earthquake engineer born in Tokyo and living in San Francisco, was in Tokyo when the quake occurred. His flight home delayed and able to obtain the necessary permits, he drove up to the affected coast.

In an interview, Dr. Miyamoto described coastal rail lines that were swept away by the tsunami, and said the vast majority of the buildings that were destroyed were made of wood. "Almost all concrete and steel structures survived," he said, though they were often heavily damaged.

Dr. Miyamoto said some infrastructure in the area appeared to make the disaster worse. In the city of Rikuzentakata, one of the worst hit, a concrete channel funneled the tsunami surge, increasing its speed, height and destructive power. "Construction like that makes things more dangerous," he said.

Key Supplier For Capacitor Makers Closes Plant On Nuclear Leak (BLOOM)

By Toshiro Hasegawa

Bloomberg News, March 25, 2011

Shares of Japan's capacitor makers may fall further after a key supplier was forced to abandon its factory near the damaged Fukushima Dai-Ichi nuclear plant.

Production of a chemical solution used in the production of aluminum-electrolytic capacitors has been halted at Tomiyama Pure Chemical Industries Ltd.'s plant north of Tokyo, according to the company's general manager, after workers were evacuated following a 9.0 earthquake that struck the nation and crippled the nearby nuclear plant. The manager declined to give his name.

"The supply chain from chemicals makers to aluminum- electrolytic-capacitor makers is experiencing trouble overall," said Chikai Tanaka, an analyst at Nomura Holdings Inc. "The capacitors are used in most electronics other than cell phones, so I expect some impact on industries including television and computers."

Nippon Chemi-Con Corp. (6997) has tumbled 33 percent in Tokyo since the close of trade before the quake hit through today, while the Kyoto-based Nichicon Corp. (6996) slid 2.4 percent from the March 10 close.

Tomiyama Pure Chemical, which says on its website to be "Japan's only manufacturer for the specialized electrolytes" used in making the capacitors said a plant in Saitama prefecture, further south, lacked capacity to make up for the shortfall in production. A spokesman at Nippon Chemi-Con's corporate planning department, who declined to give his name, said Tomiyama Pure Chemical's market share is high and if the supply disruption continues, it will hurt the industry.

"We still have some stock, so there is no impact on the company at the moment," said Fumio Yamashita, a spokesman for Nichicon. "But looking forward, we are considering different options including finding a substitute for the chemical."

To contact the reporter on this story: Toshiro Hasegawa in Hong Kong at thasegawa6@bloomberg.net.

To contact the editor responsible for this story: Nick Gentle at ngentle2@bloomberg.net.

Anti-nuclear Activists Attack Waste Shipments (SarONCA)

By Cathy Dobson

The Sarina (Ontario) Observer, March 25, 2011

A shipment of 16 radioactive steam generators will be the first of many if allowed to travel the Great Lakes and cross the ocean to a Swedish recycling plant, two American anti-nuclear activists said in Sarnia Thursday.

"This is just the first batch," predicted Kevin Kamps, a radioactive waste specialist with a lobby group dedicated to ending nuclear energy and weapons development.

There are 32 steam generators in temporary storage at Bruce Power on Lake Huron and more at the Pickering nuclear station, according to Kamps.

He was in Sarnia for a meeting with Mayor Mike Bradley who has been a vocal opponent of the shipment.

Approval was granted Feb. 4 by the Canadian Nuclear Safety Commission (CNSC) but Kamps and his colleague, Michael Keegan of the Coalition for Nuclear Free Great Lakes, hope to convince US authorities to kill the plan.

"This is a first step and sets a precedent by which many more shipments of radioactive materials will begin," Keegan said.

"They are establishing a precedent for commerce in poison on the Great Lakes, which I find unacceptable."

Bruce Power CEO Duncan Hawthorne said there is no risk to the public in transporting nuclear waste on the lakes.

The CNSC approved the shipment based on scientific analysis that showed the amount of radioactivity would not contaminate the water if there was an accident, Hawthorne said.

He said that each 100-tonne generator will carry four grams of radioactive waste. That compares to the amount that would be found in a heart pacemaker, he said.

"If all 16 generators sink and every piece of radioactive material gets in the water right outside a water intake pipe, there would be no impact on people's drinking water," Hawthorne said. "Even though it would be highly unlikely and grossly improbable, the regulator has proven that."

But Keegan and Kamps said there has been no Environmental Assessment on the proposed shipment.

"What Duncan Hawthorne says is not proven," said Keegan.

"I challenge what he says," Kamps said. "There are water soluble poisons that are very toxic in very small amounts."

Hawthorne told The Observer that sending the used generators to Sweden for recycling is the right thing to do.

"Burying it is not the most environmentally friendly," he said.

Hawthorne added that he finds it odd Sarnians are so concerned about the steam generator shipment.

"When I look at Sarnia, I see all the oil and gas installations there and I find it somewhat strange to focus on a nuclear plant with an excellent safety record, and have less concern about what's going into the Great Lakes every day with the processes around you."

Concern will only grow as long as the nuclear industry exists because there is no safe way to deal with its waste, Kamps said.

"The bottom line is we need to stop making it."

Keegan said he has some hope that a request for a judicial review of the commission's decision will be successful and the shipments can be stopped.

The Sierra Club of Canada and the Canadian Environmental Law Association have asked the Federal Court of Canada to review the reasons why the country's nuclear watchdog granted export and transfer licenses to Bruce Power.

There's also a chance the US Department of Transportation Pipeline and Hazardous Materials Safety Administration will oppose the shipment.

"It's been a very rubber-stamp kind of process in the past with them but we're hoping public pressure will change that this time," Keegan said.

Seven senators have agreed to "turn up the heat" in Washington," Kamps said. "We want a thorough analysis of the danger this poses to our waterways."

cdobson@theobserver.ca

Nuclear Waste Watchdog: It's Time To Speak Up (PORTHUR)

By Amy Biolchini

Port Huron (MI) Times Herald, March 23, 2011

With the possibility of a shipment of 16 radioactive steam generators passing through the St. Clair River, nuclear waste watchdog Kevin Kamps urged the public Wednesday night to make their voices heard.

A radioactive waste specialist and representative of national organization Beyond Nuclear, Kamps spoke to a crowd of 30 people at a Blue Water Sierra Club meeting at the Municipal Office Center in Port Huron.

Extensively referencing the current meltdown at Japan's Fukushima Daiichi nuclear plant, Kamps explained the dangers of radioactive waste.

Though some might joke about the lack of tsunamis and earthquakes in Southeast Michigan, Kamps said any loss of power to a nuclear facility is a major risk. Local factors include ice storms, tornadoes and squirrels, Kamps said, citing historical examples.

The proximity of many nuclear facilities and waste dumps to the Great Lakes is troubling, Kamps said, because of the potential for drinking water contamination and damage to aquatic environments.

"Lake sediments have never been analyzed for radioactivity," Kamps said.

A proposed Deep Geologic Repository at Kincardine, Ontario, on the Lake Huron shoreline, just 50 miles away from Michigan, could store radioactive waste for all 20 of Ontario's nuclear facilities, Kamps said.

Kamps also spoke on the dangers of installing two new nuclear power plants, including a proposed Fermi 3 in Monroe. The Plan suggested for Fermi 3 is the same system in place at Fukushima Daiichi and has been criticized for its weak design and containment breaches, Kamps said.

Kamps also made his case against transporting radioactive waste across the Great Lakes.

The Canadian Nuclear Safety Commission approved Bruce Power's proposal Feb. 4 to ship 16 radioactive steam generators from Owen Sound, Ontario, through the Great Lakes and the St. Lawrence Seaway to Sweden for recycling.

Kamps said Bruce Power has no plan to remove the generators should the ship sink at any point during its journey. The possibility that one of the 16 generators could leak underwater, should it sink, is highly likely, Kamps said.

The proposal faces its final approval by the US Department of Transportation's Pipeline and Hazardous Materials Safety Administration before the radioactive waste can enter US territorial waters. Kamps advised the public to contact PHMSA Administrator Cynthia Quarterman, as well as Michigan Sens. Carl Levin and Debbie Stabenow, to voice their opinions on the proposal.

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Ontario Indians Protest Plans To Ship Radioactive Waste Over Great Lakes (MIMESS)

By Kyle Daly

Michigan Messenger, March 25, 2011

The Union of Ontario Indians will battle a plan to ship 1,600 tons of radioactive waste from the Bruce nuclear power complex to Sweden via the Great Lakes and St. Lawrence Seaway, the group announced this week.

UOI, a political advocacy organization that represents 39 First Nation communities in Ontario, said that the Canadian Nuclear Safety Commission and Bruce Power Corporation failed to properly consult with First Nation communities before approving the plan to ship 16 contaminated steam generators from the Bruce Power complex in Kincardine.

"[M]ost of the Chiefs and Councils who are signatories to treaties all along the Great Lakes were never consulted," Southwest Regional Anishinabek Nation Chief Chris Plain said in a statement. "The duty to consult and accommodate must be done with the rights holders and we were never consulted."

"We will do everything in our power to prevent the Ontario and Federal governments and the nuclear power industry from using our precious waterways as a garbage disposal route," Anishinabek Nation Grand Council Chief Patrick Madahbee said. "It is contrary to Supreme Court decisions, our aboriginal and treaty rights, the United Nations Declaration on the Rights of Indigenous Peoples, and the laws of Nature."

Mayors from more than 70 communities along the Great Lakes and St. Lawrence Seaway have warned that the proposed shipment has not received adequate environmental review and threatens the water supply for millions people.

The ongoing nuclear disaster in Japan shows that accidents can result in radioactive contamination of water supplies. This week officials in Tokyo warned residents not to let infants drink the tap water because it contains elevated levels of radioactive iodine.

US Dept. of Transportation approval is required for the Bruce shipment to pass through US waters.

North Korea Suggests Libya Should Have Kept Nuclear Program (NYT)

By Mark McDonald

New York Times, March 25, 2011

SEOUL, South Korea — A North Korean statement that Libya's dismantling of its nuclear weapons program had made it vulnerable to military intervention by the West is being seen by analysts as an ominous reinforcement of the North's refusal to end its own nuclear program.

North Korea's official news agency carried comments this week from a Foreign Ministry official criticizing the air assault on Libyan government forces and suggesting that Libya had been duped in 2003 when it abandoned its nuclear program in exchange for promises of aid and improved relations with the West.

Calling the West's bargain with Libya "an invasion tactic to disarm the country," the official said it amounted to a bait and switch approach. "The Libyan crisis is teaching the international community a grave lesson," the official was quoted as saying Tuesday, proclaiming that North Korea's "songun" ideology of a powerful military was "proper in a thousand ways" and the only guarantor of peace on the Korean Peninsula.

As they have watched the attacks in Libya this week, senior North Korean leaders "must feel alarmed, but also deeply satisfied with themselves," said Rüdiger Frank, an adjunct professor at Korea University and the University of North Korean Studies, writing on the Web site 38 North. North Korea is believed to have 8 to 12 nuclear weapons and last year disclosed a new uranium-enrichment plant.

Mr. Frank said that the Libyan situation was "at least the third instance in two decades that would seem to offer proof that they did something right while others failed and ultimately paid the price." He said North Korea would probably see object lessons in the Soviet Union's decision to end the arms race and to "abandon the political option to use their weapons of mass destruction," and in Iraq's agreement to accept United Nations nuclear inspectors and monitors. And now, Libya.

"To put it bluntly," Mr. Frank said, "in the eyes of the North Korean leadership all three countries took the economic bait, foolishly disarmed themselves, and once they were defenseless, were mercilessly punished by the West."

"It requires little imaginative power to see what conclusions will be drawn in Pyongyang," he said, adding that anyone in the senior leadership who favored denuclearization "will now be silent."

The United States said there was no link between Libya's abandonment of efforts to develop nuclear arms and other weapons and the current military campaign by Western nations.

"Where they're at today has absolutely no connection with them renouncing their nuclear program or nuclear weapons," said Mark Toner, a State Department spokesman.

The comments by the anonymous North Korean official appeared to dim the chances for a renewal of the so-called six-party talks on the dismantling of North Korea's atomic program. The talks ended in 2009 when North Korea withdrew, angry over international sanctions that followed a long-range missile test. The two Koreas, the United States, China, Russia and Japan are the participants in the six-party process, which began in 2003. China, North Korea's only major ally, has served as the host country.

UN Says 6 Million NKoreans Need Food Aid (AP)

By Matthew Pennington, Associated Press

Associated Press, March 25, 2011

WASHINGTON – The United Nations reported Thursday that more than 6 million North Koreans, about a quarter of the communist state's population — are in urgent need of international food aid.

The findings, the result of a needs assessment conducted in February and March, will add to pressure for the United States to resume food aid to North Korea suspended in 2009 after its monitors were expelled. But doing so could be seen as aiding a government that has since advanced its nuclear weapons programs and is accused of twice attacking US ally South Korea.

In its report, the result of an assessment conducted in February and March, the U.N. said that North Korea has suffered a series of shocks including summer floods and then a harsh winter, "leaving the country highly vulnerable to a food crisis."

It said the worst affected include children, women and the elderly, and recommended providing 430,000 metric tons (475,000 tons) of food aid.

North Korea's public distribution system will run out of food at the beginning of the "lean season" that runs between May and July, between spring and fall harvests. This would "substantially increase the risk of malnutrition and other diseases," the report said.

An outbreak of the livestock disease foot and mouth detected in December also posed a "serious threat to food security," it said.

Three U.N. agencies — the World Food Program, the Food and Agriculture Organization, and UNICEF — conducted the assessment at North Korea's request. They visited 40 counties in nine of the country's 11 provinces.

Five nongovernment US aid agencies that visited the North last month reported severe food shortages and alarming malnutrition among children.

The U.N. said the current nutrition situation appears to be "relatively stable" but is liable to deteriorate in the "lean season."

"Children who are now mild to moderately malnourished can rapidly become severely malnourished and decrease their chance of survival or full development," the report said.

The United States said Thursday it is still considering whether to resume food aid to the North, which has had chronic problems in feeding its people since its assistance from the former Soviet Union ended. The country suffered famine in the mid-1990s in which at least hundreds of thousands are believed to have died.

State Department spokesman Mark Toner said the criteria for deciding whether to give such aid are "apolitical."

Senate Foreign Relations Committee Chairman John Kerry said Thursday the results of the U.N. assessment were "dire" and called for resumption of aid if it could be properly monitored.

"It is tempting to withhold food assistance until North Korea abandons its pursuit of nuclear weapons or adopts economic reforms. But the North demonstrated during the famine in the mid-to-late 1990s, in which an estimated 5-10 percent of ordinary North Koreans died, that it is willing to allow its people to suffer enormously," the Massachusetts Democrat said in a statement.

International donors will be concerned that any food aid not be redirected from civilians to North Korea's powerful military. They will also seek to act in concert with South Korea if assistance is restarted.

Tensions remain high on the Korean peninsula after two deadly, unprovoked military attacks on US ally South Korea in the past year.

The North also recently revealed it had developed a new means of generating fissile material that might be used for a nuclear bomb. Talks on it disarming its nuclear programs have stalled for nearly two years.

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