
From: GIS Hoc
Sent: Thursday, March 17, 2011 8:11 AM
To: yun.li@usda.gov
Subject: FW: Google Earth Placemark
Attachments: GoogleEarth_Placemark.kmz

-----Original Message-----

From: GIS Hoc
Sent: Thursday, March 17, 2011 8:09 AM
To: 'yong.li@nrc.gov'
Subject: Google Earth Placemark

Google Earth streams the world over wired and wireless networks enabling users to virtually go anywhere on the planet and see places in photographic detail. This is not like any map you have ever seen. This is a 3D model of the real world, based on real satellite images combined with maps, guides to restaurants, hotels, entertainment, businesses and more. You can zoom from space to street level instantly and then pan or jump from place to place, city to city, even country to country.

Get Google Earth. Put the world in perspective.

(<http://earth.google.com>)

III/13

Attachment GoogleEarth_Placemark.kmz (689 bytes) cannot be converted to PDF format.

From: [Bulletin News](#)
To: NRC-editors@bulletinnews.com
Subject: NRC News Summary for Friday, March 18, 2011
Date: Friday, March 18, 2011 7:12:06 AM
Attachments: [NRCSummary110318.doc](#)
[NRCSummary110318.pdf](#)
[NRCClips110318.doc](#)
[NRCClips110318.pdf](#)

This morning's Nuclear Regulatory Commission News Summary and Clips are attached.

Website: You can also read today's briefing, including searchable archive of past editions, at <http://www.BulletinNews.com/nrc>.

Full-text Links: Clicking the hypertext links in our write-ups will take you to the newspapers' original full-text articles.

Interactive Table of Contents: Clicking a page number on the table of contents page will take you directly to that story.

Contractual Obligations and Copyright: This copyrighted material is for the internal use of Nuclear Regulatory Commission employees only and, by contract, may not be redistributed without BulletinNews' express written consent.

Contact Information: Please contact us any time at 703-483-6100 or NRC-Editors@BulletinNews.com. Use of this email address will automatically result in your message being delivered to everyone involved with your service, including senior management. Thank you.

III/14



NUCLEAR REGULATORY COMMISSION NEWS SUMMARY

FRIDAY, MARCH 18, 2011 7:00 AM EDT

WWW.BULLETINNEWS.COM/NRC

TODAY'S EDITION

NRC News:

Obama Says "Harmful Levels" Of Radiation Unlikely To Reach US	1
Support Expressed Support For Nuclear Power	6
Groups Hit Safety Of Nuclear Plants In Wake Of Japanese Crisis	7
Bradford Says Nuclear Renaissance Is "Pretty Much Out The Window"	8
Coal's Fortunes Rise In Earthquake's Aftermath	8
NRC Responds To Seismic Risk To US Plants' Story	9
NRC Cancels Meeting With Progress Because Of Ongoing Repairs	9
Entergy To Conduct Review At Indian Point	9
Oyster Creek Plant Closing Prudent Business Plan, Says Exelon Executive	9
US Nuclear Output Up 0.7%	9
Progress Leads List Of Nuclear Missteps	9
Exelon's Rowe To Review Nuclear Policies	9
Iowa Republicans Support Nuclear Power Plans	10

Nebraska Nuclear Owners Say Atomic Plants Safe	10
Illinois Governor Plans To Raise Fees On Nuclear Generators ..	10
Virginia Uranium Mining Opponents Want Study To Consider Japan Problem	10
NNSA, National Labs Play Role In Radiation Analysis	10
Layoffs, Budget Among Issues Discussed At Hanford Meeting ..	10

International Nuclear News:

UN: One-Fifth Of World's Nuclear Plants In Earthquake Zones ..	11
Polish People, Government At Odds Over Nuclear Plant	11
Japan Nuclear Problems Prompt Nuclear Rethink In Germany, Italy	11
Greenpeace Asks Turkey To Abandon Nuclear Plans Due To Quake-Prone Location	11
South Africa Approves Nuclear Energy Plan	11
Indonesia Sticks With Nuclear Power Plans	11
India's Parliament Erupts Over WikiLeaks Disclosure Detailing Bribes	11

NRC NEWS:

Obama Says "Harmful Levels" Of Radiation Unlikely To Reach US.

Crises in two nations far from US borders continue to dominate domestic media coverage, as the US and the world cope with the disaster in Japan and the UN – and the US – gear up for possible military action in Libya. The Japan story, and related reports on the possibility of radiation reaching the US, was by far the bigger story on Thursday evening's three broadcast network newscasts, taking up more than 51 minutes of time between the three. Though the Libya story received just four minutes and 40 seconds of cumulative coverage, it was the only other story to get any significant airtime, and the only other story to be covered by all three networks.

President Obama's comments on radiation reaching the US are generally portrayed as effective and reassuring. The [AP](#) (3/18) reports Obama, "trying to reassure a worried

nation, declared Thursday that 'harmful levels' of radiation from the Japanese nuclear disaster are not expected to reach the US, even as other officials conceded it could take weeks to bring the crippled nuclear complex under control." The [CBS Evening News](#) (3/17, story 3, 2:00, Couric, 6.1M) reported Obama has asked the Nuclear Regulatory Commission "to do a comprehensive review of the safety of America's nuclear plants. ... The President is trying to reassure Americans here at home, protect US citizens in Japan and do all he can to help the Japanese." CBS (Reid) added, "He's trying to do all three of those things at the same time. But in Japan today, the Administration's top priority was clearly helping Americans to get out."

[AFP](#) (3/17, Collinson) reports the President vowed "to stand by Japan as it recovers and rebuilds, but defended a decision to go beyond Tokyo's advice for evacuating Americans near damaged nuclear plants." Speaking from the White House Rose Garden, the President "offered heartfelt sympathy to Japan's people faced with triple challenges after

a mammoth earthquake and tsunami badly damaged several nuclear power reactors." He also "assured Americans there was no reason to think harmful radiation from Japan could reach US shores."

[ABC World News](#) (3/17, story 4, 1:55, Sawyer, 8.2M) reported Obama "went out of his way to stress there is no need for alarm here at home." President Obama: "I want to be very clear. We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska, or US territories in the Pacific." [NBC Nightly News](#) (3/17, story 3, 0:45, Williams, 8.37M) says the President "made an unannounced visit to the Japanese Embassy in Washington this morning. He signed a condolence book there for those who perished in the earthquake and the tsunami. Later he spoke from the Rose Garden at the White House about the situation in Japan for the first time since Friday."

[Bloomberg News](#) (3/17, Runnigen, Johnston) reports Obama said the NRC "has conducted an 'exhaustive study' of US plants and they have been 'declared safe for any number of extreme contingencies.'" He said the Administration "will keep the public informed about the nuclear crisis and sought to allay any health concerns in the US." The [Los Angeles Times](#) (3/18, Parsons, Muskal, 681K) reports Obama "said precautionary measures against the coming radiation were unneeded, an unspoken reference to a run on iodine tablets in some areas caused by people worried about radiation sickness." [USA Today](#) (3/18, Sternberg, 1.83M) reports the Food and Drug Administration warns that "many of the ads for 'anti-radiation' potassium iodide pills flooding the Internet may be scams."

The [Wall Street Journal](#) (3/18, Favole, 2.09M) reports the President's efforts at reassurance came amid growing global skepticism about Japan's efforts to cool the reactors. [Politico](#) (3/18, Samuelsohn, 25K), [The Hill](#) (3/17, Geman, Youngman, 21K) "E2 Wire" blog, and the [Christian Science Monitor](#) (3/18, Grier, 48K) also report on the President's remarks.

On [ABC World News](#) (3/17, story 6, 1:30, Sawyer, 8.2M), ABC health and medical editor Dr. Richard Besser said, "I am reassured. When I listened to the President, when I talk to people all day throughout government in terms of what's being done to prepare what they've learned from Chernobyl and other events, I'm reassured we're not going to see in this country harmful levels of radiation here. That doesn't mean they won't measure any, but harmful levels is very different."

However, the [Washington Post](#) (3/18, Maese, Stein, 605K) reports that as the President "tried to reassure the American public about the safety of nuclear power plants" here at home, International Atomic Energy Agency Special Adviser on Scientific and Technical Affairs Graham Andrew

"cautioned at a news conference: 'It is still possible that it could get worse.'" And the [Los Angeles Times](#) (3/18, Lin, 681K) reports NRC Chairman Gregory Jaczko said the Fukushima Daiichi power plant crisis "could last for weeks."

[USA Today](#) (3/18, Eisler, Vergano, 1.83M) looks at possible conclusions to the crisis: "One end of the scenario spectrum is relatively benign: The plant is ruined, but major radiation releases are averted and public exposure is minimal. The other is catastrophic: Reactors melt down, caches of used nuclear fuel catch fire and worst-case weather carries contamination over the homes of hundreds of thousands of people."

Portions of Chairman Jaczko's and DOE's Daniel Poneman's White House press briefing appeared on [MSNBC's "Andrea Mitchell Reports"](#) (3/17, 1:04pm). Jaczko was asked to detail how he received his information and told the reporters, "I think the team we have in place is providing us with good and reliable information and, you know, we continue to do what we can to support the people of Japan and to provide assistance and recommendations where we can. You know, this is a very difficult situation and there will be a lot of work continuing, as we go forward, to deal with continuing to cool the reactors and to provide cooling to the spent fuel pools. So as we go forward, we'll continue that dialogue and discussion."

The [AP](#) (3/18) reports that President Obama, sought to "reassure a worried nation," Thursday, declaring that "'harmful levels' of radiation from the Japanese nuclear disaster are not expected to reach the US, even as other officials conceded it could take weeks to bring the crippled nuclear complex under control."

The [AP](#) (3/18) reports NRC Chairman Gregory Jaczko "told reporters at a White House briefing it could be some time before the crisis is brought under control as crews work to cool spent-fuel rods and get the damaged Japanese reactors under control. The activity could continue for days and 'possibly weeks,' Jaczko said." Meanwhile, "Daniel B. Poneman, deputy secretary of energy, told the briefing that a 'very dangerous situation' remains in Japan. Information at the nuclear plant is 'genuinely complex and genuinely confusing,' he said." [Reuters](#) (3/18, Mason, Zengerle) also covered the press avail.

On its "Oval" blog, [USA Today](#) (3/18, Hall, 1.83M) says NRC Chairman "Jaczko declines to speculate on how the nuclear crisis in Japan might end. 'I really don't want to speculate on where this could go,' he said." Jaczko and DOE's Dan Poneman, "outlined US efforts to help the Japanese cope with the crisis, determine the extent of the leaked radiation, safeguard and advise Americans living and working in Japan and ensure that nuclear power plants in the USA are safe."

[US News and World Report](#) (3/17) noted that NRC Chairman Jaczko "said there is no radiation risk to the United States from Japan's nuclear power plant. 'Basic science tells us there really can't be any risk to any of us here in the United States,' he said at a White House press conference Thursday."

The [Omaha \(NE\) World-Herald](#) (3/18, Gaarder) reports, "Despite concerns that weather patterns might blow radioactive particles from Japan's stricken nuclear reactors to the United States, Midlands emergency officials say they've been assured that residents have nothing to fear." Iowa Homeland Security and Emergency Management Stefanie Bond, said, "We do not expect to see radiation at harmful levels reaching the US from damaged Japanese nuclear power plants."

The [AP](#) (3/18) also noted Chairman Jaczko gave "assurances during a briefing Thursday at the White House, saying that basic science says there can't be any risk."

Chairman Jaczko Says NRC Will Do "Systematic Review" Of Oversight Policies. [Bloomberg News](#) (3/18, Goldman, Johnston) reports, "The head of the Nuclear Regulatory Commission said there is no immediate need for special inspections of US nuclear plants in the wake of the breakdown in a group of reactors in Japan following an earthquake and tsunami." Chairman Jaczko "said US policy is to continually review plant safety and standards, taking into account incidents and accidents elsewhere in the world." Jaczko said the NRC will certainly "look at what happened," make a "systematic and methodical review of the information, and if we need to make changes to our program, we'll make changes." Jaczko said it was "too early to begin an assessment" of the US plant fleet, but said once the data about the Japanese accident was in, the NRC would take a "very thorough look at what happened and what changes we could make."

[Bloomberg's "Final Word"](#) (3/17, 3:06) reported, "The challenge is to reassure the American public that our nuclear facilities are safe and while being sure not to be too critical of what is happening in Japan, because they want to keep the lines of communication open. It's Gregory Jaczko, the head of the Nuclear Regulatory Commission, who is doing a lot of the [liaising] on the technical level, but they want to be able to take a step back and say 'here are the dangers' and protect American citizens and US interests." [National Journal](#) (3/18, Kaplan, 12K), [Reuters](#) (3/18, Eckert) and [Milwaukee Journal Sentinel](#) (3/18, Content, 206K) also covered the story.

Poneman Says Facts "Genuinely Complex," But US Analyzing Information. In its coverage of President Obama's comments Thursday, the [Los Angeles Times](#) (3/18, Lin, 681K) reports that during the briefing at the White House, Daniel B. Poneman, deputy secretary of energy, "alluded to the fast-paced series of events at the nuclear power plant,"

saying, "The facts on the ground are genuinely complex. They are genuinely confusing."

The [AP](#) (3/18) adds that the DOE said it has conducted two separate aerial tests to measure the amount of radioactive material in Japan, and "those data, Poneman said, were consistent with the recommendation for Americans to evacuate a 50-mile radius around the plant." Said Poneman, "We're analyzing the information, and we're sharing it with the Japanese...The preliminary look has indicated that the measures that have been taken (by the Japanese) have been prudent ones. And we have no reason to question the assessment that has been made or the recommendation that has been made by the Japanese authorities."

The [National Journal](#) (3/18, Brownstein, 12K) says that both Poneman and Nuclear Regulatory Commission Chairman Greg Jaczko "stressed the complexity of the situation on the ground and refused to condemn the Japanese for being secretive about the extent of the problem." Said Poneman, "You know Americans: We always want more information, and we're constantly trying to find out whatever we can." He added, "The preliminary indications suggest that all the measures that have been recommended either by the government of Japan or the government of the US have been prudent and appropriate."

French Nuclear Security Regulators Dispute Jaczko's Claim On Reactor Spent Fuel Pool. On its "Washington Wire" blog, the [Wall Street Journal](#) (3/18, Weisman, 2.09M) says French nuclear security officials countered NRC Chairman Jaczko's public assertion Wednesday that there was no water in the spent fuel pool at Japan's Fukushima Dai Ichi Number 4 reactor. The blog says that in two statements, the French regulators insist Japanese helicopter crews saw there was yet water in the cooling pool. In fact, according to the Institut de Radioprotection et de Surete Nucleaire, there was enough water so that at least one water flight was diverted to drop its load on reactor number 3. The blog says Chairman Jaczko's assertion about the cooling ponds raised alarms across the globe and notes that while he did not retract the comments, neither were they repeated.

The [Wall Street Journal](#) (3/18, Weisman, Power, 2.09M) adds that Chairman Jaczko said NRC information about the Fukushima plant's spent fuel pools "was really one of the major changes that led us to re-evaluate...and come up with a recommendation, and we did." When the water comments were challenge Thursday by French and Japanese regulators, DOE Deputy Energy Secretary Poneman defended the NRC recommendation, saying evacuation was justified. Jaczko said the "bottom line is that there clearly appears to be a challenge keeping that spent fuel filled with sufficient water." A spokesman with the NRC said Thursday

"the evidence is so far inconclusive" on the condition of the number 4 reactor spent fuel pool. However, he said, "we have to err on the side of caution."

Bloomberg Offers Brief Profile Of Chairman Jaczko.

On [Bloomberg News](#)' "On the Economy" (3/17, 2:12) journalist Peter Cook said of Jaczko, "I think it is clear that he will become a public face of this crisis, at least in the United States, much the way Thad Allen did after the BP oil spill." He "was the -- he has been the NRC commissioner since 2005. He is a scientist. It is one reason the White House is looking to him for so many answers to inform the American public about what is going on." In an [AOL News](#) (3/18) item, Steven Hoffer offers "5 Facts of the Nuclear Regulatory Commission Chairman."

Former GE Engineer Faults Mark 1 Reactor Containment System. [McClatchy](#) (3/18, Hotakainen, Gordon) reports, "Safety questions about the Mark I model nuclear reactors that are burning out of control in Japan were first raised years ago in the US, by the nation's top nuclear safety official and by the General Electric engineers who helped design them." Three GE engineers, including Dale Bridenbaugh, resigned in 1976 "over concerns that the reactors' containment vessels couldn't withstand the massive steam pressure that would build if a major accident disabled the cooling system. In interviews with McClatchy on Thursday, Bridenbaugh said that the steel containment system wasn't strong enough and the inner, light bulb-shaped reactor vessel was too small -- 'It was 10 pounds in a five-pound bag' -- to contain all that pressure in such an event." McClatchy adds, "Similar concerns regarding the performance of the Mark I reactors were raised in 1979 by Harold Denton, President Jimmy Carter's pick as head of the Nuclear Regulatory Commission."

Little Progress Made On Cooling Plant. The [New York Times](#) (3/18, Sanger, Broad, 1.01M) reports, "The first readings from American data-collection flights" over the Fukushima Daiichi plant in "show that the worst contamination has not spread beyond the 19-mile range of highest concern established by Japanese authorities." But "another day of frantic efforts to cool nuclear fuel in the troubled reactors and in the plant's spent-fuel pools resulted in little or no progress," according to US officials.

The [Los Angeles Times](#) (3/18, Demick, King, Hall, 681K) says "there was no obvious sign of progress in the battle to take control" of the plant early Friday, "as blustery winds and fluctuating radiation levels hampered efforts to douse hot nuclear equipment with water from helicopters and firetrucks." The "official toll of dead and missing in last Friday's massive earthquake and tsunami topped 15,000."

[AFP](#) (3/17, Ito) says "teams of Japanese workers and troops Friday battled to prevent meltdown...as alarm over the disaster grew with more foreign governments advising their

citizens to flee." Fire engines were "put into action to douse fuel rods inside reactors and in containment pools to stop them from degrading due to exposure to the air and emitting dangerous radioactive material."

The [Washington Times](#) (3/18, Johnson, 77K) says plant officials "believed workers were making headway with efforts to complete an emergency power line to restart the plant's own electric cooling systems," but they are "not sure the cooling systems will still function. If they don't, electricity won't help."

The [New York Times](#) (3/18, Bradsher, Tabuchi, 1.01M) says data from Tokyo Electric Power "show that most of the dangerous uranium at the power plant is actually in the spent fuel rods, not the reactor cores themselves. The electric utility said that a total of 11,125 spent fuel rod assemblies were stored at the site. That is about four times as much radioactive material as in the reactor cores combined."

Japan Offers Little Response To Jaczko. The [New York Times](#) (3/18, Onishi, 1.01M) reports a day after Jaczko portrayed the situation "in graver terms than the government in Japan, United States' most important Asian ally, Japanese officials attributed the diverging accounts on Thursday to a 'delay' in sharing information. But, in public at least, they offered no sharp rebuttals" to Jaczko's remarks.

US, Other Nations Helping To Evacuate Their Citizens. The [Wall Street Journal](#) (3/18, Hodge, Weisman, Morse, 2.09M) says the US embassy is helping to evacuate US citizens in a sign of distrust of official Japanese reports on the danger. The [Financial Times](#) (3/18, Soble, Nakamoto, Robinson, 448K) says European governments are taking similar steps.

And even Japanese nationals are wary. The [New York Times](#) (3/18, Fackler, 1.01M) says about 10,000 people outside the evacuation zone have fled due to "distrust that the government is telling the full truth about the nuclear accidents and how widespread the danger is." [ABC World News](#) (3/17, story 2, 2:10, Sawyer, 8.2M) reported that the "more about the 140,000 Japanese people that are living in that ring between 12 and 19 miles from the plant. They have been told to stay inside and to seal the windows of their homes -- but is that enough to keep them safe?"

Workers May Need To Be Rotated Out Of Plant. The [Los Angeles Times](#) (3/18, Zarembo, 681K) reports, "Bursts of radiation being released at the stricken Fukushima nuclear plant could mean workers there will have to be quickly rotated out, and some could rapidly reach their annual exposure limit, complicating efforts to contain Japan's continuing nuclear crisis." Reports on Thursday "indicated that at times radiation was intense enough to exceed even Japan's newly raised annual limit in as little as an hour."

[ABC World News](#) (3/17, story 3, 2:50, Sawyer, 8.2M) reported that a "band of brothers in Japan is being asked to

make the ultimate sacrifice. More Japanese workers being asked to go inside that plant, an almost certain death sentence. It is that last ditch effort to save their countrymen." The [Wall Street Journal](#) (3/18, Hayashi, 2.09M) says there are currently about 300 people working at the plant, down from the normal 800.

Survivors Of 1945 Particularly Nervous About Radiation. The [Washington Post](#) (3/18, Harlan, 605K) reports, "Millions in Japan are worrying about the particles in the air, where they might spread and what might happen if they come too close. At least 20 million Japanese are old enough to remember the A-bomb attacks" on 1945, "and the worry resonates in particular with survivors, who have spent decades grappling with the inherent uncertainty of radiation exposure."

China Experiencing Run On Iodized Salt. The [Los Angeles Times](#) (3/18, Pierson, 681K) reports, "China tried to quell panic buying of iodized salt Thursday after grocery stores across the country were emptied of the seasoning by hordes of people hoping to ward off radiation poisoning."

G7 To Intervene To Bolster Yen. [Bloomberg News](#) (3/18, Fujioka, Otsuna) reports the Group of Seven major industrialized nations "will jointly intervene in the foreign exchange market for the first time in more than a decade after Japan's currency soared." Japanese Finance Minister Yoshihiko Noda said "each of the G-7 members will sell yen as their markets open," and Japan's central bank said it will "pursue 'powerful monetary easing' as policy makers sought to reduce the threat the world's third-largest economy sinks into a recession."

The [Washington Post](#) (3/18, Schneider, Irwin, 605K) says the G7 leaders "pledged 'solidarity' with Japan and said that a recent run-up in the value of the yen led them to decide on a 'concerted intervention in exchange markets' to try to stabilize the value of the currency." The [New York Times](#) (3/18, Appelbaum, 1.01M) says the "rising value of the yen threatened to undermine demand for Japanese exports at the same time that a series of disasters has damaged the domestic economy." The [Wall Street Journal](#) (3/18, Paletta, Wessel, 2.09M) says the G7 last took a similar action in 2000 to bolster the sagging euro. The [Financial Times](#) (3/18, Harding, Cookson, 448K) says news of the plan boosted Japan's Nikkei 225 average.

On [NBC Nightly News](#) (3/17, story 7, 2:00, Williams, 8.37M), John Yang said, "Economists say the spiraling crisis threatens the US economic recovery."

DHS Screens Air Passengers Arriving From Japan For Radiation. The [CBS Evening News](#) (3/17, story 8, 2:00, Couric, 6.1M) reported, "The Department of Homeland Security today began screening passengers in the US arriving from Japan for radiation. Some who flew to Chicago's O'Hare Airport tested positive but at levels too low to cause

any health concern." The [Chicago Tribune](#) (3/18, Johnsson, 488K) says the "false alarms signaled that officials are concerned about the effects of radiation spewing into the atmosphere from Japan's crippled nuclear reactors." The [Chicago Sun-Times](#) (3/18, Spielman, 256K) says city officials "declined to say what happened to the passengers, referring all questions" to DHS.

Union Of Concerned Scientists Report Criticizes NRC. Meanwhile, the [New York Times](#) (3/18, Zeller, 1.01M) reports "critics of nuclear power" are "increasingly shining a spotlight on American regulators and power companies" in the wake of the Japan crisis. The Union of Concerned Scientists [issued a report](#) accusing the NRC "of allowing companies that operate plants to ignore, or delay repairs to, leaky pipes, electrical malfunctions and other problems that could escalate into something more serious." The [San Francisco Chronicle](#) (3/18, Baker, 245K) says the report "lists 14 recent 'near misses' – instances in which serious problems at a plant required federal regulators to respond." The [New York Daily News](#) (3/18, Sisk, 527K) also has a story on the report.

According to the Union of Concerned Scientists report, NRC regulators "failed to enforce their own rules aimed at preventing Oyster Creek and many other nuclear plants from illegally releasing radiation into the environment," reports the [Asbury Park \(NJ\) Press](#) (3/18, Bates). When, in 2009, the Oyster Creek plant "leaked an estimated 200,000 gallons" of tritium contaminated water, the NRC issued no fine against the plant. Indeed, the UCS says many plants have "released unmonitored amounts of radiation into the environment in the last decade" and 14 had "near-misses," or an increased risk of core damage," according to the report.

[USA Today](#) (3/18, Koch, 1.83M) reports, "US nuclear power plants operate with known safety problems because of inadequate federal inspections, faulty maintenance and poor design, concludes a report Thursday by US scientists." The NRC "investigated 14 safety lapses at these plants last year, an error rate that's 'high for a mature industry,' according to the Union of Concerned Scientists, an environmental and nuclear watchdog group." The incidents took place "at plants operated by Progress Energy Inc; Constellation Energy Group; Duke Energy Corp; First Energy; Pacific Gas & Electric Corp; Southern Nuclear; Omaha Public Power District; Dominion Generation; and Wolf Creek Nuclear."

[Reuters](#) (3/18, Malone) adds that the UCS faulted the NRC for spotty inspections and allowing safety system flaws to persist. Report author David Lochbaum said plant operators and the NRC have allowed problems to persist. "A common trap to fall into is what's called normalization of deviance," said Lochbaum. "You can get sucked in to the false belief that it will never get any worse, and because I've

experienced it in the past ... I don't have to do anything to fix it because it's annoying but it's not mission critical."

UCS Faults NRC For Call For 50-Mile Evacuation Zone. On its "Green" blog, the [New York Times](#) (3/18, Zeller, 1.01M) says Edwin Lyman, a senior scientist at the UCS, said during a conference call with reporters that the NRC recommendation that Americans in Japan remain at 50 miles away from the Fukushima Daiichi plant, "exceeds the official evacuation zone" surrounding US nuclear plants by 40 miles. Lyman said at "plants like the Indian Point nuclear site north of New York City," it is "utterly unrealistic" to expect that an effective evacuation could be undertaken should a disaster like the earthquake and tsunami that hit Japan last week occur in this country." Lyman said the NRC "should not be using different standards for Americans abroad than it does at home." NRC PAO David McIntyre, "said that the commission continued to believe that a 10-mile evacuation zone — required as part of the emergency protection plant at every nuclear facility in the United States — was adequate for what would be an 'anticipated event.'"

The [AP](#) (3/18) reports, "Jaczko said the US recommendation for the 50-mile evacuation zone was based on the 'possibility of scenarios that we haven't seen yet.' He also said it was based on 'prudent assumptions and prudent assessments about what could happen.'"

Japan Disaster Said To Be Changing Few Minds About New Reactor Plans. [USA Today](#) (3/18, Copeland, 1.83M) reports, "A nuclear plant disaster in Japan has done little to change the thinking about nuclear energy in Waynesboro, Ga.," where Southern Company plans to build the country's first new nuclear power plants in decades. However, the "Japan disaster is reverberating across other communities in the USA where nuclear power plants are planned or under consideration." In Iowa, "Democratic state Sen. Sen. Matt McCoy says legislators should consider waiting until next session to take up bills that would make it easier for energy companies to build nuclear plants." And executives "at the Tennessee Valley Authority, which operates six nuclear reactors in east Tennessee and north Alabama and has another under construction, say they are in areas not prone to frequent or extremely large earthquakes and are equipped with numerous safety features."

UAVs Helping Cooling Efforts At Fukushima Reactor. [Popular Science](#) (3/18, Dillow, 1.32M) reports on the air support being used to try to cool the Fukushima Daiichi nuclear reactor. Along with helicopters dropping water onto the reactors, a Global Hawk UAV has been dispatched "to gather high-resolution images of the situation at Japan's nuclear facilities and perhaps even peer into the damaged reactors and cooling pools from above." It also has been used to image other areas to help with relief efforts. The article notes it is the Global Hawk's "first attempt to assist in

the ongoing nuclear crisis," but it reports the UAV is "well suited" to the task. "The UAV can gather imagery showing where the hot spots are, what parts of the reactors may be closest to rupture or other damage, whether or not fires have been completely extinguished, and, over time, the effectiveness of different methods of cooling."

More Commentary. The [New York Times](#) (3/18, 1.01M) editorializes, "As Japan's nuclear crisis unfolds, nations around the world are looking at the safety of their nuclear reactors — as they should. But most are also waiting until all the facts are in before deciding whether or how to change their nuclear plans. The Obama administration has vowed to learn from the Japanese experience and incorporate new safety approaches if needed. That makes sense to us — so long as there is rigorous follow-through." US regulators "must ensure that all nuclear plants have enough mobile generators or other backup power in place if their first two lines of defense are disabled."

In his [Washington Post](#) (3/18, 605K) column, Eugene Robinson writes, "The most urgent focus of Japan's worsening nuclear crisis is the threat from radioactive fuel that has already been used in the Fukushima Daiichi reactors and awaits disposal." In the US, "the nuclear industry has amassed about 70,000 tons of such potentially deadly waste material — and we have nowhere to put it."

In a [New York Times](#) (3/18, 1.01M) op-ed, nuclear engineer Michael Friedlander writes that the situation facing the "workers left at Fukushima is a nuclear operator's worst nightmare. Fortunately, despite harrowing situations like mine, almost none of us will ever deal with anything like it. But the knowledge that a nuclear crisis could occur, and that we might be the only people standing in the way of a meltdown, defines every aspect of an operator's life."

Support Expressed Support For Nuclear Power.

In continuing coverage of the impact of the nuclear crisis in Japan and its impact on the nuclear power industry in the United States, the [Washington \(DC\) Examiner](#) (3/18, Sherfinski, 93K) reports, "Virginia Gov. Bob McDonnell wants to push forward with nuclear power in Virginia, including a proposed third reactor at the Lake Anna Power Station in Louisa County, despite the current turmoil in Japan." Currently, Dominion Virginia Power "has a third reactor in the works at Lake Anna." McDonnell said, "I think nuclear is a huge part of America's future. ... They're expensive to build, but they're relatively inexpensive to operate because the fuel cost is virtually nothing, there's no carbon footprint, so this is a strategy we ought to pursue."

The [Staunton News Leader](#) (3/18) reports, "McDonnell reiterated his support for nuclear power and concerns about the nation's energy sources in a closed door meeting with Virginia's congressional delegation on Thursday." According

to press secretary Jeff Caldwell the governor "believes state, local and utility officials have strong plans in place to deal with potential disaster."

The [Fredericksburg Free Lance-Star/AP](#) (3/18) reports, "Dominion Power has an application pending with the Nuclear Regulatory Commission to build a third nuclear reactor at its North Anna Power Station, on Lake Anna near Mineral." The agency "is expected to make a decision on the application sometime in 2013. Dominion has not yet decided whether to build Unit 3." An article on the [WTOP Radio](#) (3/18) website reports, "The Nuclear Regulatory Commission recently placed North Anna seventh on its list of the country's 10 most earthquake-prone nuclear sites, according to an MSNBC."

A blog on the [Fredericksburg Free Lance Star](#) (3/17, Hall) continues its coverage of the confusion over the iodide pills the Virginia Department of Health said they would provide to residents earlier in the week.

The [Central Virginian](#) (3/18, Dorazio, 9K) reports, "Dominion Virginia Power officials say that's no reason to believe that the nuclear disaster unfolding on the Japanese coast could happen on the shores of Lake Anna." Dominion Richard Zuercher said, "From time to time, we experience very minor tremors [at North Anna], but nothing that would cause us to shut the plant down. ... The plant has been designed to meet seismic standards in the region."

The [Christian Broadcasting Network](#) (3/18, Martin) reports, "The concrete domes at the Surry power station define the containment buildings. They protect the entire nuclear power generation system." According to Zuercher "the nuclear industry and other experts believe these structures provide protection from not only nature's fury, but also from terrorist attacks."

More coverage. In an editorial supportive of nuclear power the [La Crosse \(WI\) Tribune](#) (3/18, 30K) writes, "Unless we're prepared to rely exclusively on wind and solar energy, there's no such thing as a foolproof, 100 percent guaranteed safe form of energy."

An article by the [South County Independent](#) (3/18, Wilson) of Rhode Island reports that Dr. Bahram Nasserharif of the University of Rhode Island said that "a meltdown at the Millstone Power Station in Waterford, Conn., could affect people within a 50-mile radius, including some residents in South County. The two reactors at Millstone generate about 2,000 megawatts, but even they are not the same models that exploded in Japan over the weekend."

Groups Hit Safety Of Nuclear Plants In Wake Of Japanese Crisis.

In continuing coverage of the impact of the nuclear crisis in Japan and its impact on the nuclear power industry in the United States, the [Syracuse Post-Standard](#) (3/18, Hannagan) reports, "A coalition of Syracuse peace and environmental groups today called on

federal and state leaders to halt the spread of nuclear power plants in the United States in light of the nuclear disaster in Japan." According to Linda A. DeStefano of the Iroquois Chapter of the Sierra Club "the Syracuse groups are concerned because the Oswego nuclear power plants are of a similar design." She contends "the Oswego plants could be affected by Central New York-type natural disasters, such as tornados, ice storms, or power loss that could cut off electricity to pumps that cool the reactors."

Because of fears of radiation, the [Syracuse Post Standard](#) (3/18, Smith) reports, there is "a run on potassium iodide...in Central New York" despite "public health officials cautioning against serious side effects." The Post-Standard notes, "Stores that usually carry the compound are sold out and turning away would-be customers seeking the pills or liquid."

However, [WSYR-TV](#) Syracuse (3/18) reports, the Oswego County Emergency Management Office has "sent a reminder to people that potassium iodide pills are available to residents who live within 10 miles of the nuclear power plants at Nine Mile Point."

The [Messenger Post](#) (3/18) reports, "Although scientists have found a fault line running through Lake Ontario, the Ginna Nuclear Power Plant in Ontario is not in danger of being damaged by the magnitude of the quakes that shook Japan last week, said Maria Hudson, senior analyst for communications at the plant." Hudson adds, "All of our plants are outside of high-hazard earthquake zones. ... So an event like the one happening in Japan is unlikely given the plant's locations." The [Rochester Democrat & Chronicle](#) (3/18, Blackwell, 133K) also reports on the safety of the Ginna Nuclear Power Plant. An article titled "Nuclear Power Creates At Least 28% Of Local Electricity" by the [Poughkeepsie Journal](#) (3/18, Wolf) reports on nuclear power's impact in New York State.

On its website [WAMU-FM](#) Washington, DC (3/18) reports, "As concern grows over the endangered Fukushima nuclear power plant in Japan, questions are being raised about a proposed expansion for Maryland's only nuclear power plant." Four years ago "officials of the Calvert Cliffs nuclear power plant in Lusby, Md., filed an application to add a third reactor to the facility" but "plans for the expansion have stalled due to economic concerns, and some expect the crisis in Japan could cast more doubt on those plans and the future of nuclear energy." Areva COO Mike Rencheck "says local industry analysts are watching the crisis, and learning."

In an article about how Baltimore-area companies are contributing to the relief effort in Japan the [Baltimore Business Journal](#) (3/17, Jackson) reports, "Baltimore-based McCormick & Co. Inc. and Constellation Energy each donated \$50,000 and said they would match employee

contributions made through employee donation programs they have set up.”

Authorities Say Fault Lines Near US Nuclear Plants May Pose Unknown Risks. The [AP](#) (3/17) reports, “Two years before an immense coastal earthquake plunged Japan into a nuclear crisis, a geologic fault was discovered about a half-mile from a California seaside reactor – alarming regulators who say not enough has been done to gauge the threat to the nation’s most populous state.” According to AP, “the situation of the Diablo Canyon plant is not unique. Across the country, a spider’s web of faults in the Earth’s crust raises questions about earthquakes and safety at aging nuclear plants.” About Diablo, the article says “the recently discovered fault is close to, and might intersect with, another bigger crack three miles offshore, and the fear is the two faults could begin shaking in tandem, creating a larger quake than either fault would be capable of producing on its own.”

“The combination of earthquake and tsunami could not happen in Alabama, but similar double disasters could, said David Lochbaum, a nuclear engineer who worked at Browns Ferry,” according to the [Decatur \(AL\) Daily](#) (3/17, Fleischauer). The paper said “a tornado could disrupt the power grid and compromise Browns Ferry. An earthquake could damage both Browns Ferry and, by disabling dams on the Tennessee River, cause flooding.” In addition, “either an earthquake or tornado could cause a fire at Browns Ferry, potentially damaging backup power supply.”

Quake Faults Could Affect Sequoyah, Watts Bar. [Chattanooga Times Free Press](#) (3/17, Sohn, 80K) reported, “The two reactors at TVA’s Sequoyah Nuclear Plant in Soddy-Daisy [TN] have the nation’s fourth-highest earthquake risk, according to assessments by the Nuclear Regulatory Agency.” The article said “understanding of the risk at TVA nuclear plants at Sequoyah, Watt’s Bar in Spring City, Tenn., and Browns Ferry in Athens, Ala., has grown in recent decades as knowledge has increased about earthquake research and fault mapping.” Notably, at Sequoyah, the risk of an “earthquake causing core damage at each reactor are 1 in 19,608, according to an MSNBC analysis of new NRC risk assessments.”

Columnist Warns Of Potential Nuclear Risk In Alabama. The [Birmingham Weekly](#) (3/17, 12K) columnist Courtney Haden wrote that the nuclear disaster in Japan “mirrors possible disaster right here in Alabama.” Haden cited problems faced by the “Browns Ferry nuclear plant, operated by TVA near Athens,” saying it “was the first in the nation with a capacity for generating a billion watts of electricity. Unfortunately, it may be better known for catching fire in 1975.” The article said that “Unit One returned to full service in 2007, but the Nuclear Information and Resource Service claimed TVA still hasn’t addressed the safety issues that shut the reactor down in 1975.”

Editor Says Japan Quake Must Not Spark Nuclear Hysteria. In an opinion piece in [Roll Call](#) (3/17, 19K), the paper’s executive editor, Morton M. Kondracke, wrote: “I never agree with Rush Limbaugh about anything, but here’s an exception: The mainstream media habitually spreads panic in the population – right now, about the safety of nuclear power.” Kondracke said that “the danger of a meltdown at Japan’s Fukushima Daiichi reactors is real, but the media made it a ‘crisis’ from the get-go.” For instance, “the New York Times said the crisis had ‘veered toward catastrophe.’”

US Urged To Not Let Japan Nuclear Problem Hinder Nuclear Energy Development. In an editorial, the [Miami Herald](#) (3/17, 175K) wrote that the “crisis in Japan should not deter development of safe nuclear energy” in the US. The paper said: “Based on existing technology, nuclear power has a critical role to play in devising a climate solution. It’s a form of clean energy.” The paper said that “the Tennessee Valley Authority is the only utility actively building a new nuclear plant in America, the Watts Bar Unit, but ground on that project was broken decades ago, before the episode at Three Mile Island that brought new nuclear-power development to a standstill.”

Bradford Says Nuclear Renaissance Is “Pretty Much Out The Window”. Peter Bradford appearing on [Bloomberg’s “On the Economy”](#) (3/17, 2:13pm) to discuss NRC reviews of nuclear plants. Bradford was asked about the economic impact on the nuclear industry in the wake of the Japanese plant problems. Bradford said, “There are several respects in which their costs are inevitably going to go up, in particular the complying with new regulations and the perception of risk by investors and lenders. That will result in higher costs to them.” He said as well, that the “concept of nuclear renaissance, which was essentially on the rocks even before this accident because it is so expensive in relation to alternatives, is pretty much out the window.”

Coal’s Fortunes Rise In Earthquake’s Aftermath. The [Wall Street Journal](#) (3/18, Peuple, 2.09M) reports that concerns over nuclear power safety in the aftermath of Japan’s earthquake could lead to a boost in coal usage. Higher demand for coal could also lead to significant price fluctuations. For instance, Deutsche estimates that European prices could rise to \$145 per ton in 2012 from the current price of about \$122. The Journal also mentions that the EPA appears to be taking a less aggressive approach on coal-fired plants, referring to the agency’s recently proposed rules on cutting emissions. While some analysts forecasted that the EPA’s standards would require large-scale shutdowns of coal-fired plants, the agency now estimates that only less than 10GW of capacity will have to close. However,

the Journal also notes that there is still some uncertainty over coal's prospects; citing for example, that natural gas could prove to be a better replacement for nuclear power.

The [Financial Times](#) (3/18, Blas, 448K) also reports on the implications of Japan's recent nuclear crisis on coal. The Times says that although there will be a short term decline of coal, the commodity will ultimately benefit from Japan's disaster. According to the report, the effects of the crisis will most significantly impact Europe, where coal prices are rapidly increasing. It notes that the price of coal in the Atlantic basin has increased almost 10 per cent since Japan's earthquake. Additionally, coal appears to be a more attractive energy source as gas prices continue to increase. The Financial Times concludes that some view recent events as a sign that coal is reemerging as a dominant commodity in the raw materials market.

NRC Responds To Seismic Risk To US Plants' Story.

In a letter to the editor of the [Phoenixville Patch](#) (3/17), NRC spokesman Neil Sheehan, wrote in response to the 'NRC: Risk of quake event at Limerick plant third highest in US' story. "The MSNBC [msnbc.com] story has to do with a seismic risk ranking it created. It is not the result of an NRC review. The NRC does not rank plants by seismic risk." Sheehan says the NRC efforts were directed at creating a "conservative, screening-level assessment of earthquake risk" and its results should not be "interpreted as definitive estimates of seismic risk."

NRC Cancels Meeting With Progress Because Of Ongoing Repairs.

The [AP](#) (3/18) reports, "Federal regulators have canceled a scheduled meeting about a Florida nuclear plant because of ongoing repairs at the facility." On Thursday, the NRC said "that Progress Energy's Crystal River plant appears to have a new gap in the concrete containment which would prevent it from reopening anytime soon. Because of that, next week's meeting to discuss the reopening of the plant was nixed." The [Orlando Sentinel](#) (3/18, Spear, 206K) is also covering this story.

Entergy To Conduct Review At Indian Point.

The [Poughkeepsie Journal](#) (3/18) is reporting, "A nuclear crisis nearly 10,000 miles from Poughkeepsie has got Hudson Valley residents debating the safety" of Indian Point nuclear power plant "less than 50 miles from Poughkeepsie." An Entergy spokesman "said the plant is built to safely shut down in the event of an earthquake of magnitude 6.0 or greater on the Richter scale, but can handle a much more severe quake." According to Entergy's Jerry Nappi, "Indian Point is neither susceptible to the type of earthquake that occurred in Japan, nor the tsunami that followed that ultimately removed the cooling capability of the Japanese plant. Nevertheless,

over the next 30 days as part of an industry initiative, Indian Point will be performing a comprehensive review of the plant's ability to respond to catastrophic events." The [Dow Jones Newswires](#) (3/18, Malik) and [Reuters](#) (3/18) are also reporting that Entergy will conduct a review.

Oyster Creek Plant Closing Prudent Business Plan, Says Exelon Executive.

The [Asbury Park \(NJ\) Press](#) (3/17, Moore) reported, "Exelon Corp. executives saw their deal with the Christie administration to close the Oyster Creek nuclear plant by 2019 purely as a prudent business plan, given the age of the reactor and New Jersey's movement toward requiring cooling towers as a condition for continued long-term operation, Exelon chief operating officer Charles G. 'Chip' Pardee said today." Pardee said Thursday on National Public Radio's Diane Rehm Show that "it was apparent state officials would demand a major new investment in the nation's oldest commercial nuclear plant." Exelon Chairman John W. Rowe earlier this month had said that "cheap and abundant natural gas supplies in North America will likely make construction of new reactors uncompetitive for years to come."

US Nuclear Output Up 0.7%.

[Bloomberg News](#) (3/18, McClelland) reports, "US nuclear-power output rose 0.7 percent after rates increased at the Calvert Cliffs 2 reactor in Maryland and Entergy Corp. boosted its Palisades unit on Lake Michigan, the Nuclear Regulatory Commission said." Bloomberg notes, "Constellation Nuclear Energy Group LLC, a joint venture of Constellation Energy Group Inc. (CEG, 711K) and Electricite de France SA, boosted its 867-megawatt Calvert Cliffs 2 reactor to 83 percent of capacity from 56 percent yesterday."

Progress Leads List Of Nuclear Missteps.

[Bloomberg News](#) (3/18, Polson, Van Loon) reports Progress Energy "led a list of 14 near-misses by US nuclear plant operators last year, the Union of Concerned Scientists, a watchdog group," said yesterday in a report. The power company "suffered four accidents at three reactors," according to the group "in a report written by its chief of nuclear safety, David Lochbaum, a former safety instructor for the US Nuclear Regulatory Commission." The group says, "Progress was responsible for the most costly event, damage to concrete walls containing the reactor at the Crystal River plant in Florida, which has been shut down for more than a year." The [Raleigh News & Observer](#) (3/18, Murawski, 146K) is also covering this story.

Exelon's Rowe To Review Nuclear Policies.

The [Chicago Tribune](#) (3/18, Wernau, 488K) reports, "Exelon Chief Executive John Rowe acknowledged that the universe has changed and said all of the company's nuclear activities

are under review, including a multibillion-dollar 'power uprate' program to wring more power from the company's aging reactor fleet." On Wednesday, Rowe said, "I believe we will be able to add some capacity to our different plants. We will, of course, give that a fresh look in the wake of this event." The Tribune notes, "Though the comment might appear vague, it stands in contrast to Rowe's record until now on the company's nuclear power strategy."

Iowa Republicans Support Nuclear Power Plans. The [Des Moines Register](#) (3/17, 115K) reported, "Republican leaders today expressed support for the continued study of expanding nuclear power in Iowa but acknowledged the discussion has changed due to the recent events in Japan." Republican House Leader Kraig Paulsen said, "I think the legislature is taking the appropriate steps to make sure what happened in Japan doesn't happen here." Paulsen "said the nuclear plants in Japan are far different from those that would likely be built in Iowa." He said what is similar is that both use nuclear power, otherwise, "they're entirely different technologies. They're entirely different designs.... It is solid, reliable power."

MidAmerican CEO Urges Iowa Lawmakers To Approve Nuclear Power Bill. The [Sioux City \(IA\) Journal](#) (3/18, Boshart) reports, "The leader of MidAmerican Energy said Thursday that a delay by" Iowa "lawmakers in approving the company's request for legislation this session that would help attract potential private investors needed to build a nuclear power plant in Iowa likely would hurt and slow the process but would not kill the project." MidAmerican Energy President William Fehrman said following the Japan crisis, "We have a lot more to assess and a lot more to understand before those decisions are made." Still, he said, "We have concluded that the state of Iowa can be a host for a new nuclear power plant." Fehrman appeared before a Senate Commerce subcommittee hearing Thursday in support of the bill.

Nebraska Nuclear Owners Say Atomic Plants Safe. The [AP](#) (3/17) reported, "Owners Nebraska's two nuclear power plants tried to reassure the public Wednesday that their facilities are safe and designed to handle any likely natural disaster." AP said "representatives of the Omaha and Nebraska public power districts responded to questions related to the nuclear disaster unfolding in Japan, where officials have been fighting to prevent a nuclear meltdown at a power plant damaged by last week's earthquake and tsunami."

Illinois Governor Plans To Raise Fees On Nuclear Generators. The [AP](#) (3/18) reports, "Gov. Pat Quinn says he plans to seek higher fees on power generator

Exelon Corp. to ensure the safety of Illinois nuclear power plants in the aftermath of Japan's nuclear crisis." Quinn says the situation in Japan shows the necessity of conducting a safety review of the plants.

Virginia Uranium Mining Opponents Want Study To Consider Japan Problem. The [AP](#) (3/18) reports, "Groups opposed to tapping a rich uranium deposit in Southside Virginia want members of a National Academy of Sciences study committee to consider the catastrophic events in Japan as they weigh the consequences of uranium mining in the state." According to AP, "the five groups said committee members should examine the potential that the nuclear power crisis in Japan after an earthquake and a tsunami will ultimately depress global uranium prices, potentially making the Coles Hill site unsustainable after mining has begun."

NNSA, National Labs Play Role In Radiation Analysis. The [AP](#) (3/18) explains that the US is gathering information from radiation detectors deployed by the EPA, in addition to samples that numerous federal agencies are collecting on the ground and in the air in Japan, "will be sent to the Department of Energy's atmospheric radioactivity monitoring center in California, where teams are creating sophisticated computer models to predict how radioactive releases at Fukushima could spread into the atmosphere. Inside Lawrence Livermore National Laboratory near San Francisco, scientists, engineers, and meteorological experts were analyzing those charts and maps to help policymakers predict where radioactive isotopes could travel."

Layoffs, Budget Among Issues Discussed At Hanford Meeting. The [Tri-City \(WA\) Herald](#) (3/18, Cary) reports that almost 100 people attended the Tri-Cities Hanford State of the Site meeting Wednesday night, where "issues from layoffs to the Japan nuclear crisis to Hanford's safety culture" were discussed. DOE officials told those gathered that "Hanford will have to be innovative as it faces the likely loss of young workers in job cuts related to budget challenges," as nearly 25 percent of the current work force may be gone by the time projects are ramping up after stimulus funding is spent. The DOE also said at the meeting that "under the proposed Hanford budget for fiscal 2012, environmental cleanup work would stop at the Plutonium Finishing Plant."

Drawing coverage from the [Tri-City \(WA\) Herald](#), the [AP](#) (3/18) reports that DOE officials said "the Hanford nuclear reservation will need \$2.9 billion in the 2013 budget to keep environmental cleanup work on schedule" -- \$1.5 billion for the Office of River Protection and \$1.4 billion for the Richland Operations Office. "The \$2.9 billion compares with \$2.2

billion in this year's budget proposal and \$2.4 billion for next year."

INTERNATIONAL NUCLEAR NEWS:

UN: One-Fifth Of World's Nuclear Plants In Earthquake Zones. [AOL News](#) (3/17, Frayer) reported, "A staggering one-fifth of the world's nuclear power stations sit on potentially shaky ground in earthquake zones, raising the specter that what's happening in Japan could come to a community near you." AOL said "two of the world's biggest nuclear plants located in seismically active areas are in California: the San Onofre plant near San Diego and Diablo Canyon near San Luis Obispo." Notably, those two are "among 88 of the world's 442 nuclear power stations built in earthquake zones, according to the UN's International Atomic Energy Agency."

Polish People, Government At Odds Over Nuclear Plant. [Reuters](#) (3/18, Jones) reports that Polish people living near the potential site of their nation's first nuclear plant are concerned about the facility in view of the Japan crisis. The government of Poland, however, is unmoved and says it will go ahead with the plans because the plant is safe. Reuters says the government hasn't yet chosen a site but the Zarnowiec near the Baltic coast could be the final site.

Japan Nuclear Problems Prompt Nuclear Rethink In Germany, Italy. [Reuters](#) (3/18, Stamp, Jewkes) reports the ongoing atomic crisis in Japan has prompted a review of nuclear policies in Germany and Italy. German Chancellor Angela Merkel promised to move faster away from nuclear energy, while the Italian government said it was time to pause and think over nuclear plans, just months before a referendum on reintroducing nuclear power.

Greenpeace Asks Turkey To Abandon Nuclear Plans Due To Quake-Prone Location. The [Reuters/REU](#) (3/17, Yackley) reported that environmental group Greenpeace Thursday urged Turkey to give up its plans for building nuclear power plants because its location – in earthquake-prone zone – raises risk of Japan-type nuclear disaster. On Wednesday, Prime Minister Tayyip Erdogan said the country won't abandon plans for atomic plants on Turkey's Mediterranean coast and on the Black Sea coast.

South Africa Approves Nuclear Energy Plan. [BusinessWeek](#) (3/17 Cohen, 921K) reported, "South Africa, the continent's largest electricity producer, approved a 20-

year plan that will see an increased reliance on nuclear energy even as Japan battles to prevent a meltdown at one of its plants and China halts all atomic-power expansion plans." BusinessWeek, citing Collins Chabane, a minister in the presidency, said, "South Africa needs to 'diversify the energy mix' away from coal." Under the country's "so-called Integrated Resource Plan, 23 percent of newly generated power should come from nuclear sources by 2031," compared with 2.1 percent in 2009.

Indonesia Sticks With Nuclear Power Plans. The [New York Times](#) (3/18, B5, Belford, 1.01M) reports, "While the world looks on with trepidation at the nuclear crisis touched off by the earthquake and tsunami in Japan, officials in Indonesia, one of the world's most seismically active countries, are pushing ahead with plans to build the country's first nuclear power plants." The Times says "the nuclear plans, which are still in the early stages, are part of an ambitious proposal by Indonesia...to triple its electricity output by 2025," even as it cuts its dependence on imported oil. The paper says plans "to build plants have been floated despite years of protests by environmentalists and community activists who" say the country sits "on a number of major fault lines."

India's Parliament Erupts Over WikiLeaks Disclosure Detailing Bribes. Several news outlets report on a WikiLeaks disclosure from a July 2008 cable that created "outrage" Thursday in India's Parliament, as the [New York Times](#) (3/18, A4, Yardley, Polgreen, 1.01M) reports. The cable "described insiders in the governing Congress Party showing off chests of money and boasting of paying bribes to wavering lawmakers to secure passage of a critical 2008 vote on a landmark civilian nuclear deal between India and the United States." The cable also said "a political assistant to an influential Congress Party lawmaker told a United States Embassy diplomat that one small regional political party had already been paid millions of dollars in bribes for support." The Times points out that the WikiLeaks disclosure "comes as the Congress Party has been besieged for months over allegations of corruption."

According to the [Washington Post](#) (3/18, Lakshmi, 605K), India's Parliament was "rocked" by the disclosure, and "opposition parties demanded the resignation of Prime Minister Manmohan Singh." The cables were "published in The Hindu newspaper" and "laimed that Singh's government used cash to win a crucial vote" on the agreement with the US. "The cable quoted an American diplomat, Steven White, saying a Congress Party aide showed an embassy staffer the cash available for the payoffs."

The [Wall Street Journal](#) (3/18, Agarwal, 2.09M) also reports the story and says White wrote that one political figure

said "Ajit Singh's Rashtriya Lok Dal had been paid about \$2.5 million for each of their four MPs to support the government," although they did not when the vote was taken. Ajit Singh denied the payments, the Journal notes. The [Financial Times](#) (3/18, Lamont, 448K) also reports the uproar caused by the cable's release.

Malaysia: Seized Nuclear Weapon Parts Bound For Iran. The [AP](#) (3/18) reports authorities in Malaysia "say a ship smuggling equipment that possibly could be used to make nuclear weapons had been headed to Iran." National police chief Ismail Omar told the AP Friday "the Malaysian-registered ship was traveling from China to Tehran." According to Malaysia's The Sun newspaper, "the equipment was declared as two agitating mixer machines and a stainless steel storage tank," but "investigations showed they required a special permit under a law Malaysia passed last year to curb the trafficking of nuclear weapon components."

Copyright 2011 by Bulletin News, LLC. Reproduction without permission prohibited. Editorial content is drawn from thousands of newspapers, national magazines, national and local television programs, and radio broadcasts. BulletinNews creates custom news briefings for government and corporate leaders and also publishes the White House Bulletin, Frontrunner and Washington Morning Update. We can be found on the Web at BulletinNews.com, or called at (703) 483-6100.



NUCLEAR REGULATORY COMMISSION NEWS CLIPS

FRIDAY, MARCH 18, 2011 7:00 AM EDT

WWW.BULLETINNEWS.COM/NRC

TODAY'S EDITION

NRC News:

Obama Reassures: Japan's Radiation Won't Reach US (AP)	3
Obama Defends US Evacuation Order In Japan (AFP)	4
Obama Says He's Ordered Review Of U.S. Nuclear Plant Safety (BLOOM)	5
Obama Urges Review Of U.S. Nuclear Plants, Reassures Americans On Radiation From Japan (LAT)	6
FDA Warns Of Drug Scams That Play On Radiation Fear (USAT)	7
Obama Seeks Review Of U.S. Nuclear Facilities (WSJ)	8
Obama Reassures On Nuclear Crisis (POLITCO)	8
Obama Orders Review Of Nuclear Plants In US, But Calls Them 'Safe' (HILL)	9
Obama Seeks To Calm US Radiation Fears, Calls For Nuclear Safety Review (CSM)	11
As Japan Takes Steps To Cool Stricken Nuclear Reactor, U.S. Warns Of Long Crisis (WP)	12
Japan Nuclear Crisis Could Last For Weeks, U.S. Nuclear Official Says (LAT)	13
Three Ways Japan's Nuclear Crisis Could End (USAT)	14
Obama Reassures: Japan's Radiation Won't Reach U.S. (AP) ..	16
Obama Reassures: Japan's Radiation Won't Reach US (AP) ...	17
Obama Requests Nuclear Review, Sees Risk In Japan (REU) ..	19
Nukes Chief Won't Speculate On How The Crisis In Japan Will End (USAT)	19
NRC: No Radiation Risk To The U.S. From Japan's Power Plants (USNEWS)	20
Eyes On Skies Over Japan (OMAHA)	20
US Nuclear Commission Sees No Radiation Risk To US Or Its Territories From Japan Nuclear Plant (AP)	21
NRC Chief Says U.S. Will Do 'Systematic Review' Of Policies (BLOOM)	21
White House Briefing: Facts On The Ground In Japan 'Genuinely Complex' (NATJO)	22
US Reactors Can Withstand Quakes, Tsunami-NRC Chief (REU)	23
Wisconsin's Reactors Among 104 In U.S. Getting Safety Checks (MJS)	23
Japan Nuclear Crisis Could Last For Weeks, U.S. Nuclear Official Says (LAT)	24

Obama Reassures: Japan's Radiation Won't Reach US (AP) ...	24
White House Briefing: Facts On The Ground In Japan 'Genuinely Complex' (NATJO)	26
Did NRC's Jaczko Misspeak? (WSJ)	26
U.S. And Tokyo Spar On Depth Of Crisis (WSJ)	26
5 Facts On The Nuclear Regulatory Commission Chairman (AOLNEWS)	27
Safety Of Japanese Reactors Questioned Long Ago In U.S. (MCT)	27
Radiation Spread Seen; Frantic Repairs Go On (NYT)	29
Winds, Fluctuating Radiation Levels Hamper Efforts To Control Japan Nuclear Plant (LAT)	31
Japan Battles Nuclear Crisis As Foreigners Flee (AFP)	32
Japan Reactors Get More Water Amid Rising Concerns (WT) ..	34
Greater Danger Lies In Spent Fuel Than In Reactors (NYT)	35
Japan Offers Little Response To U.S. Assessment (NYT)	36
Japan Reassures, Others Flee (WSJ)	37
Foreign Governments Step Up Evacuations (FT)	37
Radiation Fears And Distrust Push Thousands From Homes (NYT)	37
Japan Nuclear Accident Poses Crisis For Worker Safety (LAT) ..	39
Details Emerge On Workers Toiling Inside Nuclear Plant (WSJ) ..	40
In Japan, Radiation Concerns Are Ingrained In Experience (WP)	40
Japan Radiation Fears Spark Panic Salt-buying In China (LAT) ..	42
G-7 Sells Yen In First Joint Intervention In More Than Decade (BLOOM)	42
Group Of 7 To Help Keep Japanese Yen From Rising Too Sharply (WP)	43
Group Of 7 To Intervene To Stabilize Yen's Value (NYT)	44
Nations Act To Put Brakes On Yen's Rise (WSJ)	46
G7 In Rare Intervention To Weaken Yen (FT)	46
Trace Radiation At Airports Determined OK, But Highlights Concerns About Spread From Japan (CHIT)	46
Tokyo Passengers Set Off Radiation Detectors At O'Hare (CHIT)	47
With U.S. Nuclear Plants Under Scrutiny, Too, A Report Raises Safety Concerns (NYT)	48
Diablo Canyon Nuclear Plant 'Near Miss' In Report (SFC)	49

U.S. Had 'Near-miss' Nuclear Accidents At Indian Point, 13 Other Plants Last Year: Report (NYDN)	50	NRC Spokesperson: We Don't Rank Plants By Seismic Risk (PHOEPATCH)	77
Scientists' Report Faults U.S. Oversight Of Nuke Plants (ASBPP).....	50	Regulators Cancel Nuclear Plant Meeting (MH/AP)	78
Report: Safety Lapses 'High' At U.S. Nuclear Plants (USAT).....	51	More Containment Problems At Crystal River Nuke? Hearing Cancelled Pending Further Checks (ORS).....	78
Complacency Raises U.S. Nuclear Risks, Report Finds (REU) .	52	Entergy: Indian Point Is Built To Withstand Quakes (POUGHJNL).....	78
Citing Near Misses, Report Faults Both Nuclear Regulators And Operators (NYT)	52	UPDATE: Entergy To Review Safety At New York Nuclear Plant (WSJ)	79
Japan's Nuclear Crisis No Danger To U.S., Officials Say (AP) ..	53	Entergy To Review Indian Point Nuclear Safety (REU)	79
Japan Disaster Troubles Few Near Growing Georgia Nuclear Plant (USAT).....	54	Exelon: Deal To Close Oyster Creek By 2019 Is Purely A Business Plan (ASBPP)	79
Air Support Assists In Japanese Nuclear Crisis (POPSCI)	56	U.S. Nuclear Output Rises As Entergy Boosts Reactor In Michigan (BLOOM).....	80
Early Questions After Japan (NYT)	56	Progress Energy Led U.S. Nuclear Near-Misses, Group Says (BLOOM)	80
Inviting A Nuclear Emergency (WP).....	57	Progress Logs Most N-plant Problems (RALEIGH)	81
Homer Simpson Need Not Apply (NYT).....	58	Exelon To Give 'Fresh Look' To Nuclear Activities (CHIT)	81
McDonnell "Bullish" On Nuclear Power Despite Japan Events (WASHEX)	59	Iowa Republicans: Nuclear 'solid, reliable power' (DMR)	83
McDonnell: U.S., Virginia Should Continue To Develop Nuclear Power (SWORL).....	60	MidAmerican CEO: Approve Nuclear Power Bill (SIOUX).....	83
Bracing For Nuclear Energy Backlash (FFLS)	61	Utilities: Nebraska's 2 Nuclear Plants Safe (AP).....	84
North Anna Nuke Plant No. 7 On Most Earthquake-prone List (WTOP).....	61	Illinois Gov To Seek Higher Fees On Nuclear Generators (BSWK)	85
Those Iodide Pills They Said They Were Going To Give You: Sorry About That (FFLS)	62	Groups Opposed To Virginia Uranium Mining Seek To Broaden NAS Study To Include Japan Disaster (AP)	85
North Anna Reactors In Seismic Zone (CENTVA).....	62	Experts Say No Radiation Worry For West Coast; Some Californians Call Hotline With Concerns (AP).....	86
Can U.S. Power Plants Withstand Nature's Fury? (CBN).....	63	Hanford Officials Say Work Must Focus On Innovation (TRICITYH).....	86
Nuclear Power Still A Viable Option (LAXTRIB)	63	Hanford Needs \$2.9 Billion In 2013 For Cleanup (AP)	87
Tiny Reactor No Threat, URI Says (SOCORI)	64	International Nuclear News:	
Syracuse Peace And Environmental Groups Want New York To Halt Nuclear Power Production (SPS)	65	Is There A Nuclear Plant In A Quake Zone Near You? (AOLNEWS)	87
Fears Of Radiation From Nuclear Power Plants In Japan Fuel Run On Potassium Iodide In Syracuse (SPS)	65	Poles Uneasy On Nuclear Plant Plan, Government Says Safe (Reuters)	88
Potassium Iodide Available In Oswego County (WSYR).....	66	Japan Crisis Turns Germany, Italy Against Nuclear (REU)	89
Nuclear Emergency — What If? - Canandaigua, NY - MPNnow (MESSPST)	66	Greenpeace: Quake-Prone Turkey Should Drop Nuclear (Reuters)	89
Officials Stress Safety At Ginna Nuclear Plant (RD).....	67	S. Africa Commits To Nuclear Power As China Halts Expansion (BSWK)	89
Nuclear Power Creates At Least 28% Of Local Electricity (POUGHJNL).....	69	Indonesia To Continue Plans For Nuclear Power (NYT)	89
Japan Crisis Puts Md. Power Plant In Question (WAMU)	69	In India, Leaked Cable About Bribes Sets Off A Furor (NYT).....	91
Baltimore-area Businesses Aid Japan Relief Efforts (BBJ)	70	Publication Of WikiLeaks Cable Leads To Calls For Indian Prime Minister's Resignation (WP)	92
In Japan Quake's Aftermath, Authorities Say Faults Near US Nuclear Plants Pose Unknown Risks (AP)	70	New WikiLeaks Cables Roil New Delhi (WSJ).....	93
Browns Ferry's Design Flawed? - Decaturdaily.com (DECD)	72	Singh Faces WikiLeaks Cable Claims (FT).....	93
Quake Faults Could Affect Sequoyah, Watts Bar (ISTOCKAN). 73	73	Malaysia: Ship With Illegal Cargo Was Iran-bound (AP)	93
No Nukes Is Good Nukes (BHAMWK)	74		
Japan Quake Mustn't Trigger Nuclear-Phobia (ROLLCALL).....	75		
Nuclear Power's Future (MH)	76		
Coal's Return To Fashion (WSJ).....	77		
Japan Set To Reignite Demand For King Coal (FT)	77		

NRC NEWS:

Obama Reassures: Japan's Radiation Won't Reach US (AP)

[Associated Press](#), March 18, 2011

WASHINGTON – President Barack Obama, trying to reassure a worried nation, declared Thursday that "harmful levels" of radiation from the Japanese nuclear disaster are not expected to reach the U.S., even as other officials conceded it could take weeks to bring the crippled nuclear complex under control.

The situation remains dangerous and complicated at the damaged Fukushima Dai-ichi reactors in northeastern Japan, U.S. officials said.

"We've seen an earthquake and tsunami render an unimaginable toll of death and destruction on one of our closest friends and allies in the world," Obama said in brief remarks at the White House after a visit to the Japanese Embassy to offer his condolences.

Obama said he had asked the Nuclear Regulatory Commission to conduct a "comprehensive review" of the safety of all U.S. nuclear plants.

"When we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people," Obama said.

There are 104 nuclear reactors in the United States, providing roughly 20 percent of the nation's electricity. "Nuclear energy is an important part of our own energy future," Obama said.

A leading industry group agreed with the review.

"A review of our nuclear plants is an appropriate step after an event of this scale and we expect that the Nuclear Regulatory Commission will conduct its own assessment," said Marvin Fertel, president of the Nuclear Energy Institute. "The industry's highest priority is the safe operation of 104 reactors in 31 states and we will incorporate lessons learned from this accident..."

Meanwhile, the first evacuation flight of U.S. citizens left Japan, the State Department said.

In the U.S., Customs and Border Protection said there had been reports of radiation being detected from some cargo arriving from Japan at several airports, including ones in Chicago, Dallas and Seattle.

Radiation had not been detected in passengers or luggage. And none of the reported incidents involved harmful amounts.

Homeland Security Secretary Janet Napolitano said the agency was screening passengers and cargo for "even a blip of radiation."

Obama said he knows that Americans are worried about potential risks from airborne radiation that could drift across the Pacific. "So I want to be very clear," he said. "We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska or U.S. territories."

Obama defended the recommendation of federal nuclear safety officials for a 50-mile evacuation zone around the crippled nuclear power plant for American troops and citizens in Japan, even though that is far larger than the zone spelled out by Japanese officials.

"This decision was based on a careful scientific evaluation," Obama said. "Beyond this 50-mile radius, the risks do not currently call for an evacuation."

At the same time, he said it was important to evacuate Americans "who may be endangered by exposure to radiation if the situation deteriorates."

Japanese officials have established a 12-mile evacuation zone and have said that people living 12 to 20 miles from the plant should stay inside.

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, told reporters at a White House briefing it could be some time before the crisis is brought under control as crews work to cool spent-fuel rods and get the damaged Japanese reactors under control. The activity could continue for days and "possibly weeks," Jaczko said.

He said the U.S. recommendation that American troops and citizens stay 50 miles away from the nuclear complex was "a prudent and precautionary measure to take." But he also said "basic physics" suggested there was little risk to anyone in the United States or its Pacific territories.

Daniel B. Poneman, deputy secretary of energy, told the briefing that a "very dangerous situation" remains in Japan. Information at the nuclear plant is "genuinely complex and genuinely confusing," he said.

As the officials spoke, Japanese emergency workers sought to regain control of the dangerously overheated nuclear complex, dousing it with water from police cannons, fire trucks and helicopters to cool nuclear fuel rods that were threatening to spray out more radiation.

The U.S. Energy Department said it had conducted two separate aerial tests to measure how much radioactive material had been deposited in Japan. Those data, Poneman said, were consistent with the recommendation for Americans to evacuate a 50-mile radius around the plant.

The U.S. officials declined to criticize the Japanese call for a smaller evacuation zone.

"We're analyzing the information, and we're sharing it with the Japanese," said Poneman. "The preliminary look has indicated that the measures that have been taken (by the Japanese) have been prudent ones. And we have no reason to question the assessment that has been made or the recommendation that has been made by the Japanese authorities."

At his visit to the Japanese Embassy, Obama signed a condolence book and said: "We feel a great urgency to provide assistance to those ... who are suffering."

In the book he wrote, "My heart goes out to the people of Japan during this enormous tragedy. Please know that America will always stand by one of its greatest allies during this time of need."

"Because of the strength and wisdom of its people, we know that Japan will recover, and indeed will emerge stronger than ever," he wrote.

The crisis has been complicated by the spare and often contradictory information issued by the Japanese government and the Tokyo Electric Power Co., heightening a sense of uncertainty about what's happening in the reactors.

"It's not easy to get information from the site," said White House spokesman Jay Carney.

Carney said the fact that Obama had taken the rare step of asking the NRC — an independent regulatory agency that is not under the president's control — to undertake a review of U.S. reactor safety in light of the Japanese disaster "only adds to the urgency of that mission."

Representatives of the nuclear energy industry said Thursday that operators of U.S. reactors already had begun taking steps to better prepare for an emergency in this country.

While it will take some time to understand the true dimensions of the nuclear disaster in Japan, "we will learn from them, we will get that operating experience, we will apply it and try to make our units even safer than they are today," said Anthony Pietrangelo, senior vice president of the Nuclear Energy Institute, a Washington-based industry lobbying group.

Some lawmakers, including Barbara Boxer, D-Calif., chairman of the Senate Environment and Public Works Committee, have suggested the administration should do more to re-examine the nation's aging network of nuclear power plants with an eye toward making them more accident-proof. In other countries, China has said it would hold off on approving new nuclear plants, and Germany has said it would temporarily switch off seven aging reactors.

Earlier this week, European Union energy officials agreed to apply stress tests to plants across the 27-nation bloc. Spanish Prime Minister Jose Luis Rodriguez Zapatero commissioned studies to determine how vulnerable his country's six nuclear plants are to earthquakes or flooding.

Carney, when asked why the United States was not taking the more stringent measures of some other countries, said Obama had "full confidence" the NRC was doing its job.

Obama Defends US Evacuation Order In Japan (AFP)

By Stephen Collinson

[AFP](#), March 18, 2011

WASHINGTON (AFP) – US President Barack Obama vowed Thursday to stand by Japan as it recovers and rebuilds, but defended a decision to go beyond Tokyo's advice for evacuating Americans near damaged nuclear plants.

Obama offered heartfelt sympathy to Japan's people faced with triple challenges after a mammoth earthquake and tsunami badly damaged several nuclear power reactors, in an address from the White House Rose Garden.

He also assured Americans there was no reason to think harmful radiation from Japan could reach US shores and said he had ordered a "comprehensive review" of US domestic nuclear plants to learn the lessons from Japan.

"We will stand with the people of Japan as they contain this crisis, recover from this hardship, and rebuild their great nation," said Obama.

The president also explained why US officials had decided on Wednesday to advise American citizens within 50 miles (80 kilometers) of the crippled Fukushima nuclear plant to evacuate or seek shelter.

The US no-go zone was much wider than the 12-mile (20-kilometer) exclusion zone set up by Japanese authorities and raised questions over why the United States and its close ally were not on the same page.

"This decision was based upon a careful scientific evaluation and the guidelines that we would use to keep our citizens safe here in the United States, or anywhere in the world," Obama said.

"We do have a responsibility to take prudent and precautionary measures to educate those Americans who may be endangered by exposure to radiation if the situation deteriorates," he added.

The president, who explained the US action in a late-night telephone call to Japanese Prime Minister Naoto Kan, said conditions did not currently call for an evacuation beyond the 50-mile radius.

US officials declined to criticize the Japanese decision, but pointed out that different nations had unique regulatory approaches.

"The recommendation is ultimately a precautionary measure right now based on... some of the risks and challenges going forward in this situation," said Greg Jaczko, chairman of the US Nuclear Regulatory Commission.

"We think it's a prudent measure to take."

Obama also repeated that despite public anxiety, especially on the US west coast, there was no reason to believe harmful radiation from Japan to threaten American territory.

"I want to be very clear, we do not expect harmful levels of radiation to reach the United States, whether it is the west coast, Hawaii, Alaska or US territories in the Pacific," Obama said.

Jaczko, in an earlier White House briefing, explained that US evaluations had found no real risk of radiation traveling across the Pacific and posing a threat to Americans.

"The basic physics and basic science tells us that there really can't be any risk or harm to anyone here in the United States or Hawaii or any of the other territories. So that's something that we feel very comfortable with."

In his Rose Garden remarks, Obama appeared moved by the plight of a nation he first saw as a boy with his late mother, and to which he has made several trips as president.

"The Japanese people are not alone in this time of great trial and sorrow. Across the Pacific, they will find a hand of support extended from the United States as they get back on their feet," Obama said.

He reached for inspiration in citing the story of a four-month-old baby found alive by rescuers, days after being swept out of its parents arms by the tsunami sparked by the 9.0 magnitude earthquake a week ago.

"No one can say for certain just how she survived the water and the wreckage around her. There is a mystery in the course of human events."

US officials also said Thursday that a 39-strong US team had begun taking aerial radiation readings in Japan, on a fixed-wing aircraft and a helicopter, as part of their efforts to help the Japanese effort to calm the crisis.

Preliminary readings had been taken after the United States issued its 50-mile radius recommendation but had showed the move was a prudent step, officials said.

Obama Says He's Ordered Review Of U.S. Nuclear Plant Safety (BLOOM)

By Roger Runningen And Nicholas Johnston

[Bloomberg News](#), March 18, 2011

President Barack Obama said the U.S. faces no danger of radioactive contamination from a crippled Japanese nuclear plant and he has ordered a "comprehensive review" of safety at U.S. facilities.

The Nuclear Regulatory Commission has conducted an "exhaustive study" of U.S. plants and they have been "declared safe for any number of extreme contingencies," Obama said at the White House. Still, he said, a review should be conducted based on what is learned from the damage at the Japanese facility.

The president said the administration will keep the public informed about the nuclear crisis and sought to allay any health concerns in the U.S.

"We do not expect harmful levels of radiation to reach the United States," including Hawaii, Alaska and territories in the Pacific, he said.

Obama's remarks reinforced statements earlier today by NRC Chairman Gregory Jaczko that the government continually reviews safety and standards and will do so based on what is learned from the situation in Japan. There is no immediate need for special inspections of U.S. nuclear plants, he said.

"When we have good, credible information about what happened in Japan, we'll take that information and we'll work to see what changes we might need to make, if any, to our system," Jaczko said.

The U.S. has 23 nuclear reactors with similar containment designs as the Japanese plant at the center of the crisis. Democratic Senators Barbara Boxer of California and Tom Carper of Delaware today asked the NRC to conduct a "comprehensive investigation" of all nuclear power facilities in the U.S. to assess whether they can withstand a catastrophic disaster, according to a letter to Jaczko released by Carper's office.

The experience of Japan, where authorities are having to use helicopters and water cannons to cool reactors and spent-fuel ponds damaged by the quake, has prompted nations worldwide to review policies. Germany plans to close its seven oldest nuclear plants for three months for inspections.

Obama administration officials including Energy Secretary Steven Chu have said the U.S. wasn't backing away from plans to expand nuclear power.

Nuclear power is an "important part of our own energy future," Obama said today.

Jaczo said it is too early to assess U.S. nuclear plants because "the most relevant information" about the accident in Japan is lacking. U.S. reactors and containment facilities have been upgraded to "deal with these types of very severe scenarios," he said. Once all the data is in, "We intend to take a very thorough look at what happened and what changes we could make."

The magnitude-9 earthquake that hit March 11 sparked a 7-meter tsunami that knocked out cooling systems at the Tokyo Electric Power Co.'s Dai-Ichi plant 135 miles (220 kilometers) north of Tokyo. That caused damage at three reactors and a storage pool for spent fuel. Japanese officials were using water cannons to try to cool down the equipment.

Jaczo said the situation "will take some time, possibly weeks" to resolve. "There clearly appears to be a challenge keeping that spent fuel filled with sufficient water."

U.S. officials agreed this week to begin reviewing procedures for handling natural disasters or equipment failures that plants weren't designed to handle, Anthony R. Pietrangolo, chief nuclear officer of the industry trade group Nuclear Energy Institute, said on a conference call.

Both the earthquake and the tsunami exceeded design specifications at Fukushima based on reports, he said. Procedures being looked at include deployment of diesel-fired portable water pumps for emergency reactor cooling, he said.

Michael Golay, a nuclear science and engineering professor at the Massachusetts Institute of Technology, said U.S. nuclear regulators are taking the right approach because there is no "acute danger" from domestic reactors and it's still unclear what went wrong in Japan.

"It's going to take a while to figure out the real lessons from this," he said. There is no safety benefit "in rushing to shut plants down," he said in an interview.

The Standard & Poor's 500 Index rose 1.3 percent to 1,273.72 at 4 p.m. in New York, halting its biggest three-day drop, amid signs Japan was moving closer to getting the plant under control. The yen touched a post-World War II peak of 76.36 per U.S. dollar.

Obama said the government is taking all steps necessary to assist its citizens in Japan and in the U.S., including the voluntary departures of dependents and family members of U.S. officials working in northeastern Japan.

In addition, customs agents are checking for radiation on flights arriving from Japan and regulators are considering whether to test Japanese food imports.

"In the coming days, we will continue to do everything we can to ensure the safety of American citizens and the security of our sources of energy," Obama said. "And we will stand with the people of Japan as they contain this crisis, recover from this hardship and rebuild their great nation."

To contact the reporters on this story: Roger Runningen in Washington at rrunningen@bloomberg.net Nicholas Johnston in Washington at njohnston@bloomberg.net;

To contact the editor responsible for this story: Mark Silva at msilva34@bloomberg.net

Obama Urges Review Of U.S. Nuclear Plants, Reassures Americans On Radiation From Japan (LAT)

In televised remarks from the Rose Garden, President Obama says he has requested a 'comprehensive review' of nuclear plant safety in the U.S. and stressed that 'we do not expect' harmful levels of radiation from Japan to reach the U.S. or its Pacific terr

By Christi Parsons And Michael Muskal, Los Angeles Times

[Los Angeles Times](#), March 18, 2011

President Obama called for a comprehensive review of U.S. nuclear plant safety on Thursday and sought to reassure Americans that they face no radiation danger from a damaged nuclear power plant in Japan.

In televised remarks from the Rose Garden, Obama again pledged to help Japan deal with its on-going nuclear and humanitarian crises caused by last week's 9.0 magnitude earthquake that struck off the coast and sent a tsunami racing across the Pacific Ocean. The quake also damaged the Fukushima Daiichi nuclear facility, sending radiation across the ocean.

"I want to be very clear: We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska, or U.S. territories in the Pacific," Obama said. "Let me repeat that: We do not expect harmful levels of

radiation to reach the West Coast, Hawaii, Alaska, or U.S. territories in the Pacific. That is the judgment of our Nuclear Regulatory Commission and many other experts."

He said precautionary measures against the coming radiation were unneeded, an unspoken reference to a run on iodine tablets in some areas caused by people worried about radiation sickness.

Obama defended U.S. efforts which have included evacuating dependents and urging Americans within a 50-mile zone from the plant to leave. That is more than the Japanese government initially ordered. "We have a responsibility to take prudent measures," the president said.

The United States remains committed to nuclear power as part of a mix of energy sources,

"Here at home, nuclear power is also an important part of our own energy future, along with renewable sources like wind, solar, natural gas and clean coal," the president said. "Our nuclear power plants have undergone exhaustive study, and have been declared safe for any number of extreme contingencies.

"But when we see a crisis like the one in Japan, we have a responsibility to learn from this event, and to draw from those lessons to ensure the safety and security of our people," Obama said. "That's why I've asked the Nuclear Regulatory Commission to do a comprehensive review of the safety of our domestic nuclear plants in light of the natural disaster that unfolded in Japan."

As he has before, Obama said he was heartbroken by Japan's difficulties and offered to help the ally deal with its humanitarian needs in the wake of the quake. Earlier, he paid an unannounced visit to Japan's Embassy, where he signed the condolence book.

"My heart goes out to the people of Japan during this enormous tragedy," the president wrote. "Please know that America will always stand by one of its greatest allies during this time of need. Because of the strength and wisdom of its people, we know that Japan will recover, and indeed will emerge stronger than ever. And as it recovers, the memory of those who have been lost will remain in our hearts, and will serve only to strengthen the relationship between our two countries. May God bless the people of Japan."

The president signed his name, adding "March 2011" after his signature, according to press pool reports.

"We are doing everything we can to stand by our great friend and ally, Japan, in this hour of need," Obama told reporters.

"We are so grateful to the president and the people of the United States," said Japan's ambassador to the United States, Ichiro Fujisaki.

Michael.muskal@latimes.com

cparsons@latimes.com

Parsons reported from Washington and Muskal from Los Angeles

FDA Warns Of Drug Scams That Play On Radiation Fear (USAT)

By Steve Sternberg, Usa Today

[USA Today](#), March 18, 2011

Many of the ads for "anti-radiation" potassium iodide pills flooding the Internet may be scams run by hucksters seeking to profit from the Japan nuclear scare, the Food and Drug Administration warned Thursday.

Public health officials say that people in the USA shouldn't be taking the pills anyway, because no radiation from the Fukushima reactors in Japan has been detected in the United States. Potassium iodide is a form of iodine that saturates the thyroid gland and keeps it from absorbing radioactive iodine, a cancer-causing component of fallout.

The FDA has approved three potassium iodide preparations to protect the thyroid against radiation, but the agency's chief fraud enforcer says that the atmosphere of fear that this week sent consumers streaming into drugstores and onto the Web to buy the pills has proven to be fertile ground for companies hawking unapproved products.

"We found many different offers for potassium iodide and other products that we're taking a look at," says Gary Coody, the FDA's national health fraud coordinator.

Jeffrey Garber, chief of endocrinology at Harvard Vanguard Medical Associates, says exhausted supplies of legitimate potassium iodide make it more likely that some people will buy fraudulent products.

Potassium iodide isn't safe for everybody, especially people who are allergic or who have thyroid diseases, Garber says.

"We're talking about 1,000 times more iodine than you normally consume in your diet," Garber says. "And who knows what it is? If it's a harmless counterfeit in a situation where you don't need anything, you've been duped. But what if it's not harmless?"

Coody says agency investigators "surf the Internet because that's the first place that some of these fraudulent products will appear," adding that the agency also is monitoring iodine-rich supplements and foods, including seaweed and kelp.

He wouldn't comment in detail about the FDA's probe. If the agency can demonstrate that a product is fraudulent, it can send a warning letter, halt sales through an injunction or launch a criminal investigation.

The American iodine rush is only one face of the radiation panic that has cropped up in Asia and across the Pacific. Chinese retiree Yan Zhenghua, 62, of Beijing, was one of thousands Thursday who turned out to find table salt, suddenly prized for its extra iodine. Another rumor is also driving China's salt rush.

"People worry that radiation will contaminate seawater and all future salt supplies," said Liu Shiping, a law lecturer in the southern city of Changsha.

In California, some sushi restaurants are dropping Japanese fresh food from their menus. "Our guests' safety is our top priority," said Sari Yong, a spokeswoman for Shangri-La Asia, the region's biggest luxury hotel company by market value with 71 locations worldwide. "As a precaution, we have temporarily stopped importing fresh food from Japan."

Fred Mettler, leader of the international team that investigated the health effects of the Chernobyl disaster in Ukraine in 1986, says radiation does concentrate in fish, but the fish can be tested, and, if needed, can be pulled from the market.

Mettler says he's not worried about nuclear sushi. "My wife and I are sushi lovers and have no plans to slow down," he says.

Obama Seeks Review Of U.S. Nuclear Facilities (WSJ)

By Jared A. Favole

[Wall Street Journal](#), March 18, 2011

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

Obama Reassures On Nuclear Crisis (POLITCO)

By Darren Samuelsohn

[Politico](#), March 18, 2011

The White House sought Thursday to show it is on top of the Japanese nuclear crisis with a Rose Garden statement and a presidential-ordered review to ensure nothing like the Fukushima Daiichi disaster happens here at home.

Summing up a series of pronouncements his administration has made in recent days, President Barack Obama said in a midafternoon speech that the stricken Japanese power plant "poses a substantial risk" to people nearby, prompting U.S. authorities to contradict Japanese officials and recommend an evacuation for Americans living within 50 miles of the facility.

"This decision was based on careful scientific evaluation and the guidelines that we would use to keep our citizens safe here in the United States or anywhere in the world," Obama said.

As cable television remains in 24/7 mode on the Japanese crisis, Americans on the West Coast are reportedly hoarding potassium iodide pills to protect themselves from radiation poisoning.

But Obama said that was not necessary. Repeating himself twice for emphasis, the president said he did not expect harmful levels of radiation to reach the West Coast, Hawaii, Alaska or U.S. territories.

The Centers for Disease Control and public health experts, Obama said, "do not recommend that people in the United States take precautionary measure beyond staying informed."

"Going forward, we will continue to keep the American people fully updated," the president added. "Because I believe you must know what I know as president."

Obama also ordered the Nuclear Regulatory Commission to review the information coming in from Japan and examine the setup at the U.S. nuclear plants with similar design features to the Fukushima Daiichi power plant.

In his remarks, Obama said nuclear power, which produces about 20 percent of U.S. electricity, is "an important part of our own energy future, along with renewable sources like wind, solar, natural gas and clean coal."

"Our nuclear power plants have undergone exhaustive study and have been declared safe for any number of extreme contingencies," he added. "But when we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people."

Obama isn't the only one trying to show he's on top of the situation.

For a second time in four days, NRC Chairman Greg Jaczko and Energy Department deputy secretary Dan Poneman used the White House daily briefing as their megaphone to ease Americans' concerns about the unfolding disaster across the Pacific Ocean.

Like Obama, Jaczko emphasized that radiation from Japan poses no threat to the United States.

"The basic physics and basic science tells you there can't be any risk or harm to anyone here in the United States or Hawaii or any other territories," he said. "It's just based on the facts and science that's involved here."

The New York Times reported Thursday that a plume of radioactive material originating from the damaged reactors is expected to reach California by late Friday. The forecast, generated by the Comprehensive Nuclear-Test-Ban Treaty Organization, suggests that the plume will miss Hawaii and sweep the Aleutian Islands on Thursday before registering at a station in Sacramento, Calif., but that the radiation levels will be extremely low.

In Japan, the situation at the Fukushima Daiichi nuclear plant remains at a critical stage after attempts failed Thursday to drop water from helicopters over the stricken reactors.

Jaczo said he stands behind his warning that water from the spent fuel pools at the Unit 4 reactor may have drained completely. Japanese officials played down Jaczo's remarks, which quickly crossed the Pacific on Wednesday evening, but his comments underscored what could be the highest-risk scenario for releasing more radioactive elements into the atmosphere.

Several dozen U.S. nuclear and energy experts on the ground in Tokyo provided the intelligence that led to Jaczo's remarks. That intelligence was collected from airplanes and helicopters flying over the power plant.

"It's not just people talking to people, we're collecting the information to help us form policy," Poneman said.

"There's a lot of conflicting information around this, but the bottom line is there clearly appears to be a challenge keeping the spent fuel filled with sufficient water," Jaczo added. "It's really a dynamic situation."

The United States also stands behind its decision to contradict the Japanese government in recommending American citizens within a 50-mile radius of the power plant evacuate. That order, Jaczo said, stems from the information that U.S. officials have been picking up on the ground, independent of the Japanese government.

"We think it's a prudent measure to follow the evacuation based on how we'd handle the situation in the United States," he said.

The State Department is also making arrangements for family members and dependents of U.S. government personnel to evacuate areas in northern Japan and is warning that all U.S. citizens should consider leaving the country.

Back in the United States, top congressional Democrats have been ramping up pressure on the NRC to explain whether the nation's 104 nuclear reactors are safe from earthquakes, tsunamis and other disasters.

"I think we need to have a complete safety assessment, particularly plants that are vintage, plants that are close to faults, plants that are close together. It appears to me that's the most emerging no-no," said Sen. Dianne Feinstein (D-Calif.).

"Look, I think there are many lessons to be learned for what's happened in Japan and that we're pretty stupid if we don't learn them," Feinstein added.

Senate Environment and Public Works Committee Chairwoman Barbara Boxer and Clean Air and Nuclear Safety Subcommittee Chairman Tom Carper also wrote the NRC on Thursday urging it to study its safety standards.

The Daiichi reactors are boiling water reactors with Mark I containment systems. There are 35 such reactors in the United States, including 23 with similar setups. But there are also slight variations to the boiling water reactor design, which the Nuclear Energy Institute notes is the reason why there are only six reactors in the United States with the exact same base design.

NRC officials have also been regularly in touch with lawmakers and the White House. Jaczo briefed Obama on Wednesday and stayed late into the night in the Situation Room, Jay Carney said.

Mike Johnson, director of NRC's Office of New Reactors, is scheduled to conduct a phone briefing Thursday afternoon, for a bipartisan and bicameral slate of lawmakers and congressional staff, about the situation in Japan as well as concerns and safety considerations for U.S. nuclear plants.

There also was a high-level briefing for committee and leadership staff on Tuesday covering the situation in Japan and domestic nuclear safety. And the White House has also coordinated daily calls with USAID, Energy Department, NRC, National Nuclear Security Administration, U.S. Geological Service, State Department, NOAA and HHS.

Darius Dixon contributed to this report.

Obama Orders Review Of Nuclear Plants In US, But Calls Them 'Safe' (HILL)

By Ben Geman And Sam Youngman

[The Hill](#), March 18, 2011

President Obama on Thursday ordered a safety review of the nation's nuclear power plants in an effort to quell mounting fears sparked by the unfolding catastrophe in Japan.

"When we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people," Obama said during remarks in the Rose Garden.

"That's why I've asked the Nuclear Regulatory Commission [NRC] to do a comprehensive review of the safety of our domestic nuclear plants in light of the natural disaster that unfolded in Japan," Obama said.

Even as the president called for the review, he sought to assure the public that the nation's nuclear facilities are sound.

"Our nuclear power plants have undergone exhaustive study and have been declared safe for any number of extreme contingencies," Obama said.

Officials attending a White House briefing on the crisis in Japan emphasized that they see no danger of any harmful radiation reaching the U.S. or its territories. Obama said that the Centers for Disease Control and Prevention does not recommend any precautionary measures for the public other than "staying informed."

The president's remarks underscored the domestic political stakes in the Japanese crisis. Nuclear power is a key part of the White House's energy strategy, but recent polling indicates the images of Japan's stricken reactors are causing the public to question whether the power source is worth the risk.

The president called nuclear energy "an important part of our energy future, along with renewable sources like wind, solar, natural gas and clean coal."

Obama's remarks came a day after Gallup published a poll showing that 70 percent of Americans say the Japanese woes have made them more concerned about a disaster occurring in the U.S. Thirty-nine percent said they were "a lot" more concerned, and 31 percent said they were "a little" more concerned.

The same poll, taken March 15, found that public opinion is divided on construction of new reactors in the United States. Forty-seven percent of respondents said they oppose additional nuclear facilities, while 44 percent expressed support.

The Obama administration is seeking to help the nuclear industry finance the first fleet of new U.S. reactors in decades. The president is also calling for Congress to enact a "clean energy standard" that would require a huge increase in power from low-carbon sources in coming decades — including nuclear plants.

Democrats in Congress have begun raising new questions about the safety of the nation's nuclear fleet, especially reactors that lie on fault lines, and are calling for new reviews.

Senate Environment and Public Works Committee Chairwoman Barbara Boxer (D-Calif.) and Sen. Tom Carper (D-Del.), who leads the panel's nuclear safety subcommittee, sent the NRC a letter Thursday seeking a probe of U.S. reactors' ability to withstand major natural disasters.

Earlier Thursday, U.S. officials defended their grave assessment of the situation in Japan as Obama made an unannounced visit to that country's embassy to sign a condolence book.

Obama said that Americans have been "both heartbroken and deeply concerned" about the situation in Japan.

"We will continue to keep the American people fully updated, because I believe you must know what I know as president," Obama said.

Greg Jaczko, chairman of the NRC, told reporters at the White House on Thursday that "basic physics and basic science tells us" that harmful radiation reaching the U.S. is unlikely.

Jaczko said there are 35 boiling-water reactors in the United States and 23 reactors with the Mark 1 containment design, both similar to the stricken reactors in Japan.

He declined to say whether any of those plants sat on fault lines, but stressed that the country's reactors are safe.

The officials also explained why the U.S. is advising that all Americans in Japan stay at least 50 miles away from the hobbled Fukushima Daiichi nuclear plant, where six nuclear reactors were damaged by an earthquake and ensuing tsunami.

Jaczko and Energy Department Deputy Secretary Dan Poneman said that their advice to widen the evacuation area from the 20 kilometers (12 miles) recommended by the Japanese was a "prudent" decision based on their independent analysis.

"There's often conflicting information, so we made what we thought was a prudent decision," Jaczko said.

Japan is continuing to struggle to contain damage at the Fukushima Daiichi complex, and on Thursday workers were spraying water on spent fuel rods to try to cool them. Workers have been forced to retreat at times because of high levels of radiation, according to media reports.

Many inside and outside Japan are questioning whether officials in that country are being forthcoming about the full scope of the dangers of the nuclear disaster. Jaczko gave a grave assessment to Congress on Wednesday, warning of high levels of radiation near the plant.

Poneman said that the fluid events on the ground are "genuinely complex ... genuinely confusing."

The NRC dispatched an additional 11 of its top nuclear technicians to Tokyo, and the Department of Energy has sent in another 33 people and more than 17,000 pounds of equipment.

The nuclear industry, meanwhile, is waging a vigorous campaign to keep lawmakers abreast of the earthquake- and tsunami-driven crisis in Japan — and seeking to ensure it does not erode Capitol Hill support for nuclear power.

The Nuclear Energy Institute (NEI) — the industry's main trade group — has held numerous briefings with congressional staff and lawmakers in recent days.

And NEI announced Thursday that chief nuclear officers from the nation's power plants conferred this week and agreed to take a number of steps to ensure plants can withstand catastrophic events.

According to NEI, power plant executives are taking actions to verify their companies' ability to "mitigate conditions that result from severe adverse events, including the loss of significant operational and safety systems due to natural events, fires, aircraft impact and explosions."

Other steps include ensuring that the "capability to mitigate a total loss of electric power to a nuclear power plant is proper and functional" and "verify[ing] the capability to mitigate flooding and the impact of floods on systems inside and outside the plant."

Andrew Restuccia contributed to this article.

Obama Seeks To Calm US Radiation Fears, Calls For Nuclear Safety Review (CSM)

By Peter Grier

[Christian Science Monitor](#), March 18, 2011

The United States is doing all it can to protect its citizens in Japan and is rushing support to a Japanese government beset by natural disaster and nuclear crisis, President Obama said Thursday. Skip to next paragraph

"We are bringing all available resources to bear to closely monitor the situation and to protect American citizens that may be in harm's way," said Obama.

Obama also said that he had asked for a comprehensive review of US nuclear plant safety in light of Japanese events. In particular, he's requested that the Nuclear Regulatory Commission study whether US reactors could withstand once-in-a-lifetime natural events such as the earthquake and tsunami that turned much of Japan's Fukushima I nuclear complex into a dangerous ruin.

Japan nuclear crisis: Nuclear terminology 101

"Our nuclear power plants have undergone exhaustive study and have been declared safe for any number of extreme contingencies. But when we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people," Obama said.

The president's Rose Garden appearance – on a brilliant spring-like day in Washington – came at a time when the US and Japanese governments have issued different warnings as to how far from the Fukushima plant it is safe to be. A lack of status updates from Japan itself may have further added to a sense of confusion about what's going on.

Thus Obama may have taken a moment to perform one of a president's primary duties: serve as a voice of calm at a time when some US citizens might be anxious.

Fears that a radioactive plume might drift to the continental US have caused a run on potassium iodide pills, for example, which can offset some health effects of radiation. Obama stressed Thursday that the worry driving those purchases is unfounded.

"We do not expect harmful levels of radiation to reach the West Coast, Hawaii, Alaska, or US territories in the Pacific," he said.

Obama's appearance capped a day in which top officials fanned out across Washington to make public statements about the US effort in Japan.

At the State Department, officials noted that the first evacuation flight of US citizens from Japan had already left.

The flight had fewer than one hundred people on it, mostly dependents of US diplomats, said Under Secretary of State for Management Patrick Kennedy.

"The flight did not leave full," he said.

The State Department will mount another flight in a day or so if demand warrants, he said. In addition, the US has dispatched a convoy of 14 buses to the area of northeastern Japan slammed by the earthquake and tsunami to try and evacuate US citizens who lack transport to Tokyo. Wider zone around plant is 'prudent'

At a separate White House briefing, Nuclear Regulatory Commission head Gregory Jaczko said that the US recommendation of a 50-mile exclusion zone around the Fukushima plant remained "prudent" in light of continuing developments. He declined to directly criticize the Japanese government for recommending a smaller zone.

"I would stress that this is a very difficult situation. There's often conflicting information," Mr. Jaczko said. On Wednesday Jaczko testified before a congressional subcommittee that radiation levels at the stricken plant remained very high, and that the water in a spent fuel pool at the No. 4 reactor had run dry, contradicting statements by Japanese officials.

The NRC has 11 technical experts in Tokyo working with the Japanese government, Jaczko said Thursday. Deputy Secretary of Energy Dan Poneman said his department has dispatched a US Air Force C-17 airlifter with 33 additional experts and 17,000 pounds of equipment.

The Department of Energy has in place in Japan two aircraft-mounted pods that measure the amount of radioactive material that has fallen to the ground, said Mr. Poneman. Those pods, one on a helicopter and one on a fixed-wing aircraft, have already begun making flights. US collecting own data

So in terms of the US gathering data about what is going on, "It's not just people talking to people," Poneman said, alluding to the fact that the US is not depending solely on Japanese officials for data.

NRC chief Jaczko said that given the struggle of the Japanese to bring cooling systems at Fukushima under control it now appears it could be weeks before the crisis eases.

"And that's why, as I said, we're continuing to do everything we can to provide assistance to the Japanese as they deal with this situation," he said.

As Japan Takes Steps To Cool Stricken Nuclear Reactor, U.S. Warns Of Long Crisis (WP)

By Rick Maese And Rob Stein

[Washington Post](#), March 18, 2011

TOKYO — Japanese officials took a series of early steps Friday to bring the Fukushima Daiichi nuclear power plant under control, but a week into the crisis, it was becoming apparent that they were confronting a problem that would not be resolved quickly.

A top U.S. nuclear official warned that the emergency could continue for weeks, while President Obama tried to reassure the American public about the safety of nuclear power plants in the United States.

The moves reflected widening worries in Japan and the United States about the failure so far to contain radiation leaks from nuclear power plants damaged in last Friday's 9.0-magnitude earthquake and the devastating tsunami that followed.

Tokyo Electric Power Co., which owns the Fukushima Daiichi plant, said a risky mission using helicopters and water cannons Thursday to dump tons of water on the most troubled reactor had succeeded in reducing radiation levels. But Graham Andrew of the International Atomic Energy Agency cautioned at a news conference: "It is still possible that it could get worse."

Japanese officials said they were planning to send additional helicopters and fire trucks back to the plant Friday and would continue trying to deliver water to storage pools. Without water, spent fuel rods stored in the pools would start to decay and release radioactive matter into the air.

There were also hopes that Japan's success in reconnecting electric power to another reactor would allow engineers to restart pumps that play an essential role in delivering coolant.

Over the next few weeks, radiation will continue to spew from the plant at levels high enough to make it difficult for people to work there. What's more, the facility itself has been ravaged by earthquakes, flooding and explosions that have torn much of the infrastructure — power lines, pumps and pipes — to shreds and scattered debris, making access even for robots challenging.

Toll continues to rise

As Japan continued its grim recovery effort, the official death toll from the earthquake and tsunami reached 5,692 people by Friday morning, with more than 9,500 others listed as officially missing. Nearly half a million are being housed in temporary shelters, and widespread power outages have left broad swaths of the country without adequate heat.

In Washington, President Obama made an unannounced visit Thursday to the Japanese Embassy and signed a condolence book. Later, speaking from the Rose Garden, he said the U.S. was "working aggressively to support our Japanese ally."

The Yomiuri Shimbun, a leading Japanese newspaper, reported Friday that Japan's government had turned down an early U.S. offer of help in cooling fuel rods at the damaged nuclear reactors. The paper reported that the government and Tokyo Electric believed that they would be capable of restoring the cooling system.

Government spokesman Yukio Edano denied that Japanese officials had rejected the offer.

As the crisis worsened, the United States took measures to protect Americans in Japan, sending buses to pick up several hundred citizens who had been stranded north of Sendai, in the heart of the quake zone.

The Pentagon said Thursday that it had sent a nine-member team of radiological specialists to Japan from the Colorado-based U.S. Northern Command to advise the Japanese military on responding to nuclear hazards.

The U.S. government has instituted stricter guidelines for its citizens in Japan, urging people to stay at least 50 miles away from the plant — four times the distance suggested by Japanese officials. On Thursday, several other nations joined the United States in adopting the 50-mile recommendation, including Canada, Britain and South Korea.

The diverging guidance fueled anxiety among some Japanese that they were not receiving reliable information.

Speaking at the White House, a top energy official acknowledged that the situation is confusing. "The facts on the ground are genuinely complex," Deputy Energy Secretary Dan Poneman said.

Greg Jaczko, chairman of the Nuclear Regulatory Commission, said the crisis at the Japanese facility "will likely take some time to work through, possibly weeks."

Desperate missions

On Thursday, the Japanese government raced to treat the damaged Fukushima Daiichi plant by land and air, trying to cool two reactor units in particular that have raised alarm about the prospect of a larger, imminent catastrophe.

In an emergency mission Thursday, two Japanese military helicopters dropped more than 30 tons of water on the plant. Then, soldiers used 11 high-pressure fire trucks, designed for putting out fires at plane crashes, to douse a damaged reactor building from a distance. The soldiers acted after Japanese police failed in their efforts to spray the building with water cannons normally used for riot control.

Members of the Self-Defense Force, as the military is known, moved their trucks into position and began to spray water Thursday evening, taking aim at the same unit 3 reactor building that was targeted by helicopters earlier in the day. They sprayed water for more than half an hour before leaving the plant.

Edano said that officials believe that water did make it into unit 3, and a spokesman for Tokyo Electric said radiation levels showed a very small decrease after the helicopter missions. Noting the minuscule drop, the World Nuclear Association said the water drops by helicopter "did not appear accurate enough to be effective," adding that "the effect at present seems marginal at best." The London-based organization, which promotes nuclear energy, said one attempt was made to douse the unit 4 reactor building but that the pilots withdrew "after encountering high levels of radiation."

Japan has made unit 3 a priority because government officials say the storage pool contains less water than that of unit 4. American officials, however, have said they believe unit 4's pool could be empty of water, and the International Atomic Energy Agency later said unit 4 remains a major concern.

An official with Japan's nuclear safety agency also moved closer to the U.S. position on unit 4. "Considering the amount of radiation released in the area, the fuel rods are more likely to be exposed than to be covered," the official, Yuichi Sato, said, according to the Associated Press.

Fear grows in region

As Japan struggled to avert a nuclear disaster, ripple effects from the crisis spread to other countries in the region.

In China, panic-buying swept from the country's eastern coast all the way to Beijing, with residents rushing to stores to stock up on salt. People apparently believe the iodine in salt will protect them from radiation; others feared that sea salt would become scarce if the East China Sea becomes contaminated because of the nuclear crisis.

In Beijing and elsewhere, several supermarkets also ran out of imported milk powder, soybean sauce and instant noodles, as people stocked up on provisions even as the government issued repeated assurances that there was no radiation threat to China.

"I don't know when I can replenish our stock," said Chen Zhonghai, manager of the Jinli Super Market in Wenzhou City. "The residents worry that the salt produced in the future will be contaminated and can't be eaten. It's totally unnecessary."

maeser@washpost.com

steinr@washpost.com

Stein reported from Washington. Correspondent Chico Harlan and special correspondent Akiko Yamamoto contributed to this report.

Japan Nuclear Crisis Could Last For Weeks, U.S. Nuclear Official Says (LAT)

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, says getting the situation under control at the Fukushima Daiichi complex 'will likely take some time ... possibly weeks.' Jaczko reiterates that there is no radiation threat to any U.S. terri

By Rong-Gong Lin II

[Los Angeles Times](#), March 18, 2011

The nuclear crisis in Japan could last for weeks, the chairman of the U.S. Nuclear Regulatory Commission said Thursday. Still, officials are not concerned about harmful radiation levels coming to the United States.

The main challenge at Japan's Fukushima Daiichi nuclear power plant is getting more water to cool the stricken nuclear reactors and spent-fuel pool. When no cooling occurs, it is possible for dangerous levels of radiation to be emitted.

"This is something that will likely take some time to work through, possibly weeks, as eventually you remove the majority of the heat from the reactors and the spent-fuel pools. It's something that will be ongoing for some time," said Gregory Jaczko, chairman of the Nuclear Regulatory Commission, which is an independent agency that regulates U.S. commercial nuclear power plants.

The agency has advised that U.S. citizens be evacuated if they are within 50 miles of the Fukushima Daiichi nuclear power complex. That recommendation was broader than the Japanese government's, which told its citizens to evacuate if they were less than 12 miles away from the plant.

Jaczkowski said there was no radiation threat to the United States.

"The basic physics and basic science really tells us that there can't be any risk or harm to anyone here in the United States, or Hawaii, or any of the other [U.S.] territories," Jaczkowski told reporters at a press briefing at the White House.

Deputy Energy Secretary Daniel Ponemon alluded to the fast-paced series of events at the nuclear power plant. "The facts on the ground are genuinely complex. They are genuinely confusing," Ponemon said.

Eleven American nuclear experts are in Japan assisting officials there with the crisis.

Three Ways Japan's Nuclear Crisis Could End (USAT)

By Peter Eisler And Dan Vergano, Usa Today

[USA Today](#), March 18, 2011

Someday, the crisis at Japan's Fukushima Dai-ichi nuclear power plant will end. But when? And how?

One end of the scenario spectrum is relatively benign: The plant is ruined, but major radiation releases are averted and public exposure is minimal.

The other is catastrophic: Reactors melt down, caches of used nuclear fuel catch fire and worst-case weather carries contamination over the homes of hundreds of thousands of people.

It's impossible to predict outcomes with certainty because there is no precise way to gauge whether key safety features at the plant are intact and still reliable. Engineers can't just walk in and inspect the areas of greatest concern — radiation and explosion risks are too high for that. On-site sensors, aerial photos and other tools can't reveal if there might be a tiny crack that's about to rupture.

Events over the next few days likely will determine how bad things get; the consequences could play out over weeks, even months.

"There's a lot of conflicting information (and) ... we don't really know exactly what the most relevant information is right now," Gregory Jaczkowski, chairman of the U.S. Nuclear Regulatory Commission, said Thursday. "I really don't want to speculate on where this could go."

Still, there is a range of possibilities.

Information provided by government and industry officials, independent authorities and academics suggests three basic scenarios: the best case; the middle ground, which covers possibilities that many see as most likely; and the worst possible.

All outcomes revolve around two fundamental challenges:

- Avoiding meltdowns. If the damaged reactors' uranium fuel rods aren't cooled, they can melt to the point where they become a highly radioactive mass and burn through the walls of those reactors. Steel containment vessels surrounding the reactors would be the last hope for preventing large amounts of radiation from escaping into the environment.

- Protecting spent fuel. Each of the damaged reactors has an adjacent pool of water storing "spent" or used fuel rods that also have to be cooled and away from oxygen. If a pool goes dry and spent fuel is exposed, it can catch fire and spew fallout into the atmosphere.

Heading into the weekend, there was some reason for hope on both fronts.

Tokyo Electric Power Co., which owns the plant, said it was making progress in connecting a new power line to restore electricity at the plant for the first time since its systems were destroyed by the powerful March 11 earthquake and tsunami. That would allow engineers to restart systems that cool the reactors and maintain adequate water levels in the spent-fuel ponds.

Meanwhile, desperate efforts to dump water into the reactors and fuel ponds from water cannons and helicopters appeared to be having some success.

Conditions at the site remained "very serious" Thursday, but there had been "no significant worsening" over the previous 24 hours, said Graham Andrew, a senior official with the United Nations' International Atomic Energy Agency.

Even so, U.S. officials urged Americans within 50 miles of the plant to evacuate.

"We do have a responsibility to take prudent and precautionary measures to educate those Americans (in Japan) who may be endangered by exposure to radiation if the situation deteriorates," President Obama said.

If all goes according to the most optimistic predictions, Japan would be left with one of the world's largest nuclear power plants in ruins, half of its six reactors destroyed and probably too fouled with radiation to examine for years. But the consequences to human health would be minimal.

The biggest immediate challenge in this scenario is maintaining adequate water levels in the reactors' spent-fuel pools. At least one appeared this week to be very low or possibly empty, according to the NRC, and a brief fire that apparently occurred at another led to spikes in radiation levels that interrupted repair work. If workers succeed in efforts to keep the pools filled with more than 30 tons of water sprayed from helicopters and ground hoses, it could forestall the superheating and ignition of the spent fuel — and prevent the resulting releases of radiation into the atmosphere.

At the same time, the plant's skeleton crew of 180 workers would continue to try to prevent a full meltdown by pumping seawater directly into the reactors. That process, ongoing since soon after the plant lost power, appears to be keeping the fuel rods from overheating, though it has triggered periodic explosions caused by the buildup of hydrogen generated by the process.

"The situation in the reactors isn't really bad right now with respect to a worst-case scenario because the (reactor housing) has not failed," said Kenneth Bergeron, a physicist now retired from Sandia National Laboratories, where he managed nuclear reactor accident simulations. "As long as all that fuel remains in an intact reactor, then it will contain the vast majority of the dangerous materials."

Even if the efforts to cool the reactors and maintain the spent-fuel pools succeed, small amounts of radioactive gas still would vent for weeks, perhaps longer. But significant contamination would be limited mainly to the site. Radiation exposures to people in surrounding areas would be slightly above normal, but likely not enough to raise cancer rates significantly, according to radiation safety expert Henry Royal of Washington University in St. Louis.

That scenario would constitute "a worse accident than Three Mile Island," a partial meltdown at a Pennsylvania reactor in 1979, Royal said. From a health standpoint, he added, "I think we will see a similar situation," with effects of the small radiation releases on the local population very hard to see.

If efforts to refill the spent-fuel pools fail and the used-up fuel rods ignite into a major fire, the resulting release of radiation would be significant. Since those pools already appear to have lost substantial amounts of water, many experts believe a release along these lines is likely.

The plant's pools hold hundreds of rods, totaling some 1,760 tons of spent fuel composed of uranium and other radioactive elements, according to Tokyo Electric. When water levels get too low, the heat from the 12-foot rods generates steam, which can react with the rods' metal casing to create hydrogen explosions. Radioactive plumes from the burning fuel would rise into the atmosphere and be carried by winds, either out to sea or back toward some of Japan's most heavily populated areas.

That sort of accident "is likely to unfold, perhaps, over a period of weeks," said nuclear safety expert Robert Alvarez, a former Energy Department official and a scholar at the Institute for Policy Studies.

In this scenario, radioactive cesium and other elements move through the atmosphere, where they can be carried back to ground by rain or snow, possibly on to heavily populated areas.

"I hate to say it but this could be potentially way more significant than a 'dirty bomb' scenario, where we are talking about a small mass of extremely radioactive material exploding over a highly populated area," said physicist Ferenc Dalnoki-Veress of the Monterey (Calif.) Institute of International Studies.

The radiation spikes from one or more spent-fuel fires also could force workers to abandon efforts to pump seawater into the reactors to cool their cores. If a reactor had a full meltdown as a result, it's likely that the resulting mass of radioactive material would theoretically remain inside its steel containment structures. And the potentially devastating release of radiation into the environment would be avoided.

"Even in the case of a core melt ... I think that you are looking at a situation where the significant contamination will be limited to the area surrounding the plant," said nuclear engineer Brian Woods of Oregon State University in Corvallis.

Although radiation levels in the countryside would increase, evacuations already ordered within 12 miles of the plant and other precautionary measures would reduce many of the worst health effects from the radiation release, said Charles Meinhold, president emeritus of the National Council of Radiation Protection and Measurements, based in Bethesda, Md. Already, radiation releases at Fukushima have gone beyond those from Three Mile Island, Meinhold said. "If more occur, the neighboring community could see contamination, probably out to a couple of miles."

Since the reactors' fuel rods already have been cooling for a week, the odds of them melting through their containment vessels has diminished, according to nuclear consultant Lake Barrett, a former official of the Nuclear Regulatory Commission. Still, a worst-case scenario could unfold if one or more fires in the spent-fuel pools combine with a full reactor meltdown in which some radiation escapes through a damaged containment vessel.

Tokyo Electric suspects that at least one reactor's containment vessel has been damaged, leading to some radiation leaks from the plant. If plumes from burning spent fuel were to combine with radioactive elements leaking from those suspect containment buildings, contamination could be severe and widespread.

"The Japanese have characterized what they have been doing as desperate and last ditch" efforts, said physicist Edwin Lyman of the Union of Concerned Scientists. "If these measures fail, then they are out of tricks."

Lyman suggested that contamination from a worst-case plume likely would reach to the 50-mile range — or farther. If that occurs, it probably would happen in "only a matter of days," Lyman added.

Two things would have to happen in this scenario to maximize its threat to human health, said Bergeron, the former Sandia scientist.

"The cloud gets lifted very high in the air, which would require a lot of heat," such as that generated by a major fire or explosion," he added. Then, there would have to be "a very unfortunate wind direction, maybe followed by rain or snow, which captures the radioactive particles and brings them down to earth, and in the worst case ... in areas where you have a lot of people."

Prevailing winds in Japan generally blow to the East, which would carry a lot of the plumes out to sea. Tokyo, a city of 12.8 million, is about 140 southwest of the plant. Sendai, a city of 1 million people, is about 50 miles to the north of the plant.

It's not likely, Bergeron added, but it can't be ruled out. "That's a chain of a lot of ifs."

Obama Reassures: Japan's Radiation Won't Reach U.S. (AP)

[Associated Press](#), March 18, 2011

Washington — President Barack Obama, trying to reassure a worried nation, declared Thursday that "harmful levels" of radiation from the Japanese nuclear disaster are not expected to reach the U.S., even as other officials conceded it could take weeks to bring the crippled nuclear complex under control.

The situation remains dangerous and complicated at the damaged Fukushima Dai-ichi reactors in northeastern Japan, U.S. officials said.

"We've seen an earthquake and tsunami render an unimaginable toll of death and destruction on one of our closest friends and allies in the world," Obama said in brief remarks at the White House after a visit to the Japanese Embassy to offer his condolences.

Text DETNEWS to 64636 to get breaking news alerts on your phone.

Obama said he had asked the Nuclear Regulatory Commission to conduct a "comprehensive review" of the safety of all U.S. nuclear plants.

"When we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people," Obama said.

There are 104 nuclear reactors in the United States, providing roughly 20 percent of the nation's electricity. "Nuclear energy is an important part of our own energy future," Obama said.

A leading industry group agreed with the review.

"A review of our nuclear plants is an appropriate step after an event of this scale and we expect that the Nuclear Regulatory Commission will conduct its own assessment," said Marvin Fertel, president of the Nuclear Energy Institute. "The industry's highest priority is the safe operation of 104 reactors in 31 states and we will incorporate lessons learned from this accident..."

Meanwhile, the first evacuation flight of U.S. citizens left Japan, the State Department said.

In the U.S., Customs and Border Protection said there had been reports of radiation being detected from some cargo arriving from Japan at several airports, including ones in Chicago, Dallas and Seattle.

Radiation had not been detected in passengers or luggage. And none of the reported incidents involved harmful amounts.

Homeland Security Secretary Janet Napolitano said the agency was screening passengers and cargo for "even a blip of radiation."

Obama said he knows that Americans are worried about potential risks from airborne radiation that could drift across the Pacific. "So I want to be very clear," he said. "We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska or U.S. territories."

Obama defended the recommendation of federal nuclear safety officials for a 50-mile evacuation zone around the crippled nuclear power plant for American troops and citizens in Japan, even though that is far larger than the zone spelled out by Japanese officials.

"This decision was based on a careful scientific evaluation," Obama said. "Beyond this 50-mile radius, the risks do not currently call for an evacuation."

At the same time, he said it was important to evacuate Americans "who may be endangered by exposure to radiation if the situation deteriorates."

Japanese officials have established a 12-mile evacuation zone and have said that people living 12 to 20 miles from the plant should stay inside.

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, told reporters at a White House briefing it could be some time before the crisis is brought under control as crews work to cool spent-fuel rods and get the damaged Japanese reactors under control. The activity could continue for days and "possibly weeks," Jaczko said.

He said the U.S. recommendation that American troops and citizens stay 50 miles away from the nuclear complex was "a prudent and precautionary measure to take." But he also said "basic physics" suggested there was little risk to anyone in the United States or its Pacific territories.

Daniel B. Poneman, deputy secretary of energy, told the briefing that a "very dangerous situation" remains in Japan. Information at the nuclear plant is "genuinely complex and genuinely confusing," he said.

As the officials spoke, Japanese emergency workers sought to regain control of the dangerously overheated nuclear complex, dousing it with water from police cannons, fire trucks and helicopters to cool nuclear fuel rods that were threatening to spray out more radiation.

The U.S. Energy Department said it had conducted two separate aerial tests to measure how much radioactive material had been deposited in Japan. Those data, Poneman said, were consistent with the recommendation for Americans to evacuate a 50-mile radius around the plant.

The U.S. officials declined to criticize the Japanese call for a smaller evacuation zone.

"We're analyzing the information, and we're sharing it with the Japanese," said Poneman. "The preliminary look has indicated that the measures that have been taken (by the Japanese) have been prudent ones. And we have no reason to question the assessment that has been made or the recommendation that has been made by the Japanese authorities."

At his visit to the Japanese Embassy, Obama signed a condolence book and said: "We feel a great urgency to provide assistance to those ... who are suffering."

In the book he wrote, "My heart goes out to the people of Japan during this enormous tragedy. Please know that America will always stand by one of its greatest allies during this time of need."

"Because of the strength and wisdom of its people, we know that Japan will recover, and indeed will emerge stronger than ever," he wrote.

The crisis has been complicated by the spare and often contradictory information issued by the Japanese government and the Tokyo Electric Power Co., heightening a sense of uncertainty about what's happening in the reactors.

"It's not easy to get information from the site," said White House spokesman Jay Carney.

Carney said the fact that Obama had taken the rare step of asking the NRC — an independent regulatory agency that is not under the president's control — to undertake a review of U.S. reactor safety in light of the Japanese disaster "only adds to the urgency of that mission."

Representatives of the nuclear energy industry said Thursday that operators of U.S. reactors already had begun taking steps to better prepare for an emergency in this country.

While it will take some time to understand the true dimensions of the nuclear disaster in Japan, "we will learn from them, we will get that operating experience, we will apply it and try to make our units even safer than they are today," said Anthony Pietrangelo, senior vice president of the Nuclear Energy Institute, a Washington-based industry lobbying group.

Some lawmakers, including Barbara Boxer, D-Calif., chairman of the Senate Environment and Public Works Committee, have suggested the administration should do more to re-examine the nation's aging network of nuclear power plants with an eye toward making them more accident-proof. In other countries, China has said it would hold off on approving new nuclear plants, and Germany has said it would temporarily switch off seven aging reactors.

Earlier this week, European Union energy officials agreed to apply stress tests to plants across the 27-nation bloc. Spanish Prime Minister Jose Luis Rodriguez Zapatero commissioned studies to determine how vulnerable his country's six nuclear plants are to earthquakes or flooding.

Carney, when asked why the United States was not taking the more stringent measures of some other countries, said Obama had "full confidence" the NRC was doing its job.

Subscribe to Detroit News home delivery and receive a SPECIAL INTRODUCTORY OFFER.

Obama Reassures: Japan's Radiation Won't Reach US (AP)

Obama vows to stand longtime ally Japan

[Associated Press](#), March 18, 2011

WASHINGTON - President Barack Obama, trying to reassure a worried nation, declared Thursday that "harmful levels" of radiation from the Japanese nuclear disaster are not expected to reach the U.S., even as other officials conceded it could take weeks to bring the crippled nuclear complex under control.

The situation remains dangerous and complicated at the damaged Fukushima Dai-ichi reactors in northeastern Japan, U.S. officials said.

"We've seen an earthquake and tsunami render an unimaginable toll of death and destruction on one of our closest friends and allies in the world," Obama said in brief remarks at the White House after a visit to the Japanese Embassy to offer his condolences.

Obama said he had asked the Nuclear Regulatory Commission to conduct a "comprehensive review" of the safety of all U.S. nuclear plants.

"When we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people," Obama said.

There are 104 nuclear reactors in the United States, providing roughly 20 percent of the nation's electricity. "Nuclear energy is an important part of our own energy future," Obama said.

A leading industry group agreed with the review.

"A review of our nuclear plants is an appropriate step after an event of this scale and we expect that the Nuclear Regulatory Commission will conduct its own assessment," said Marvin Fertel, president of the Nuclear Energy Institute. "The industry's highest priority is the safe operation of 104 reactors in 31 states and we will incorporate lessons learned from this accident..."

Navy Adm. Robert Willard, the top officer overseeing U.S. military assistance to Japan, said he has provided Japan with a "long list" of areas in which the U.S. military can help. Willard said he is cautiously optimistic that Japan will avert a worst-case nuclear disaster by preventing a full meltdown of its crippled reactors.

Meanwhile, the first evacuation flight of U.S. citizens left Japan, the State Department said.

In the U.S., Customs and Border Protection said there had been reports of radiation being detected from some cargo arriving from Japan at several airports, including ones in Chicago, Dallas and Seattle.

Radiation had not been detected in passengers or luggage. And none of the reported incidents involved harmful amounts.

Homeland Security Secretary Janet Napolitano said the agency was screening passengers and cargo for "even a blip of radiation."

Obama said he knows that Americans are worried about potential risks from airborne radiation that could drift across the Pacific. "So I want to be very clear," he said. "We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska or U.S. territories."

Obama defended the recommendation of federal nuclear safety officials for a 50-mile evacuation zone around the crippled nuclear power plant for American troops and citizens in Japan, even though that is far larger than the zone spelled out by Japanese officials.

"This decision was based on a careful scientific evaluation," Obama said. "Beyond this 50-mile radius, the risks do not currently call for an evacuation."

At the same time, he said it was important to evacuate Americans "who may be endangered by exposure to radiation if the situation deteriorates."

Japanese officials have established a 12-mile evacuation zone and have said that people living 12 to 20 miles from the plant should stay inside.

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, told reporters at a White House briefing it could be some time before the crisis is brought under control as crews work to cool spent-fuel rods and get the damaged Japanese reactors under control. The activity could continue for days and "possibly weeks," Jaczko said.

He said the U.S. recommendation that American troops and citizens stay 50 miles away from the nuclear complex was "a prudent and precautionary measure to take." But he also said "basic physics" suggested there was little risk to anyone in the United States or its Pacific territories.

Daniel B. Poneman, deputy secretary of energy, told the briefing that a "very dangerous situation" remains in Japan. Information at the nuclear plant is "genuinely complex and genuinely confusing," he said.

As the officials spoke, Japanese emergency workers sought to regain control of the dangerously overheated nuclear complex, dousing it with water from police cannons, fire trucks and helicopters to cool nuclear fuel rods that were threatening to spray out more radiation.

The U.S. Energy Department said it had conducted two separate aerial tests to measure how much radioactive material had been deposited in Japan. Those data, Poneman said, were consistent with the recommendation for Americans to evacuate a 50-mile radius around the plant.

The U.S. officials declined to criticize the Japanese call for a smaller evacuation zone.

"We're analyzing the information, and we're sharing it with the Japanese," said Poneman. "The preliminary look has indicated that the measures that have been taken (by the Japanese) have been prudent ones. And we have no reason to question the assessment that has been made or the recommendation that has been made by the Japanese authorities."

At his visit to the Japanese Embassy, Obama signed a condolence book and said: "We feel a great urgency to provide assistance to those ... who are suffering."

In the book he wrote, "My heart goes out to the people of Japan during this enormous tragedy. Please know that America will always stand by one of its greatest allies during this time of need."

"Because of the strength and wisdom of its people, we know that Japan will recover, and indeed will emerge stronger than ever," he wrote.

Finance officials from the Group of Seven major industrialized countries on Thursday agreed on a coordinated effort to weaken the Japanese yen, which has surged to record levels following last week's earthquake and tsunami.

A super-strong yen could cripple Japanese exports, further worsen the economic impact of the disaster that killed thousands and triggered an unfolding nuclear crisis.

The coordinated intervention in international currency markets would be the first by the G-7 countries since the fall of 2000, when the G-7 intervened in an effort to bolster the euro.

The crisis has been complicated by the spare and often contradictory information issued by the Japanese government and the Tokyo Electric Power Co., heightening a sense of uncertainty about what's happening in the reactors.

"It's not easy to get information from the site," said White House spokesman Jay Carney.

Carney said the fact that Obama had taken the rare step of asking the NRC - an independent regulatory agency that is not under the president's control - to undertake a review of U.S. reactor safety in light of the Japanese disaster "only adds to the urgency of that mission."

Representatives of the nuclear energy industry said Thursday that operators of U.S. reactors already had begun taking steps to better prepare for an emergency in this country.

While it will take some time to understand the true dimensions of the nuclear disaster in Japan, "we will learn from them, we will get that operating experience, we will apply it and try to make our units even safer than they are today," said Anthony Pietrangelo, senior vice president of the Nuclear Energy Institute, a Washington-based industry lobbying group.

Some lawmakers, including Barbara Boxer, D-Calif., chairman of the Senate Environment and Public Works Committee, have suggested the administration should do more to re-examine the nation's aging network of nuclear power plants with an eye toward making them more accident-proof. In other countries, China has said it would hold off on approving new nuclear plants, and Germany has said it would temporarily switch off seven aging reactors.

Earlier this week, European Union energy officials agreed to apply stress tests to plants across the 27-nation bloc. Spanish Prime Minister Jose Luis Rodriguez Zapatero commissioned studies to determine how vulnerable his country's six nuclear plants are to earthquakes or flooding.

Carney, when asked why the United States was not taking the more stringent measures of some other countries, said Obama had "full confidence" the NRC was doing its job.

Obama Requests Nuclear Review, Sees Risk In Japan (REU)

By Jeff Mason And Patricia Zengerle

[Reuters](#), March 18, 2011

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

Nukes Chief Won't Speculate On How The Crisis In Japan Will End (USAT)

By Mimi Hall

[USA Today](#), March 18, 2011

Nuclear Regulatory Commission Chairman Gregory Jaczko declines to speculate on how the nuclear crisis in Japan might end.

"I really don't want to speculate on where this could go," he said.

Jaczko and Dan Poneman, a top Energy Department official, outlined U.S. efforts to help the Japanese cope with the crisis, determine the extent of the leaked radiation, safeguard and advise Americans living and working in Japan and ensure that nuclear power plants in the USA are safe.

The officials said the United States has sent a 33-person team to Japan, including 11 top nuclear experts, and 17,000 pounds of equipment.

Asked whether the United States is satisfied with the information coming from the Japanese utility and government, Poneman said the situation is complex and "genuinely confusing" but officials here are confident that the warnings and instructions issued by the Japanese to their people are prudent.

Jaczko said U.S. plants are built to withstand earthquakes, tsunamis and all manner of natural disasters but officials will review what happened in Japan to see if any changes or upgrades need to be made.

NRC: No Radiation Risk To The U.S. From Japan's Power Plants (USNEWS)

[U.S. News and World Report](#), March 17, 2011

U.S. Nuclear Regulatory Commission Chairman Gregory Jaczko said there is no radiation risk to the United States from Japan's nuclear power plant. "Basic science tells us there really can't be any risk to any of us here in the United States," he said at a White House press conference Thursday. "Our efforts are really focused here on helping the Japanese deal with what is a very tragic and difficult situation, and we will continue to provide recommendations and expertise." President Obama visited the Japanese embassy in Washington on Thursday to extend his condolences to Japan. In a televised address from the Rose Garden, Obama called for a "comprehensive review" of U.S. nuclear power plants. [See photos of the aftermath of the Japanese earthquake and resulting tsunami.]

Eyes On Skies Over Japan (OMAHA)

By Nancy Gaarder

[Omaha World-Herald](#), March 18, 2011

Despite concerns that weather patterns might blow radioactive particles from Japan's stricken nuclear reactors to the United States, Midlands emergency officials say they've been assured that residents have nothing to fear.

Dr. Joann Schaefer, Nebraska's chief medical officer, and Stefanie Bond, spokeswoman for Iowa Homeland Security and Emergency Management, said their states are maintaining contact with federal officials as the Japanese crisis unfolds.

Federal agencies they have been working with include the Nuclear Regulatory Commission, Department of Homeland Security, Environmental Protection Agency and Centers for Disease Control and Prevention.

Based upon those conversations, "We do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants," Bond said Thursday.

Schaefer concurred but noted, "It's a significant enough of a situation where we all have to be paying attention."

President Barack Obama offered Americans reassurance. Speaking at the White House, Obama said he knows Americans are worried about potential risks from radiation that could drift across the Pacific.

"So I want to be very clear. We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska or U.S. territories," the president said.

Schaefer said the private comments of federal officials mirror what they are saying publicly.

"This is scary to the public, and we can't afford not to tell them what's going on so that they can protect their families," Schaefer said.

The United States has a network of 124 sensors that monitor for airborne radiation, she said.

The Nebraska monitors are in Kearney, Lincoln and Omaha. Iowa's are in Des Moines and Mason City.

The RadNet data is available to the public on the Internet, at www.epa.gov/narel/radnet.

The EPA takes near real-time readings from those monitors, said Julia Schmitt, manager of the Nebraska Office of Radiological Health. Nebraska also receives periodic readings from those monitors.

Melanie Rasmusson, chief of the Iowa Bureau of Radiological Health, said the state had no plans to increase its twice weekly readings.

"We could increase if we saw a concern, but we don't," she said.

A number of federal agencies — including two Offutt Air Force Base units — are assisting with the estimates of what could happen to radiation released by the disabled Japanese reactors.

A WC-135 Constant Phoenix aircraft from Offutt is functioning as an airborne detector to monitor radiation coming from the crippled reactors. The Constant Phoenix also was used in 1986 to track radiation releases from the failed Chernobyl reactor in Ukraine.

The Air Force Weather Agency at Offutt is analyzing weather patterns for various federal agencies, said Mark Surmeier, acting director of operations, training and evaluation. He said Air Force meteorologists pair complex computer calculations with their own observations to model weather movement.

Meteorologists at Hickam Air Force Base in Hawaii are the ones providing the forecasts for Japan, he said.

The good news, from a weather standpoint, Surmeier said, is the vastness of the Pacific Ocean and the fact that the strongest prevailing winds in Japan flow from west to east.

"As a general meteorological statement ... the prevailing wind direction is from land out to water. It's not that way all the time, but that's a good thing for the (Japanese) population," he said.

The U.N.-based Comprehensive Test Ban Treaty Organization offered a computer model of a weather scenario in which radioactive particles could have reached Alaska's westernmost islands Thursday and Southern California late Friday.

But the relevance of any such model was dismissed by California health officials. Such projections give no information about actual radiation levels but show only how a radioactive plume would probably move and disperse based on weather patterns, said Mike Dayton, acting secretary of the California Emergency Management Agency.

If radiation does move east, it will be detected in the Aleutian Islands first, and "the amount will be so small as to be basically equivalent to our normal background radiation from the air and soil," said Dr. Howard Backer, interim director of the California Department of Public Health.

Jim Andrews, senior meteorologist at AccuWeather Inc., The World-Herald's weather consultant, said weather isn't linear, which makes predicting a path extremely difficult. Weather systems swirl in vast cyclonic patterns, so particles can flow in a broad circle out toward water and back toward Asia, then out toward water again as they continue on a gradual easterly path.

At any point, the particles can fall from the sky, and some can degrade and shed their radioactive properties. They can also get sucked high into the upper atmosphere or fall into the ocean.

Experts agree that the people at greatest risk are those closest to the unfolding disaster. Winds late in the weekend are expected to shift inland, blowing toward Japan's population centers, said Andrews.

Part of the problem for U.S. officials and others has been the difficulty of getting accurate information about what is happening at the Japanese power plant reactors.

However, even top nuclear watchdog organizations agree with the U.S. government's assessment that people in the United States are not in serious danger.

"We can never say never," said Edwin Lyman, a senior scientist with the Union of Concerned Scientists. "My judgment is that there will probably be measurable radiation, but except for a few hot spots, it is not something we should really worry about."

US Nuclear Commission Sees No Radiation Risk To US Or Its Territories From Japan Nuclear Plant (AP)

[Associated Press](#), March 18, 2011

WASHINGTON — The chief of the U.S. Nuclear Regulatory Commission says that the radiation being emitted from Japan's most troubled nuclear power plant poses no threat to the United States or U.S. territories.

NRC Chairman Gregory Jaczko gave the assurances during a briefing Thursday at the White House, saying that basic science says there can't be any risk.

Jaczko and Dan Poneman, a deputy secretary of energy, also said that it appears that the U.S. advice for Americans within 50 miles of the Fukushima Dai-ichi plant to evacuate was prudent.

NRC Chief Says U.S. Will Do 'Systematic Review' Of Policies (BLOOM)

By Julianna Goldman And Nicholas Johnston

[Bloomberg News](#), March 18, 2011

The head of the Nuclear Regulatory Commission said there is no immediate need for special inspections of U.S. nuclear plants in the wake of the breakdown in a group of reactors in Japan following an earthquake and tsunami.

Gregory Jaczko said U.S. policy is to continually review plant safety and standards, taking into account incidents and accidents elsewhere in the world.

"We're going to take a look at what happened," he said at a White House briefing. "We're going to do a systematic and methodical review of the information, and if we need to make changes to our program, we'll make changes."

He also said there is no danger of radiation contamination on U.S. territory from the damaged Japanese nuclear power facility.

The U.S. has about 23 reactors with similar containment designs as the Japanese plant at the center of the crisis. Democratic Senators Barbara Boxer of California and Tom Carper of Delaware today asked the NRC to conduct a "comprehensive investigation" of all nuclear power facilities in the U.S. to assess whether they can withstand a catastrophic disaster, according to a letter to Jaczko released by Carper's office.

Jaczko said it is too early to begin an assessment of U.S. nuclear plants because it isn't yet known what "the most relevant information is" about the accident in Japan.

U.S. reactors and containment facilities have been upgraded since their construction to "deal with these types of very severe scenarios," he said. Once all the data is in, "We intend to take a very thorough look at what happened and what changes we could make."

Japanese authorities are trying to cool quake-damaged nuclear reactors at a Tokyo Electric Power Co. plant 135 miles (220 kilometers) north of Tokyo following the March 11 earthquake, the country's worst on record.

Helicopters and water cannons were enlisted to contain radioactive pollution from the plants after water pumps were knocked out by the quake and subsequent tsunami.

Jaczko said the situation "will take some time, possibly weeks" to resolve. "There clearly appears to be a challenge keeping that spent fuel filled with sufficient water."

The crisis is the nuclear industry's worst catastrophe since Chernobyl, and the U.S., U.K., France, Germany and Australia have advised their citizens to consider leaving Tokyo. Based on the NRC's assessments, the U.S. recommended its citizens evacuate an area within a 50-mile (80-kilometer) radius of the crippled plants, wider than the 12-mile (20-kilometer) exclusion zone imposed by Japanese authorities.

Jaczko downplayed fears that radiation from the nuclear plant could spread to the U.S.

"We don't see any concern from radiation levels that could be harmful here," he said. "Basic physics and basic science tells us there really can't be any risk or any harm to anyone in the United States."

Officials from the Group of Seven nations are planning to discuss the threat to the world's third-largest economy posed by the quake and worsening nuclear crisis. The discussions raise the prospect of coordinated G-7 action to bolster Japan.

Stocks snapped a six-day losing streak in Europe, amid speculation the Japanese nuclear crisis will be contained. The Standard & Poor's 500 Index rose 1.6 percent to 1,276.50, and the yen touched a post-World War II record against the dollar.

President Barack Obama will make a statement on the situation in Japan at 3:30 p.m. Washington time today. He stopped earlier at the Japanese embassy in Washington to sign a condolence book.

"We are doing everything we can to stand by our great friend and ally Japan in this hour of need," he said.

Obama spoke by phone with Japanese Prime Minister Naoto Kan last night to discuss the status of relief efforts and to receive information on how Japan is working to contain the nuclear emergency.

White House Briefing: Facts On The Ground In Japan 'Genuinely Complex' (NATJO)

Facts on the Ground in Japan 'Genuinely Complex'

By Ronald Brownstein

[National Journal](#), March 18, 2011

Nuclear Regulatory Commission Chairman Greg Jaczko made an appearance at Thursday's White House press briefing, where he called the U.S. recommendation of a 50-mile evacuation zone near Japan's damaged nuclear power plant a "prudent" and "precautionary" measure.

He also reiterated that there is no concern that radiation from Japan posed a threat to the United States.

Asked to explain the difference between the U.S. recommendation of 50 miles and the Japanese recommendation of 12.4 miles for an evacuation zone, Jaczko said, "We have different regulatory systems throughout the world." He added that the U.S. recommendation took into account various ways the disaster at the power plant could worsen.

Both Jaczko and Deputy Energy Secretary Daniel Poneman stressed the complexity of the situation on the ground and refused to condemn the Japanese for being secretive about the extent of the problem.

"You know Americans: We always want more information, and we're constantly trying to find out whatever we can," Poneman said, by way of explaining the presence of U.S. teams in Japan to take aerial measurements over the reactors. "The facts on the ground are genuinely complex."

But he expressed confidence in both countries' responses to the disaster.

"The preliminary indications suggest that all the measures that have been recommended either by the government of Japan or the government of the U.S. have been prudent and appropriate," Poneman said.

Jaczko said he was confident that U.S. nuclear plants were prepared to handle a full range of natural disasters, noting that the plants are held to "a very robust seismic standard."

Later in the briefing, Carney said that U.S. has already committed \$10 million in people and other resources to help Japan deal with the aftermath of the earthquake and resulting tsunami. He said that the number would go up as more teams arrive.

US Reactors Can Withstand Quakes, Tsunami-NRC Chief (REU)

By Paul Eckert

[Reuters](#), March 18, 2011

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

Wisconsin's Reactors Among 104 In U.S. Getting Safety Checks (MJS)

By Thomas Content

[Milwaukee Journal Sentinel](#), March 18, 2011

Nuclear power companies and the Nuclear Regulatory Commission will review the safety of the 104 reactors operating in the United States, including three along Lake Michigan in Wisconsin.

During a media conference call Thursday, the nuclear industry's lobbying arm, the Nuclear Energy Institute, said the chief nuclear officers responsible for all of the nation's plants have agreed to take extra steps to review safety procedures for extreme emergencies.

Hours later, President Barack Obama called for the Nuclear Regulatory Commission to do a safety review of the U.S. plants, which supply about 20% of the nation's electricity.

"Our nuclear power plants have undergone exhaustive study and have been declared safe for any number of extreme contingencies. But when we see a crisis like the one in Japan, we have a responsibility to learn from this event, and to draw from those lessons to ensure the safety and security of our people," Obama said. "That's why I've asked the Nuclear Regulatory Commission to do a comprehensive review of the safety of our domestic nuclear plants in light of the natural disaster that unfolded in Japan."

Tony Pietrangelo, chief nuclear officer at the Nuclear Energy Institute, said last week's tsunami overwhelmed the Japan plant's ability to provide backup power to keep vital safety systems running. Those safety systems provide cooling water to reactors.

The U.S. reviews will include a check of plants' ability to withstand natural events, such as earthquakes, as well as fires and explosions. The reviews will also look at each plant's ability to deal with a loss of electric power, flooding and the impacts of floods on systems inside and outside the plant.

The industry move will include "walk downs and inspection of important equipment needed to successfully respond to fire and flood events," Pietrangelo said, as well as evaluate the possibility that the equipment may not work in the event of an earthquake.

"We have shared these actions with the NRC, we will go forward with these, and as we learn more from the events in Japan and fully understand them, I'm sure additional lessons learned will be applied," said Pietrangelo during a conference call with reporters.

Dominion Resources Inc. and NextEra Energy Resources, operators of Wisconsin's nuclear plants, will be studying a variety of safety equipment and procedures as part of the new round of disaster planning.

Dominion has assembled a team at the Kewaunee plant with eight employees across a variety of plant areas, said Mark Kanz, a plant spokesman. The team will work on this issue full time, he said.

"What we're going to be doing is verifying our current defenses are such that we can withstand a natural event, even something that may be beyond our design basis, and we're going to work at shoring up any deficiencies that might be uncovered in the next days and weeks," Kanz said.

"What we're trying to do is assure ourselves, and the public, that we're capable of dealing with any extreme natural disasters," he said.

Sara Cassidy, spokeswoman at Point Beach, said she did not have specifics available yet concerning NextEra's Point Beach review.

Kewaunee and one of the two Point Beach reactors are currently out of service for refueling and maintenance. The Point Beach outage, which began earlier this month, is also incorporating work on plant modifications that would accommodate NextEra's plan to boost the power output of Point Beach.

NextEra has applied to the Nuclear Regulatory Commission to expand the power output at Point Beach by 17%. The application is still being reviewed by the NRC, spokeswoman Viktoria Mitlyng said. She said it's not uncommon for plant operators to conduct work linked to a power expansion before final approval is given.

Point Beach sells its power to We Energies, while the Kewaunee reactor's output is sold to Wisconsin Public Service Corp. of Green Bay and Wisconsin Power & Light Co. of Madison. We Energies has not made a final decision on whether to buy the increased power that would be generated at Point Beach, spokesman Brian Manthey said.

At a White House briefing Thursday, NRC Chairman Gregory Jaczko said U.S. policy is to continually review plant safety and standards, and he said the agency plans "to do a systematic and methodical review of the information, and if we need to make changes to our program, we'll make changes."

The U.S. has about 23 reactors with containment designs similar to the Japanese plant at the center of the crisis, including plants operating in Minnesota and Iowa.

Japan Nuclear Crisis Could Last For Weeks, U.S. Nuclear Official Says (LAT)

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, says getting the situation under control at the Fukushima Daiichi complex 'will likely take some time ... possibly weeks.' Jaczko reiterates that there is no radiation threat to any U.S. terri

By Rong-Gong Lin II

[Los Angeles Times](#), March 18, 2011

The nuclear crisis in Japan could last for weeks, the chairman of the U.S. Nuclear Regulatory Commission said Thursday. Still, officials are not concerned about harmful radiation levels coming to the United States.

The main challenge at Japan's Fukushima Daiichi nuclear power plant is getting more water to cool the stricken nuclear reactors and spent-fuel pool. When no cooling occurs, it is possible for dangerous levels of radiation to be emitted.

"This is something that will likely take some time to work through, possibly weeks, as eventually you remove the majority of the heat from the reactors and the spent-fuel pools. It's something that will be ongoing for some time," said Gregory Jaczko, chairman of the Nuclear Regulatory Commission, which is an independent agency that regulates U.S. commercial nuclear power plants.

The agency has advised that U.S. citizens be evacuated if they are within 50 miles of the Fukushima Daiichi nuclear power complex. That recommendation was broader than the Japanese government's, which told its citizens to evacuate if they were less than 12 miles away from the plant.

Jaczko said there was no radiation threat to the United States.

"The basic physics and basic science really tells us that there can't be any risk or harm to anyone here in the United States, or Hawaii, or any of the other [U.S.] territories," Jaczko told reporters at a press briefing at the White House.

Deputy Energy Secretary Daniel Poneman alluded to the fast-paced series of events at the nuclear power plant. "The facts on the ground are genuinely complex. They are genuinely confusing," Poneman said.

Eleven American nuclear experts are in Japan assisting officials there with the crisis.

Obama Reassures: Japan's Radiation Won't Reach US (AP)

[Associated Press](#), March 18, 2011

President Barack Obama, trying to reassure a worried nation, declared Thursday that "harmful levels" of radiation from the Japanese nuclear disaster are not expected to reach the U.S., even as other officials conceded it could take weeks to bring the crippled nuclear complex under control.

The situation remains dangerous and complicated at the damaged Fukushima Dai-ichi reactors in northeastern Japan, U.S. officials said.

"We've seen an earthquake and tsunami render an unimaginable toll of death and destruction on one of our closest friends and allies in the world," Obama said in brief remarks at the White House after a visit to the Japanese Embassy to offer his condolences.

Obama said he had asked the Nuclear Regulatory Commission to conduct a "comprehensive review" of the safety of all U.S. nuclear plants.

"When we see a crisis like the one in Japan, we have a responsibility to learn from this event and to draw from those lessons to ensure the safety and security of our people," Obama said.

There are 104 nuclear reactors in the United States, providing roughly 20 percent of the nation's electricity. "Nuclear energy is an important part of our own energy future," Obama said.

A leading industry group agreed with the review.

"A review of our nuclear plants is an appropriate step after an event of this scale and we expect that the Nuclear Regulatory Commission will conduct its own assessment," said Marvin Fertel, president of the Nuclear Energy Institute. "The industry's highest priority is the safe operation of 104 reactors in 31 states and we will incorporate lessons learned from this accident..."

Meanwhile, the first evacuation flight of U.S. citizens left Japan, the State Department said.

In the U.S., Customs and Border Protection said there had been reports of radiation being detected from some cargo arriving from Japan at several airports, including ones in Chicago, Dallas and Seattle.

Radiation had not been detected in passengers or luggage. And none of the reported incidents involved harmful amounts.

Homeland Security Secretary Janet Napolitano said the agency was screening passengers and cargo for "even a blip of radiation."

Obama said he knows that Americans are worried about potential risks from airborne radiation that could drift across the Pacific. "So I want to be very clear," he said. "We do not expect harmful levels of radiation to reach the United States, whether it's the West Coast, Hawaii, Alaska or U.S. territories."

Obama defended the recommendation of federal nuclear safety officials for a 50-mile evacuation zone around the crippled nuclear power plant for American troops and citizens in Japan, even though that is far larger than the zone spelled out by Japanese officials.

"This decision was based on a careful scientific evaluation," Obama said. "Beyond this 50-mile radius, the risks do not currently call for an evacuation."

At the same time, he said it was important to evacuate Americans "who may be endangered by exposure to radiation if the situation deteriorates."

Japanese officials have established a 12-mile evacuation zone and have said that people living 12 to 20 miles from the plant should stay inside.

Gregory Jaczko, chairman of the Nuclear Regulatory Commission, told reporters at a White House briefing it could be some time before the crisis is brought under control as crews work to cool spent-fuel rods and get the damaged Japanese reactors under control. The activity could continue for days and "possibly weeks," Jaczko said.

He said the U.S. recommendation that American troops and citizens stay 50 miles away from the nuclear complex was "a prudent and precautionary measure to take." But he also said "basic physics" suggested there was little risk to anyone in the United States or its Pacific territories.

Daniel B. Poneman, deputy secretary of energy, told the briefing that a "very dangerous situation" remains in Japan. Information at the nuclear plant is "genuinely complex and genuinely confusing," he said.

As the officials spoke, Japanese emergency workers sought to regain control of the dangerously overheated nuclear complex, dousing it with water from police cannons, fire trucks and helicopters to cool nuclear fuel rods that were threatening to spray out more radiation.

The U.S. Energy Department said it had conducted two separate aerial tests to measure how much radioactive material had been deposited in Japan. Those data, Poneman said, were consistent with the recommendation for Americans to evacuate a 50-mile radius around the plant.

The U.S. officials declined to criticize the Japanese call for a smaller evacuation zone.

"We're analyzing the information, and we're sharing it with the Japanese," said Poneman. "The preliminary look has indicated that the measures that have been taken (by the Japanese) have been prudent ones. And we have no reason to question the assessment that has been made or the recommendation that has been made by the Japanese authorities."

At his visit to the Japanese Embassy, Obama signed a condolence book and said: "We feel a great urgency to provide assistance to those ... who are suffering."

In the book he wrote, "My heart goes out to the people of Japan during this enormous tragedy. Please know that America will always stand by one of its greatest allies during this time of need."

"Because of the strength and wisdom of its people, we know that Japan will recover, and indeed will emerge stronger than ever," he wrote.

The crisis has been complicated by the spare and often contradictory information issued by the Japanese government and the Tokyo Electric Power Co., heightening a sense of uncertainty about what's happening in the reactors.

"It's not easy to get information from the site," said White House spokesman Jay Carney.

Carney said the fact that Obama had taken the rare step of asking the NRC — an independent regulatory agency that is not under the president's control — to undertake a review of U.S. reactor safety in light of the Japanese disaster "only adds to the urgency of that mission."

Representatives of the nuclear energy industry said Thursday that operators of U.S. reactors already had begun taking steps to better prepare for an emergency in this country.

While it will take some time to understand the true dimensions of the nuclear disaster in Japan, "we will learn from them, we will get that operating experience, we will apply it and try to make our units even safer than they are today," said Anthony Pietrangelo, senior vice president of the Nuclear Energy Institute, a Washington-based industry lobbying group.

Some lawmakers, including Barbara Boxer, D-Calif., chairman of the Senate Environment and Public Works Committee, have suggested the administration should do more to re-examine the nation's aging network of nuclear power plants with an eye toward making them more accident-proof. In other countries, China has said it would hold off on approving new nuclear plants, and Germany has said it would temporarily switch off seven aging reactors.

Earlier this week, European Union energy officials agreed to apply stress tests to plants across the 27-nation bloc. Spanish Prime Minister Jose Luis Rodriguez Zapatero commissioned studies to determine how vulnerable his country's six nuclear plants are to earthquakes or flooding.

Carney, when asked why the United States was not taking the more stringent measures of some other countries, said Obama had "full confidence" the NRC was doing its job.

White House Briefing: Facts On The Ground In Japan 'Genuinely Complex' (NATJO)

By Ronald Brownstein

[National Journal](#), March 18, 2011

Nuclear Regulatory Commission Chairman Greg Jaczko made an appearance at Thursday's White House press briefing, where he called the U.S. recommendation of a 50-mile evacuation zone near Japan's damaged nuclear power plant a "prudent" and "precautionary" measure.

He also reiterated that there is no concern that radiation from Japan posed a threat to the United States.

Asked to explain the difference between the U.S. recommendation of 50 miles and the Japanese recommendation of 12.4 miles for an evacuation zone, Jaczko said, "We have different regulatory systems throughout the world." He added that the U.S. recommendation took into account various ways the disaster at the power plant could worsen.

Both Jaczko and Deputy Energy Secretary Daniel Poneman stressed the complexity of the situation on the ground and refused to condemn the Japanese for being secretive about the extent of the problem.

"You know Americans: We always want more information, and we're constantly trying to find out whatever we can," Poneman said, by way of explaining the presence of U.S. teams in Japan to take aerial measurements over the reactors. "The facts on the ground are genuinely complex."

But he expressed confidence in both countries' responses to the disaster.

"The preliminary indications suggest that all the measures that have been recommended either by the government of Japan or the government of the U.S. have been prudent and appropriate," Poneman said.

Jaczko said he was confident that U.S. nuclear plants were prepared to handle a full range of natural disasters, noting that the plants are held to "a very robust seismic standard."

Later in the briefing, Carney said that U.S. has already committed \$10 million in people and other resources to help Japan deal with the aftermath of the earthquake and resulting tsunami. He said that the number would go up as more teams arrive.

Did NRC's Jaczko Misspeak? (WSJ)

By Jonathan Weisman

[Wall Street Journal](#), March 18, 2011

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

U.S. And Tokyo Spar On Depth Of Crisis (WSJ)

After Its Dire Warning Exposes Split, Washington Boosts Ability to Gather Information on Radiation Levels and Plants

By Jonathan Weisman And Stephen Power

[Wall Street Journal](#), March 18, 2011

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

5 Facts On The Nuclear Regulatory Commission Chairman (AOLNEWS)

[AOL News](#), March 18, 2011

5 Facts on the Nuclear Regulatory Commission Chairman

Steven Hoffer Contributor

Gregory Jaczko is spending more time in the public eye than usual.

As the aftermath of Japan's latest earthquake and tsunami continues to unfold, Jaczko, chairman of the U.S. Nuclear Regulatory Commission, has been called on to assess the destruction and to assure U.S. senators that a nuclear disaster such as the one facing Japan's Fukushima Dai-ichi plant won't occur on American soil.

Jaczko, who went toe to toe with Sen. Frank Lautenberg, D-N.J., on Wednesday at a Senate Environment and Public Works Committee hearing, told senators that he was awaiting "good facts" on the Japanese situation so his committee can then make "good, credible, reliable decisions."

Here are five "good facts" to help you get to know Gregory Jaczko, compliments of Surge Desk.

1. He grew up in Albany, N.Y.

Born Oct. 29, 1970

in Norristown, Pa., Jaczko spent his childhood in the New York state capital before earning his bachelor's degree in physics and philosophy from nearby Cornell University. He later completed a doctorate in theoretical applied physics at the University of Wisconsin-Madison.

2. He was a Congressional Science Fellow

While still a graduate student, Jaczko completed the American Association for the Advancement of Science and Technology Policy Fellowship in the office of U.S. Rep. Edward Markey.

3. He also has connections to Sen. Harry Reid

Another entry on Jaczko's lengthy resume of work combining political and scientific initiatives is his experience serving as science policy adviser and later appropriations director for Reid.

4. He was an NRC commissioner

Jaczko was first sworn in as a commissioner on Jan. 21, 2005, a nomination that allowed President Barack Obama to designate him as chairman of the committee without the congressional approval.

5. He has made safety a primary focus for the NRC

One of Jaczko's accomplishments as commissioner was to require new plants to be able to withstand a plane crash.

You can watch Jaczko's discussion with Sen. Barbara Boxer here: [Follow Surge Desk on Twitter](#).

Safety Of Japanese Reactors Questioned Long Ago In U.S. (MCT)

By Rob Hotakainen And Greg Gordon

[McClatchy](#), March 18, 2011

Safety questions about the Mark I model nuclear reactors that are burning out of control in Japan were first raised years ago in the U.S., by the nation's top nuclear safety official and by the General Electric engineers who helped design them.

In 1976, three of GE's engineers, including Dale Bridenbaugh, resigned over concerns that the reactors' containment vessels couldn't withstand the massive steam pressure that would build if a major accident disabled the cooling system.

In interviews with McClatchy on Thursday, Bridenbaugh said that the steel containment system wasn't strong enough and the inner, light bulb-shaped reactor vessel was too small - "It was 10 pounds in a five-pound bag" - to contain all that pressure in such an event.

Five of the six reactors at the Fukushima Daiichi nuclear complex in Japan use the Mark I design, as do 23 of the 104 reactors in the U.S.

Bridenbaugh, now 79, said that when he first heard they were in use at the Japanese plant, "I could hardly believe it. . . . I can't say enough about how bad I feel."

The disclosures raise questions of whether more could have been done to prevent the catastrophe in Japan, the worst nuclear disaster since the meltdown at the former Soviet Union's Chernobyl plant in 1986.

Similar concerns regarding the performance of the Mark I reactors were raised in 1979 by Harold Denton, President Jimmy Carter's pick as head of the Nuclear Regulatory Commission.

At the White House Thursday, President Barack Obama said he has asked the NRC to do "a comprehensive review of the safety of our domestic nuclear plants" in response to the Japanese disaster.

The president said Americans need not fear any radiation exposure from the meltdown in Japan. He reiterated that he has no plans to abandon nuclear power, calling it "an important part" of the U.S. energy future. And he noted that all U.S. nuclear plants have been declared safe.

Earlier at the White House, Greg Jaczko, the chairman of the NRC, said the U.S. has "a very robust program where we look at the safety and the security of our nuclear facilities on a minute-by-minute basis."

And he expressed satisfaction with the Mark I reactors.

"Over the years, we have done studies and assessments of those particular types of reactors," Jaczko said. "And actually over several decades, actually in the late '80s and early '90s, changes were made to those containments to deal with these types of very severe scenarios."

But he said he wants the NRC "to do a systematic and a methodical look at what changes we may need to make to those types of plants or possibly any other types of plants in the country."

On Thursday, the Japanese desperately dumped tons of water on the reactors from military helicopters and sprayed them with water cannons in hopes that they could cool nuclear fuel rods and prevent the catastrophic meltdown of one or more of the reactors.

Top U.S. officials said earlier that they believe that one of the reactors is "in partial meltdown" and that radiation around the site is "extremely high."

After problems were pointed out with the Mark I reactors, GE shored up the vessels, but apparently not enough to withstand the natural disaster in Japan.

GE defended the Mark I reactors, saying they have "a proven track record of performing reliably and safely for more than 40 years." The company called the Mark I "one of the workhorses of the industry" and said its reactors all meet NRC regulatory requirements.

In his review, Bridenbaugh said he concluded that the plants' containment system couldn't withstand the pressure in a worst-case "loss of coolant accident," a scenario "which turns out not to be the worst case . . . We're seeing a worst case in Fukushima."

Bridenbaugh also said that the reactors' cooling pools for storing highly radioactive spent nuclear fuel after it has burned in the reactor - pools located on a second floor are in "a damned poor position" for replenishing them with water.

He said that a number of design and safety weaknesses left the plants vulnerable when devastated from last week's 9.0 earthquake and tsunami that knocked out electric power and leveled much of the northeast coast of Japan.

According to Jaczko, there was no water in the spent fuel pool in Fukushima's reactor No. 4, causing radiation levels to soar. Bridenbaugh said that he suspects that plant officials forgot that they'd also put live fuel in that pool when they took it offline before the earthquake for a major inspection, causing the fuel to heat up and boil away water far more quickly than usual.

Bridenbaugh, of Aptos, Calif., who spent more than 20 years a GE project manager, said he is "still wary of" the reactors. He said he tried to persuade his boss in early 1976 that the design flaw was too serious to ignore.

He said he wanted some plants using Mark I containment designs to be closed while an analysis was done, but the company objected.

However, he said, his boss told him: "Dale, it can't be that bad. And if we shut down all of these 16 plants now, it would probably be the end of GE's nuclear business."

Bridenbaugh said he'd long been disillusioned, and that was "the last straw." He quit a week later.

Together, he said, GE and the utilities that needed the plants' power generation capacity persuaded the NRC "that the probability of this major accident was low enough that the plants could continue to operate."

After the nuclear scare at Three Mile Island in Pennsylvania in 1979, Denton said in an interview, he ordered a review of containment systems used at all of the nation's nuclear plants. When compared with the different type of reactor vessel at Three Mile Island that withstood a partial meltdown, Denton, 75, of Knoxville, Tenn., said: "The Mark I's didn't look as good."

In 1986, he also said in a speech to a trade industry group that the Mark I containment system had a high probability of failing.

Denton said the NRC wasn't too concerned about nuclear meltdowns until the Three Mile Island disaster, when he said it became clear that "severe accidents and core meltdowns were not impossible."

But he said the biggest problem in Japan was not that the plants had Mark I containment systems, but that the nuclear complex lost its power.

"They're all dependent on electricity," Denton said.

With 23 plants in the U.S. still using the Mark I reactors, Bridenbaugh said, "that's of concern."

"I'm hopeful that not very many of the 23 plants would be sited in locations where a magnitude 9 earthquake might occur, but I guess you can't really rule that out," he said.

Margaret Talev contributed to this article

Radiation Spread Seen; Frantic Repairs Go On (NYT)

By David E. Sanger And William J. Broad

[New York Times](#), March 18, 2011

WASHINGTON — The first readings from American data-collection flights over the stricken Fukushima Daiichi nuclear plant in northeastern Japan show that the worst contamination has not spread beyond the 19-mile range of highest concern established by Japanese authorities.

But another day of frantic efforts to cool nuclear fuel in the troubled reactors and in the plant's spent-fuel pools resulted in little or no progress, according to United States government officials.

Japanese officials said they would continue those efforts, but were also racing to restore electric power to the site to get equipment going again, leaving open the question of why that effort did not begin days ago, at the first signs that the critical backup cooling systems for the reactors had failed.

The data was collected by the Aerial Measuring System, among the most sophisticated devices rushed to Japan by the Obama administration in an effort to help contain a nuclear crisis that a top American nuclear official said Thursday could go on for weeks. Strapped onto a plane and a helicopter that the United States flew over the site, with Japanese permission, the equipment took measurements that showed harmful radiation in the immediate vicinity of the plant — a much heavier dose than the trace levels of radioactive particles that make up the atmospheric plume covering a much wider area.

While the findings were reassuring in the short term, the United States declined to back away from its warning to Americans to stay at least 50 miles from the plant, setting up a far larger perimeter than the Japanese government had established. American officials did not release specific radiation readings.

American officials said their biggest worry was that a frenetic series of efforts by the Japanese military to get water into four of the plant's six reactors — including water cannons and firefighting helicopters that dropped water but appeared to largely miss their targets — showed few signs of working.

"This is something that will likely take some time to work through, possibly weeks, as eventually you remove the majority of the heat from the reactors and then the spent fuel pool," said Gregory Jaczko, the chairman of the United States Nuclear Regulatory Commission, briefing reporters at the White House.

The effort by the Japanese to hook some electric power back up to the plant did not begin until Thursday and could take several days to complete — and even then it was unclear whether the cooling systems, in reactor buildings battered by a tsunami and then torn apart by hydrogen explosions, would have survived the crisis in good enough shape to be useful.

"What you are seeing are desperate efforts — just throwing everything at it in hopes something will work," said one American official with long nuclear experience who would not speak for attribution. "Right now this is more prayer than plan."

After a day in which American and Japanese officials gave radically different assessments of the danger from the nuclear plant, the two governments tried on Thursday to join forces.

Experts met in Tokyo to compare notes. The United States, with Japanese permission, began to put the intelligence-collection aircraft over the site, in hopes of gaining a view for Washington as well as its allies in Tokyo that did not rely on the announcements of officials from the Tokyo Electric Power Company, which operates Fukushima Daiichi.

American officials say they suspect that the company has consistently underestimated the risk and moved too slowly to contain the damage.

Aircraft normally used to monitor North Korea's nuclear weapons activities — a Global Hawk drone and U-2 spy planes — were flying missions over the reactor, trying to help the Japanese government map out its response to the last week's 9.0-magnitude earthquake, the tsunami that followed and now the nuclear disaster.

President Obama made an unscheduled stop at the Japanese Embassy to sign a condolence book, writing, "My heart goes out to the people of Japan during this enormous tragedy." He added, "Because of the strength and wisdom of its people, we know that Japan will recover, and indeed will emerge stronger than ever."

Later, he appeared in the Rose Garden at the White House to offer continued American support for the earthquake and tsunami victims, and technical help at the nuclear site.

But before the recovery can begin, the nuclear plant must be brought under control. So American officials were fixated on the temperature readings inside the three reactors that had been operating until the earthquake shut them down, and at the

spent fuel pools, looking for any signs that their high levels of heat were going down. If they are uncovered and exposed to air, the fuel rods in those pools heat up and can burst into flame, spewing radioactive elements.

So far they saw no signs of dropping temperatures. And the Web site of the International Atomic Energy Agency, the United Nations nuclear watchdog, made it clear that there were no readings at all from some critical areas. Part of the American effort, by satellites and aircraft, is to identify the hot spots, something the Japanese have not been able to do in some cases.

Critical to that effort are the "pods" flown into Japan by the Air Force over the past day. Made for quick assessments of radiation emergencies, the Aerial Measuring System is an instrument system that fits on a helicopter or fixed-wing aircraft to sample air and survey the land below.

Daniel B. Poneman, the deputy secretary of energy, said at a White House briefing on Thursday that one instrument pod was mounted on a helicopter, and the other on a fixed-wing aircraft.

Mr. Poneman said preliminary results of the initial flights "are consistent with the recommendations that came down from the chairman of the Nuclear Regulatory Commission," which led to the 50-mile evacuation guideline given to American expatriates. Although the worst contamination is closer to the plant, the recommendations take into account the possibility of shifting winds or greater emissions.

The State Department has also said it would fly out of the country any dependents of American diplomats or military personnel within the region of the plant and as far south as Tokyo. Space will be made for other Americans who cannot get a flight, it said.

Getting the Japanese to accept the American detection equipment was a delicate diplomatic maneuver, which some Japanese officials originally resisted. But as it became clear that conditions at the plant were spinning out of control, and with Japanese officials admitting they had little hard evidence about whether there was water in the cooling pools or breaches in the reactor containment structures, they began to accept more help.

The sensors on the instrument pod are good at mapping radioactive isotopes, like cesium 137, which has been detected around the stricken Japanese complex and has a half-life of 30 years. In high doses, it can cause acute radiation sickness. Lower doses can alter cellular function, leading to an increased risk of cancer.

Cesium 137 mimics the way potassium gets metabolized in the body and can enter through many foods, including milk.

On Wednesday, when the American Embassy in Tokyo, on advice from the Nuclear Regulatory Commission, told Americans to evacuate a radius of "approximately 50 miles" around the Fukushima plant, the recommendation was based on a specific calculation of risk of radioactive fallout in the affected area.

In a statement, the commission said the advice grew out of its assessment that projected radiation doses within the evacuation zone might exceed one rem to the body or five rems to the thyroid gland. That organ is extremely sensitive to iodine 131 — another of the deadly byproducts of nuclear fuel, this one causing thyroid cancer.

A rem is a standard measure of radiation dose. The commission says that the average American is exposed to about 0.62 rem of radiation each year from natural and manmade sources.

The American-provided instruments in Japan measure real levels of radiation on the ground. In contrast, scientists around the world have also begun to draw up forecasts of how the prevailing winds pick up the Japanese radioactive material and carry it over the Pacific in invisible plumes.

The former are actual measurements, whereas the latter are projections based mostly on predicted weather patterns.

Private analysts said the United States was also probably monitoring the reactor crisis with a flotilla of spy satellites that can see small objects on the ground as well as spot the heat from fires — helping it independently assess the state of the reactor complex from a distance.

Jeffrey G. Lewis, an intelligence specialist at the Monterey Institute, a research center, noted that the Japanese assessment of Reactor No. 4 at the Daiichi complex seemed to depend in part on visual surveillance by helicopter pilots.

"I've got to think that, if we put our best assets into answering that question, we can do better," he said in an interview.

One of the particular concerns at No. 4 has been a fire that was burning there earlier in the week, but American officials are not convinced that the fire has gone out.

Even the weather satellites used by the Defense Department have special sensors that can monitor fires.

The No. 4 reactor has been of particular concern to American officials because they believe the spent fuel pool there has run dry, exposing the rods. Japanese officials, however, have concentrated much of their recent efforts on Reactor No. 3, which has been intermittently releasing radiation from what the authorities believe may be a ruptured containment vessel around the reactor. Temperatures at that reactor's spent fuel pool are also high.

David E. Sanger reported from Washington, and William J. Broad from New York. Thom Shanker contributed reporting from Washington and Hiroko Tabuchi from Tokyo.

Winds, Fluctuating Radiation Levels Hamper Efforts To Control Japan Nuclear Plant (LAT)

There is no sign of progress as of early Friday local time. The official death toll rises to 5,692, with 9,522 unaccounted for and feared dead, authorities say.

By Barbara Demick, Laura King And Kenji Hall, Los Angeles Times, 6:59 Pm Pdt, March 17, 2011

Los Angeles Times, March 18, 2011

There was no obvious sign of progress in the battle to take control of the dangerously stricken Fukushima No. 1 (Daiichi) nuclear power plant early Friday, as blustery winds and fluctuating radiation levels hampered efforts to douse hot nuclear equipment with water from helicopters and firetrucks.

"We know that the damage to the nuclear reactors in Fukushima Daiichi plant poses a substantial risk to people who are nearby," President Obama said Thursday.

The risk was that hot nuclear reactors and spent-fuel pools would heat up without water to cool them down. An uncontrolled heat-up of the nuclear equipment could result in dangerous bursts of radiation into the atmosphere, which is why officials have evacuated the area closest to the power plant.

Photos: Crisis continues in Japan

With some devastated stretches of coastline still untouched by recovery teams, the official toll of dead and missing in last Friday's massive earthquake and tsunami topped 15,000, as hundreds of thousands of stranded survivors coped with punishing hardships brought on by subfreezing temperatures and shortages of fuel, food and other basic necessities.

Post-quake deaths, particularly among the frail, ill and elderly, were on the rise in sometimes-primitive shelters, some of which lacked heat even as temperatures fell to 21 degrees Fahrenheit overnight.

As of Friday, the official death toll stood at 5,692, according to the National Police Agency, and 9,522 were unaccounted for and feared dead.

Authorities hoped to augment improvised water-spraying tactics on the power plant 150 miles north of Tokyo later Friday or early Saturday with power from a makeshift cable to try to restart pumps that would help cool some of the nuclear equipment.

On Thursday, authorities desperately tried to spray water on the facility by helicopter, but only four loads, totaling about 30 tons, were tossed on the plant before high radiation levels forced them to stop. Most of the water missed the reactors.

The bursts of radiation at the plant also meant that workers will have to be quickly rotated out, and some could rapidly reach their annual exposure limit to radiation. Disaster officials faced a grim choice of scaling back containment efforts or allow workers to face radiation levels that could increase their risk for cancer.

The exodus of foreigners from Japan gathered momentum, with several governments advising their nationals to not only leave the quake zone but also depart from the capital.

In Washington, the State Department reported the first voluntary evacuation flight of U.S. citizens from Japan to Taipei, wire services reported. American officials authorized the voluntary departures of family members and dependents of U.S. government personnel from northeastern Japan.

As many Japanese sought refuge within their homeland, they put more distance between themselves and the crippled nuclear complex, packing aboard trains headed south. The national nightmare is one that envisions a full-scale meltdown at the reactors in Fukushima prefecture, although prevailing winds would probably disperse much of a massive radiation release over the Pacific Ocean.

Obama has assured Americans that the radiation did not pose a risk to U.S. territory.

The Japanese head of the Vienna-based International Atomic Energy Agency was expected to arrive in Japan on Friday, accompanied by international experts. The agency's Graham Andrew said there had been "no significant worsening" of the situation, but neither was any major progress being reported.

The crisis was roiling financial markets worldwide, and officials from the world's wealthiest economies planned talks Friday aimed at calming the situation.

Estimates of quake losses could run to \$200 billion.

Electricity supplies have become a worrying element of the multipronged crisis. A massive threatened blackout was averted Thursday, but rolling power cuts and voluntary conservation areas are still leaving a shortfall. In the quake zone, Japanese officials said tens of thousands were still without power in unseasonably cold weather. An additional 1.6 million households still do not have running water.

The shortage of gasoline has forced businesses far from the disaster zone to close down and has slowed deliveries of urgently needed humanitarian aid to earthquake and tsunami victims. Hospitals reported running low on medicine.

As snow fell over Sendai, one of the quake zone's largest cities, people under umbrellas waited in long lines that snaked around blocks to enter the few supermarkets that were open. Gas lines stretched more than a mile.

"This is the biggest disaster since World War II, and they are totally paralyzed," said Kit Miyamoto, a Japanese American structural engineer who was inspecting damage in tsunami-ravaged Kesennuma.

One shortage often spawned another; people staying in shelters could not get food because they could not drive around looking for it. People used up gas looking for gas.

"The refugees in the sports center are lacking food. If they had the gasoline, they could drive somewhere to get food, but they are stuck here," said Muneo Saijo, a shopkeeper who was helping evacuees in Kesennuma.

Even a week after the start of the crisis, many struggled to comprehend the level of privation in wealthy Japan.

"We're an affluent country," said Masahiko Nagaska, a 32-year-old Panasonic employee in Yamagata, in the heart of the earthquake zone. "But there's no food on the shelves."

In Tokyo, trappings of modern life were in disarray. As aftershocks continue rumbling through the capital, ATMs stopped producing cash, and some trains were canceled and neighborhoods were dimmed to conserve energy.

In Washington, officials said the nuclear crisis showed no signs of diminishing. "This is something that will likely take some time to work through, possibly weeks," said Gregory Jaczko, chairman of the U.S. Nuclear Regulatory Commission.

Higher-than-normal levels of radiation were detected on the clothes of airline passengers from Japan in South Korea and Taiwan, but at levels that did not affect health. Customs officials have detected elements of radiation on cargo containers on flights from Japan that landed in Chicago and Dallas-Fort Worth, but determined that the cargo and passengers aboard were not at risk, the Chicago Tribune reported.

Photos: Crisis continues in Japan

barbara.demick@latimes.com

laura.king@latimes.com

Demick reported from Kesennuma and King from Tokyo. Special correspondent Hall reported from Tokyo. Times staff writer Mark Magnier in Takajo, Japan, Ken Dilanian of the Washington bureau, and Rong-Gong Lin II, Thomas H. Maugh II, and Alan Zarembo in Los Angeles contributed to this report.

Japan Battles Nuclear Crisis As Foreigners Flee (AFP)

By Shingo Ito

AFP, March 18, 2011

TOKYO (AFP) – Teams of Japanese workers and troops Friday battled to prevent meltdown at a quake-hit nuclear plant as alarm over the disaster grew with more foreign governments advising their citizens to flee.

At the stricken Fukushima No. 1 plant, 250 kilometres (155 miles) from Tokyo, Chinook military helicopters have dumped tonnes of water in a desperate bid to cool reactors crippled by the earthquake to prevent a catastrophic meltdown.

Fire engines were even put into action to douse fuel rods inside reactors and in containment pools to stop them from degrading due to exposure to the air and emitting dangerous radioactive material.

The fuel-rod pools contain used rods that have been withdrawn from reactors yet remain highly radioactive.

They are immersed in cooling water for many years until they shed enough heat to become manageable for storage.

Water in one of the pools was evaporating because of the rods' heat, and temperatures were slowly rising in two other pools because coolant pumps were knocked out by the March 11 quake and tsunami, experts said.

They warned that if the tanks run dry and leave the fuel rods exposed, the rods could melt or catch fire, creating potentially lethal levels of radiation.

At the same time, Japanese engineers were focused on restoring the power supply to the stricken plant in an attempt to reactivate its cooling system.

The nuclear safety agency said early Friday that plant operator Tokyo Electric Power Company (TEPCO) had managed to get a line from a regional power firm into the plant site.

"But the line has yet to reach the reactors' power system and it will take 10 or 15 hours to connect the line to it," an agency spokesman said.

A TEPCO spokesman earlier told AFP: "If the restoration work is completed, we will be able to activate various electric pumps and pour water into reactors and pools for spent nuclear fuel."

In an update, the International Atomic Energy Agency said "engineers plan to reconnect power to unit two once the spraying of water on the unit three reactor building is completed".

The UN nuclear watchdog separately said the situation had not worsened "significantly" over the past 24 hours but warned it would be premature to talk about a ray of hope.

As workers battled to avert meltdown, a newspaper reported that Japan had turned down a US offer of assistance in cooling the fuel rods immediately after the damage to the plant.

The government and TEPCO, both having first thought the cooling system could be restored by themselves, rejected the offer as they believed "it was too early to take", the Yomiuri Shimbun said, quoting a senior official of the ruling Democratic Party of Japan.

Some officials had pointed out that Japan could have avoided the crisis if the government had accepted help straight away, the paper said.

US President Barack Obama Thursday offered to give Japan any support that it needs, in a telephone call with Prime Minister Naoto Kan, the Japanese leader's spokesman said.

Paving the way for a more direct role by the US military, the Pentagon said it had sent a team of experts to evaluate what assistance US forces could provide to the plant.

But as crews battled to prevent an atomic disaster, more foreign governments urged their citizens to steer clear of northeast Japan and the capital Tokyo.

Britain, France, Germany, Australia and New Zealand were among the nations advising their nationals to leave Tokyo and shun the northeast region.

The Japanese government has told people living up to 10 kilometres (six miles) beyond a 20-kilometre exclusion zone around the crippled plant to stay indoors. More than 200,000 people have already been cleared from the zone.

The government has said radiation levels from the plant posed no immediate health threat outside the exclusion zone despite slightly elevated levels detected in Tokyo over the past few days.

US officials however warned citizens living within 80 kilometres of the plant to evacuate or seek shelter. The first US charter flight took off for Taiwan carrying almost 100 people, mostly families of US personnel.

The evacuation plans came against a background of mounting concern over the possibility of a nuclear catastrophe.

"The site is effectively out of control," the European Union's energy chief Guenther Oettinger told a European Parliament committee, a day after he said Japan was facing "apocalypse".

France's Nuclear Safety Authority said the disaster now equated to a six on the seven-point international scale for nuclear accidents, ranking the crisis second in gravity only to the level-seven Chernobyl disaster in 1986.

US Energy Secretary Steven Chu said the events in Japan "actually appear to be more serious" than the 1979 accident at Three Mile Island, a partial reactor meltdown that led to small releases of radioactivity.

"To what extent we don't really know now," Chu said in Washington.

IAEA chief Yukiya Amano said the situation was "very serious" before he flew out on Thursday to Japan to see the damage for himself.

A week after the massive earthquake and tsunami plunged Japan into its worst crisis since World War II, the United States and Britain chartered flights for nationals trying to leave and China moved thousands of citizens to Tokyo for evacuation.

Commercial airline tickets were scarce and some companies hired private jets to evacuate staff. In Tokyo the streets were quiet but calm as the Japanese people, though deeply concerned, mostly remained stoic over the emergency.

The official toll of the dead and missing from the twin disasters, which pulverised the northeast coast, now approached 15,000, police said, as aftershocks continued to rattle a jittery nation.

The number of confirmed dead rose to 5,692, with more than 80,000 buildings damaged and 4,798 destroyed.

But as Japanese and international teams mounted a massive search and relief effort, reports from some battered coastal towns suggested the final death toll could be far higher.

Millions of people have been left without water, electricity, fuel or enough food and hundreds of thousands more were homeless, the misery compounded by heavy snowfalls, freezing cold and wet conditions.

A cold snap brought heavy blizzards over the country's northeast overnight, covering the tsunami-razed region in deep snow, all but extinguishing hopes of finding anyone alive in the debris.

"We're already seeing families huddling around gas fires for warmth," said Save the Children's Steve McDonald.

"In these sorts of temperatures, young children are vulnerable to chest infections and flu," he added, estimating that the disaster had left 100,000 children homeless.

Despite the magnitude of the disasters, the International Monetary Fund said Japan had the financial resources to cope and had not requested its assistance.

"We believe that the Japanese economy is a strong and wealthy society and the government has the full financial resources to address those needs," IMF spokeswoman Caroline Atkinson told a news conference.
burs/mtp/ft

Japan Reactors Get More Water Amid Rising Concerns (WT)

By Christopher Johnson, The Washington Times

[Washington Times](#), March 18, 2011

SHIZUOKA, Japan | Emergency crews Thursday turned to firetrucks, water cannons and helicopters dropping enormous loads of water, as they raced to cool dangerously overheated fuel rods and restore power to a smoldering nuclear power plant.

By nightfall, they were still unsure if they had succeeded in preventing a nuclear catastrophe that could spread more radiation from the stricken Fukushima plant in northeast Japan.

"We are doing all we can, as we pray for the situation to improve," said Teruaki Kobayashi, an official at Tokyo Electric Power Co. (Tepco), which owns the Dai-ichi plant in Fukushima.

Tepco said it believed workers were making headway with efforts to complete an emergency power line to restart the plant's own electric cooling systems, but the utility is not sure the cooling systems will still function. If they don't, electricity won't help.

A raging tsunami triggered by the 9.0 magnitude earthquake last week knocked out power at the plant. Without cooling systems, nuclear fuel rods overheated, explosions rocked several of the reactor units and radioactive gas escaped into the atmosphere.

Many Japanese have accused Tepco of withholding information about the extent of the damage to four of the nuclear reactors at the plant, about 150 miles northeast of Tokyo. But workers risking their lives to save their fellow citizens are growing tired of the criticism.

One worker turned to the Internet to appeal for understanding.

"Please stop attacking us," Michiko Otsuki wrote on a blog on the popular Japanese social networking site Mixi.

Ms. Otsuki and her co-workers stayed at their job sites after the twin disasters created the nuclear power crisis.

"We carried on working to restore the reactors from where we were, right by the sea, with the realization that this could be certain death," she said.

"The machine that cools the reactor is just by the ocean, and it was wrecked by the tsunami. Everyone worked desperately to try to restore it. Fighting fatigue and empty stomachs, we dragged ourselves back to work."

To save their fellow citizens, Tepco workers are risking exposure to high levels of radiation that could cause cancer, she said.

"Everyone at the power plant is battling on, without running away. There are people working to protect all of you, even in exchange for their own lives," Ms. Otsuki wrote.

"People have been blaming Tepco. But the staff of Tepco has refused to flee, and [we] continue to work even at the peril of their own lives. Please stop attacking us," she said.

Japanese officials said they probably would continue dousing the reactor units with massive amounts of water for another day.

On Thursday, a Japanese military CH-47 Chinook helicopter dumped loads of 2,000 gallons of water on each pass over Unit 3, where nuclear fuel rods were exposed. They blasted the unit with another 9,000 gallons of water from high-pressure pumps on the firetrucks. Trucks with water cannons could not get close enough to the site because of high radiation levels.

U.S. and Japanese officials disagreed over conditions at the plant.

In Washington, the State Department urged Americans to leave Japan and offered voluntary evacuations to relatives of U.S. personnel in Tokyo, Yokohama and Nagoya.

President Obama visited the Japanese Embassy to sign a condolence book and reiterate the U.S. commitment to the Japanese people.

Gregory Kaczko, chairman of the Nuclear Regulatory Commission, warned Congress at a hearing Wednesday that he believes the Japanese government was downplaying the risks from the plant.

"We believe radiation levels are extremely high," he said.

However, an official at the headquarters of the U.N. nuclear agency Thursday was more hopeful.

"It hasn't gotten worse, which is positive. But it is still possible that it could get worse," Graham Andrew of the International Atomic Energy Agency told reporters in Vienna, Austria. "We could say it's reasonably stable at the moment, compared to yesterday."

Also on Thursday, finance officials from the Group of Seven major industrialized countries agreed on a coordinated effort to weaken the Japanese yen, which has surged to record levels since the disaster.

A superstrong yen could cripple Japanese exports, further worsening the economic impact of the disaster that killed thousands and triggered an unfolding nuclear crisis.

The coordinated intervention in international currency markets would be the first by the G-7 countries since the fall of 2000, when the G-7 intervened in an effort to bolster the euro.

In a joint statement issued after emergency discussions, the G-7 officials said that the United States, Britain, Canada and the European Central Bank will join with Japan in a "concerted intervention" in currency markets Friday.

"We express our solidarity with the Japanese people in these difficult times, our readiness to provide needed cooperation and our confidence in the resilience of the Japanese economy and financial sector," the G-7 finance officials said in their joint statement.

This article is based in part on wire service reports.

Greater Danger Lies In Spent Fuel Than In Reactors (NYT)

By Keith Bradsher And Hiroko Tabuchi

[New York Times](#), March 18, 2011

Years of procrastination in deciding on long-term disposal of highly radioactive fuel rods from nuclear reactors are now coming back to haunt Japanese authorities as they try to control fires and explosions at the stricken Fukushima Daiichi Nuclear Power Station.

Some countries have tried to limit the number of spent fuel rods that accumulate at nuclear power plants: Germany stores them in costly casks, for example, while China sends them to a desert storage compound in the western province of Gansu. But Japan, like the United States, has kept ever-larger numbers of spent fuel rods in temporary storage pools at the power plants, where they can be guarded with the same security provided for the plants.

Figures provided by Tokyo Electric Power on Thursday show that most of the dangerous uranium at the power plant is actually in the spent fuel rods, not the reactor cores themselves.

The electric utility said that a total of 11,125 spent fuel rod assemblies were stored at the site. That is about four times as much radioactive material as in the reactor cores combined.

Now those temporary pools are proving the power plant's Achilles' heel, with the water in the pools either boiling away or leaking out of their containments, and efforts to add more water having gone awry. While spent fuel rods generate significantly less heat than newer ones do, there are strong indications that some fuel rods have begun to melt and release extremely high levels of radiation. Japanese workers struggled on Thursday to add more water to the storage pool at Reactor No. 3.

Helicopters dropped water, only to have it scattered by strong breezes. Water cannons mounted on police trucks — equipment designed to disperse rioters — were then deployed to spray water on the pools. It is unclear if that effort worked.

Richard T. Lahey Jr., a retired nuclear engineer who oversaw General Electric's safety research in the early 1970s for the kind of nuclear reactors used in Fukushima, said that the zirconium cladding on the fuel rods could burst into flames if exposed to air for hours when a storage pool lost its water.

Zirconium, once ignited, burns extremely hot and is difficult to extinguish, added Mr. Lahey, who helped write a classified report for the United States government several years ago on the vulnerabilities of storage pools at American nuclear reactors.

Very high levels of radiation above the storage pools suggest that the water has drained in the 39-foot-deep pools to the point that the 13-foot-high fuel rod assemblies have been exposed to air for hours and are starting to melt, said Robert Albrecht, a longtime nuclear engineer who worked as a consultant to the Japanese nuclear reactor manufacturing industry in the 1980s. Under normal conditions, the rods are kept covered with 26 feet of water that is circulated to prevent it from growing too warm.

Gregory Jaczko, the chairman of the United States Nuclear Regulatory Commission, made the startling assertion on Wednesday that there was little or no water left in another storage pool, the one on top of Reactor No. 4, and expressed grave concern about the radiation that would be released as a result.

The 1,479 spent fuel rod assemblies there include 548 that were removed from the reactor only in November and December to prepare the reactor for maintenance, and these may be emitting more heat than the older assemblies in other storage pools.

Even without recirculating water, it should take many days for the water in a storage pool to evaporate, nuclear engineers said. So the rapid evaporation and even boiling of water in the storage pools now is a mystery, raising the question of whether the pools may also be leaking.

Michael Friedlander, a former senior nuclear power plant operator who worked 13 years at three American reactors, said that storage pools typically had a liner of stainless steel three-eighths of an inch thick, and that they rested on reinforced concrete bases. So even if the liner ruptured, "unless the concrete was torn apart, there's no place for the water to go," he said.

Mr. Lahey said that much of the water may have sloshed out during the earthquake. Much smaller earthquakes in California have produced heavy water losses from sloshing at storage pools there, partly because the pools are located high in reactor buildings.

"It's like being at the top of a flagpole, and once you start ground motion, you can easily slosh it," he said.

When the water in a storage pool disappears, the fuel rods' uranium continues to heat the rods' zirconium cladding. This causes the zirconium to oxidize, or rust, and even catch fire. The spent fuel rods have little radioactive iodine, which has a half-life of eight days and has mostly disappeared through radioactive decay once fission stopped when the rods left the reactor cores. But the spent fuel rods are still loaded with cesium and strontium that can start to escape if the fuel rods burn.

One factor that might determine how serious the situation becomes is whether the uranium oxide pellets in the rods stay vertical even if the cladding burns off. This is possible because pellets sometimes become fused together while in the reactor. If the pellets stay standing up, then even with the water and zirconium gone, nuclear fission will not take place, Mr. Albrecht said.

But Tokyo Electric said this week that there was a chance of "recriticality" in the storage pools — that is, the uranium in the fuel rods could resume the fission that previously took place inside the reactor, spewing out radioactive byproducts.

Mr. Albrecht said this was very unlikely, but could happen if the stacks of pellets slumped over and became jumbled together on the floor of the storage pool.

Plant workers would then need to add water with lots of boron because the boron absorbs neutrons and interrupts nuclear chain reactions.

If a lot of fission occurs, which may happen only in an extreme case, the uranium would melt through anything underneath it. If it encounters water as it descends, a steam explosion could then scatter the molten uranium.

At Daiichi, each assembly has either 64 large fuel rods or 81 slightly smaller fuel rods. A typical fuel rod assembly has roughly 380 pounds of uranium.

One big worry for Japanese officials is that Reactor No. 3, the main target of the helicopters and water cannons on Thursday, uses a new and different fuel. It uses mixed oxides, or mox, which contains a mixture of uranium and plutonium, and can produce a more dangerous radioactive plume if scattered by fire or explosions. According to Tokyo Electric, 32 of the 514 fuel rod assemblies in the storage pond at Reactor No. 3 contain mox.

Japan had hoped to solve the spent fuel buildup with a large-scale plan to recycle the rods into fuel that would go back into its nuclear program. But even before Friday's quake, that plan had hit setbacks.

Central to Japan's plans is a \$28 billion reprocessing facility in Rokkasho village, north of the quake zone, which would extract uranium and plutonium from the rods for use in making mox fuel. After countless construction delays, test runs began in 2006, and the plant's operator, Japan Nuclear Fuel, said operations would begin in 2010. But in late 2010, its opening was delayed by two years.

To close the nuclear fuel recycling process, Japan also built the Monju, a fast breeder reactor, which started running in full in 1994. But a year later, a fire caused by a sodium leak shut down the plant.

Despite revelations that the operator, the quasi-governmental Japan Atomic Energy Agency, had covered up the seriousness of the accident, Monju again started operating at a reduced capacity.

Another nuclear reprocessing facility in Tokaimura has been shut down since 1999, when an accident at an experimental fast breeder showered hundreds in the vicinity with radiation, and two workers were killed.

Many of these facilities were hit by Friday's earthquake. A spent fuel pool at Rokkasho spilled over, and power at the plant was lost, triggering backup generators, Japan Nuclear Fuel said.

According to the Citizens Nuclear Information Center, an anti-nuclear group, about 3,000 tons of fuel are stored at Rokkasho. But the plant, about 180 feet above sea level, escaped the tsunami. Grid power was restored on Monday, the company said.

Japan Offers Little Response To U.S. Assessment (NYT)

By Norimitsu Onishi

[New York Times](#), March 18, 2011

TOKYO — A day after the top American nuclear official portrayed the situation at the troubled Fukushima Daiichi nuclear plant in graver terms than the government in Japan, United States' most important Asian ally, Japanese officials attributed the diverging accounts on Thursday to a "delay" in sharing information.

But, in public at least, they offered no sharp rebuttals of the comments made by Gregory Jaczko, the chairman of the United States Nuclear Regulatory Commission, that there was little or no water left in a pool holding hundreds of spent fuel rods at Fukushima Daichi's No. 4 reactor. He also said that resulting high radiations levels could "impact the ability to take corrective measures."

Most Japanese citizens did not react to Mr. Jaczko's comments, which presented a far bleaker assessment of the unfolding nuclear crisis, for the simple reason that they went nearly unreported in the Japanese news media.

"There was a slight delay conveying to the U.S. side the information about whether or not there is water," the government spokesman, Yukio Edano, said about the No. 4 reactor. Mr. Edano was responding to a question asked by a Japanese journalist at a morning news conference — the single one that dealt with Mr. Jaczko's comments.

But American officials in Japan appeared to continue to operate on the assumption that the danger level was higher than described by the Japanese. On Thursday evening, the United States Embassy in Tokyo offered space aboard chartered planes for dependents of embassy personnel to any American showing up at the two Tokyo area airports, Haneda and Narita. Perhaps because of what such a move implied about Japan's own assessment of the potential for nuclear fallout, the embassy declined to provide basic details of the flights.

Karen Kelley, a spokeswoman for the embassy, said that embassy officials organizing the charter flights "prefer" not to say how many planes were leaving Japan, how many passengers were aboard or what their immediate destinations were.

American officials also continued to advise Americans to evacuate a radius of "50 miles" from the Fukushima plant, in contrast to Japanese directives that people within about 12 miles evacuate while those between 12 and 19 miles stay indoors. The difference could leave hundreds of thousands of Japanese exposed to potentially dangerous levels of radiation.

Japanese officials did not flatly deny Mr. Jaczko's comments but hedged. Asked about the level of water in the No. 4 reactor, Yoshitaka Nagayama, a spokesman for Japan's Nuclear and Industrial Safety Agency, said: "Because we have been unable to go to the scene, we cannot confirm whether there is water left or not in the spent fuel pool at Reactor No. 4."

The technical nature of the issue perhaps compounded the Japanese news media's tendency to shield the government. Reporters who cover agencies and ministries are organized in press clubs that have cozy ties with officials and decide what to report — and what not to. The lack of attention received by Mr. Jaczko's comments was consistent in the news media.

As a result, most residents here were far more concerned with the announcement that a major blackout was being planned to conserve electricity in the Tokyo area. Department stores in this city's most famous shopping district, Ginza, remained dark as shoppers stayed home. Restaurants closed early as many companies continued to tell their employees to stay home or those working rushed into lightly crowded commuter trains to beat the blackout.

Japan Reassures, Others Flee (WSJ)

By Nathan Hodge, Jonathan Weisman And Andrew Morse

[Wall Street Journal](#), March 18, 2011

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

Foreign Governments Step Up Evacuations (FT)

By Jonathan Soble, Michiyo Nakamoto And Gwen Robinson In Tokyo

[Financial Times](#), March 18, 2011

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

Radiation Fears And Distrust Push Thousands From Homes (NYT)

By Martin Fackler

[New York Times](#), March 18, 2011

YAMAGATA, Japan — Neither last week's earthquake, nor the tsunami that followed, nor days without electricity, water or heat could drive 70-year-old Sadako Shiga from her home. What finally caused her to flee was something invisible, but to her mind far more sinister: radiation.

As explosions and fires crippled a nuclear plant 18 miles from her home in northeast Fukushima Prefecture, Ms. Shiga and her family loaded their car with blankets, water and food and headed to the mountains. "We were running for our lives," she said Thursday.

They are part of a swelling exodus — almost 10,000 residents, according to the national broadcaster NHK — who have been spurred by a spreading panic caused in part by distrust that the government is telling the full truth about the nuclear

accidents and how widespread the danger is. The human tide is compounding a natural and now man-made calamity that has steadily built since the magnitude 9.0 earthquake and tsunami hit last Friday.

Their numbers seem certain to grow. According to Fukushima Prefecture officials, some 80,000 people are covered by the Japanese government's evacuation "advisory" — a step below an evacuation order — for areas within 12 miles of the Fukushima Daiichi Nuclear Power Plant, and 6 miles of the Fukushima Daini plant.

But many, like Ms. Shiga, who live even beyond that zone, have decided for themselves that it is time to leave. And as they go, others follow.

These "nuclear refugees," as they are roughly known, tell tales of arduous journeys, of scrounging to find gasoline amid post-disaster shortages, and arriving with just the clothes on their backs. Many are already traumatized by the tsunami that swept away entire towns in northern Japan, leaving more than 15,000 dead or missing.

Like Ms. Shiga, they are driven not just by suspicion of the government but also by a deep fear of radiation, in a nation where the word conjures images of the atomic devastation at Hiroshima and Nagasaki. As they flee, they enter a life in limbo, camped out on gym floors with hundreds of others, uncertain when or if they will ever be able to return to their homes.

None said they had been forced to leave their homes, but the police are expected to enforce the evacuation advisory strictly. Some said authorities had already set up roadblocks, barring anyone from getting back into the evacuation areas.

Shelters are being established to accommodate the displaced around Fukushima Prefecture, where the plants are. But unlike those in tsunami-hit areas farther north, these are staffed with health officials in plastic body suits and masks who scan new arrivals with Geiger counters to check for radiation.

Ichiro Yamaguchi, who heads a testing station here in Yamagata, said that many of those checked had low levels of radiation, though no one had yet been found with dangerous levels of contamination.

"If Fukushima becomes another Three-Mile Island or Chernobyl, then we may never be going back," said Akio Sanpei, a 61-year-old acupuncturist who arrived in Yamagata on Thursday from the town of Futaba, within the evacuation zone.

In Yamagata, a city about 66 miles northwest of the closer of the two plants, a large sports coliseum was converted into a makeshift shelter on Wednesday. Since opening, it has seen a steady stream of new arrivals — 539 people have entered the shelter, city officials said.

"Space is filling up rapidly, and if more come we'll soon be putting people into hallways and all available space," said Masashi Iwata, a city official in charge of the shelter.

One who arrived on Thursday was Junya Kikuchi, a 28-year-old construction worker who came with his wife from the city of Soma, about 25 miles north of one plant, Fukushima Daiichi.

That is far enough to be outside the evacuation zones, and also a broader area in which authorities have told residents to stay indoors to avoid contamination. Still, Mr. Kikuchi said that communities like his were emptying. He said a third of the city's residents had left already. He also decided to leave because of his wife, who is six months pregnant.

"Once some people start leaving, then others think they need to leave, too," Mr. Kikuchi said. Hitoshi Suzuki, a 34-year-old construction worker, said that he thought the problem at the nuclear plants was twice as bad as the government let on. He produced a cellphone with Web sites that claimed the government was covering up the real damage at the plants.

He said growing suspicions that the plants were worse off than authorities were letting on was a main reason he left his home in Haramachi, north of the plants.

"We might be overreacting, but we also know Tokyo Electric" — the plants' operator — "is not telling us everything," he said.

Kumiko Kowata, 45, a homemaker, lived in the area covered by the order not to go outside her house. But, she said, once the earthquake knocked out water supplies to her home, the order was impossible to follow. "How can you stay at home if you have to go out to get drinking water?" she asked.

The exodus has also been spurred by private companies in towns near the plants who chartered buses to help their employees and families flee to the shelter in Yamagata, even as the government has played down the effects.

One who left was Koichi Tsuji, 53, a truck driver from Minamisoma, who said only those stuck in the tsunami shelters — who had lost their cars as well as their homes — were left behind. "Everybody was leaving my neighborhood," he said.

Munehiro Okamoto, 36, who works for a drug making company, led a convoy of four cars and 15 people, and one golden retriever, to Yamagata from Namei, a town right by the Fukushima Daiichi plant.

He described a situation in which the parents feared that their children would get radiation sickness. He said the group would reach a city, stop, then fear that it was not far enough, and resume their journey westward. "We didn't want to keep panicking and moving on and then stopping again," he said.

Makiko Inoue contributed reporting.

Japan Nuclear Accident Poses Crisis For Worker Safety (LAT)

Workers at the damaged Fukushima Daiichi nuclear plant could rapidly reach their annual radiation exposure limit and may have to be rotated out soon.

By Alan Zarembo, Los Angeles Times

[Los Angeles Times](#), March 18, 2011

Bursts of radiation being released at the stricken Fukushima nuclear plant could mean workers there will have to be quickly rotated out, and some could rapidly reach their annual exposure limit, complicating efforts to contain Japan's continuing nuclear crisis.

"Those are pretty brave people," David Brenner, the director of the Center for Radiological Research at Columbia University Medical Center, said of the workers. "There are going to be some martyrs among them."

Disaster officials could face a grim choice: Scale back their containment efforts or allow workers to face radiation levels that could significantly increase their risk of cancer.

Photos: Crisis continues in Japan

Reports on Thursday indicated that at times radiation was intense enough to exceed even Japan's newly raised annual limit in as little as an hour.

The new limit — 250 millisieverts — is five times the allowable exposure in U.S. nuclear plants and 125 times what workers typically receive each year.

That level of exposure raises the chances that workers will eventually die of cancer by 1 percentage point, according to John Boice, a cancer epidemiologist at Vanderbilt University and radiation safety expert.

Considering the scope of the disaster — and the fact that at least 20% of people already die of cancer — many workers may be willing to accept the danger. The situation becomes more complicated at higher doses, because radiation risk is cumulative. In other words, the risk of dying of cancer rises an extra percentage point with each additional 250 millisieverts.

It is not clear for how long the government will abide by its new limit.

There were conflicting reports about the amount of radiation the workers may have received so far. It also was not clear if the releases were planned and whether the workers were sheltered at the time.

At one point on Thursday, a level of 400 millisieverts per hour was recorded at the plant. That reading was an instantaneous measurement, and it was not clear how long that emission rate was sustained. But at that rate, a fully exposed worker would have to leave in 37 minutes, 30 seconds and not come back for a year to avoid exceeding the limit.

The Japanese government has tried to protect workers by keeping as few people on-site as possible, monitoring how much radiation they receive and limiting helicopter missions to drop water on the plant. Special clothing and respirators provide some protection from the damaging emissions.

"The main danger is gamma radiation," said Elmer Lewis, a nuclear plant safety expert at Northwestern University in Evanston, Ill. "Gamma can penetrate your body no matter what you're wearing out there. It's like a high-powered X-ray."

The plant workers are trained to react to crisis through simulated disasters, Lewis said.

But, he said, "there's really no way to anticipate what we're seeing here. They're professionals who are doing the best with what they have."

The most acute danger would come from a sudden release of radiation from which workers could not escape — an explosion, for example. That could cause radiation sickness, a devastating illness that is often fatal.

In the 1986 Chernobyl disaster in Ukraine, then part of the Soviet Union, the worst nuclear plant accident in history, workers who battled a weeklong fire were exposed to radiation at levels thousands of times higher than the Japanese yearly limit.

At first, people exposed to that much radiation might look normal. In a week, things change drastically.

"People's hair starts to fall out and the burns appear and the bone marrow damage starts," said Dr. Robert Peter Gale, a hematologist who flew to Moscow days after the accident to try to save workers airlifted there. He is scheduled to fly to Japan on Saturday to help with the Fukushima relief efforts.

Gale treated Chernobyl exposure victims with antibiotics and experimental hormones. In 13 cases, he performed bone marrow transplants in an attempt to revive their immune systems.

Of 600 workers present when the Chernobyl accident occurred, 134 developed radiation sickness, and 28 of those died within four months, according to the United Nations. Many of the rest have continued to battle health problems. Several developed cataracts.

The number of workers at the damaged Fukushima Daiichi plant during the crisis has varied from about 50 to 180, except for an hour or two when all workers had withdrawn.

Still, it is difficult to compare the accidents.

Some firefighters sent to the burning Chernobyl reactor later said they were not warned about the radiation danger, and many workers lacked protective suits and breathing devices. Soviet officials sent helicopters into the clouds of radioactive smoke to help douse the fire.

The actions of the power plant workers in Japan have already been described as heroic, and examples of heroism are common in such situations, said Dr. Fred Mettler, a University of New Mexico radiologist and advisor to the U.N. on radiation safety.

At one point during the Chernobyl disaster, he said, workers were conferring about how much water was in one reactor pool. No one knew the answer and their instruments couldn't tell them, he said. "An Armenian engineer slipped out and came back in 30 minutes. He said, 'There's 3 feet of water,' " Mettler said. "He did that on his own."

The engineer died soon after of acute radiation poisoning.

"It's always hard to tell what people are going to do," he said. "Workers have done remarkable things, some things you wouldn't expect."

Nuclear plant workers in the United States expressed a camaraderie with their Japanese counterparts, even as they puzzled over the response to the catastrophe. "I have a lot of empathy for the Japanese people, for those workers," said Charlie Arnone, 51, general manager of plant operations at the Waterford 3 facility on the Mississippi River in Killona, La. "They're clearly very dedicated folks."

Arnone, who has worked with nuclear energy since 1977, said he and other workers train according to federal Severe Accident Mitigation Guidelines, scenarios specific to each plant. They review what could happen if, for instance, they can't maintain the water level in a spent fuel pool.

"We might hook up things, basically fire nozzles that automatically spray. Then if that doesn't work, you can open up and try air cooling," Arnone said. "We just have different guidelines and tools. My understanding is the Japanese don't have that. We have all this equipment staged. We have a generator already set up, and we can pull water out of the river if we have to, to keep the core cool, the spent fuel cool."

Experts are focusing their concern on nuclear workers because the general population's exposure to radiation around the Fukushima Daiichi plant has so far been minimal.

The government quickly evacuated a 12-mile zone around the plant. Readings of radiation outside that area have remained low.

The utility that operates the plant, Tokyo Electric Power Co., has released gases laden with radioactive substances in small bursts to prevent the buildup of pressure inside the containment buildings. For now, the winds have cooperated in blowing much of the material out to the Pacific Ocean, where scientists say it settles in the water and is diluted into concentrations that pose little danger.

Even in Chernobyl, nobody in the general population suffered radiation sickness. The U.N. says that 6,500 cases of thyroid cancer can be attributed to the disaster, but because the cases were closely monitored and treated, only a few were fatal.

Those occurred mainly because people were not warned to stop drinking milk — the main way that dangerous quantities of radioactive iodine enter the body. The isotopes land on the grass, which is then eaten by cows, turning their milk radioactive.

"All they had to say was 'don't drink the milk,' " Boice said.

"In Japan, radioactive iodines are not going to be that big a deal," he said. "They won't let the milk into the food supply."

Photos: Crisis continues in Japan

alan.zarembo@latimes.com

Times staff writers Molly Hennessy-Fiske, Shari Roan and W.J. Hennigan contributed to this report.

Details Emerge On Workers Toiling Inside Nuclear Plant (WSJ)

By Yuka Hayashi

[Wall Street Journal](#), March 18, 2011

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

In Japan, Radiation Concerns Are Ingrained In Experience (WP)

By Chico Harlan

[Washington Post](#), March 18, 2011

TOKYO — Before leaving the house Thursday morning, Terumi Tanaka grabbed his briefcase, which contained a gently worn purple pamphlet summarizing what could go wrong.

The pamphlet lists his date of birth, his current address and his blood type. It allows him to receive free tests, whenever he wants, for diseases such as liver cancer and leukemia. It has lots of blank charts, too — space for doctors' notes if things ever go bad, because if you carry one of these booklets, you never really know.

Like thousands of others in Japan, Tanaka carries the pamphlet — a government-issued "Atomic Bomb Victim Health Handbook" — because he is a survivor of the atomic bomb that fell on Nagasaki on Aug. 9, 1945, when he was 13.

In 1957, Japan issued the pamphlets to those who had survived the blasts at Nagasaki and Hiroshima three days earlier, absorbing all the beta particles and gamma rays and neutrons, becoming case studies for the harm they could cause.

Amid a nuclear disaster at the Fukushima Daiichi power plant, millions in Japan are worrying about the particles in the air, where they might spread and what might happen if they come too close. At least 20 million Japanese are old enough to remember the A-bomb attacks, and the worry resonates in particular with survivors, who have spent decades grappling with the inherent uncertainty of radiation exposure.

Just a few months before Tanaka received his pamphlet, a friend from Nagasaki died of leukemia. Both Tanaka and his friend had been about 2.2 miles from the hypocenter, which means the only difference between death and survival is something Tanaka — 78 years old and totally healthy — cannot explain.

But for the 54 years since receiving it, Tanaka has kept the pamphlet, a little bigger than a passport, close at hand, a persistent reminder of the uncertainty he faces.

"Everybody should realize," Tanaka said, holding the aging booklet, "that this becomes the most important thing in your life."

On Thursday, at the coastal Fukushima power plant, Japan's Self-Defense Forces tried to douse water on a series of radioactive units that have refused to cool. They did this using helicopters, armed with 7.5-ton payloads of water; more conventional methods had become too dangerous. A television camera from 20 miles away showed the scene unfolding, the power plant shimmering in its obscene heat.

In his Tokyo home, Tanaka watched on television, and he leaned closer to the screen to follow the helicopters — fluttering specks, like insects.

It looked like a long shot, Tanaka thought.

Like radiation itself, nuclear power is a part of Japan's legacy. Short on natural resources, this island nation depends on its 54 nuclear reactors for 30 percent of its energy supply. In the first decade after the United States dropped atomic bombs on Hiroshima and Nagasaki, occupying U.S. forces banned press reports and many studies on the effects of radiation, and that's the primary reason, as Tanaka emphasizes, that Japan took so long to promote health care for blast survivors. But there's also this: Japan, in 1954, launched its own nuclear power research program. It wanted domestic support for the initiative.

"We aimed for an energy that is 100 percent safe," Tanaka said, "but 100 percent never exists."

Tokyo is 150 miles south of the Fukushima Daiichi complex, but diplomats and foreigners are leaving fast. Japan says all areas beyond a 19-mile radius of the plant are safe, but the United States, South Korea and Australia disagree, urging citizens within 50 miles to evacuate.

Tanaka chairs a Tokyo-based organization for A-bomb survivors, and when he arrived at work Thursday, he greeted Mikiso Iwasa, a Hiroshima survivor and colleague. They talked about the nuclear emergency, and they agreed that nuclear power had again been underestimated.

"I'm worried," Iwasa said.

"I'm worried, too," Tanaka said.

On that day in August 1945, Tanaka was on the second floor of his house. His mother and sister were downstairs. A fierce light pierced the room — "You became white," is how Tanaka remembers it — and four or five seconds later, a jolt of pressure blew out the windows and knocked over furniture.

During those four or five seconds, Tanaka had run down the stairs and huddled in a corner. His mother and sister had scrambled outside, diving under the front porch. None was seriously injured.

But after that exposure to radiation, Tanaka dedicated his life to learning more. He read research as fast as it emerged. He studied the effect of radiation on blood cells, and its likelihood of causing birth defects. Tanaka was terrified about having a child. He felt as if something inside of him — a part of his DNA — "was broken."

He married a woman from Nagasaki, who was not in the city at the time of the bombing, and their first child was stillborn. Tanaka blamed himself, although a doctor said the child had been choked by the umbilical cord. So they tried again, and Tanaka's wife gave birth to a boy with eczema. Tanaka, again, blamed himself.

In subsequent years, Tanaka intermittently mailed his purple pamphlet to the government, which inserted updated pages containing information about an expanding range of illnesses. But Tanaka's pages, as a sign of his health, remain blank.

Iwasa, 82, has a book filled with doctors' ink. Unlike Tanaka, he was sick for months after the bombing, and his skin developed purple leopard spots. As an adult he has had asthma, high blood pressure and bronchitis. He developed skin cancer in 1996. It came back in 1999. He developed prostate cancer in 2007.

But in a way, both Tanaka and Iwasa think about their health in the same manner. Although they try not to, they think about the problems that might yet be hiding.

"Radiation will definitely hurt your cells," Tanaka said, "but that doesn't mean it will happen immediately. A victim, I think, is bound to become sick."

harlan@washpost.com

Special correspondent Akiko Yamamoto contributed to this report.

Japan Radiation Fears Spark Panic Salt-buying In China (LAT)

Long lines and mob scenes ensue at stores amid a clamor for iodized salt fueled by rumors of a radioactive cloud from Japan's quake-damaged nuclear plant and the belief that the salt would protect against radiation poisoning.

By David Pierson, Los Angeles Times, March 18, 2011

[Los Angeles Times](#), March 18, 2011

China tried to quell panic buying of iodized salt Thursday after grocery stores across the country were emptied of the seasoning by hordes of people hoping to ward off radiation poisoning after the nuclear accidents in Japan.

The clamor for salt reportedly started after rumors spread, possibly by cellphone text messaging, that China would be hit by a radioactive cloud from Japan's Fukushima No. 1 (Daiichi) nuclear plant, which had been badly damaged during last week's earthquake and tsunami.

People were under the false impression that consuming enough iodized salt would protect against radiation and that China's sea salt supplies would be contaminated as a result of the unfolding Japanese crisis.

That sparked long lines and mob scenes in major cities such as Shanghai, Beijing and Hangzhou.

In a scene repeated across the country, online video from the eastern city of Wenzhou showed panicked shoppers filling their baskets with tubs of salt and street vendors complaining about being cleaned out.

"I hear there was also a huge earthquake in Taiwan and it will hurt salt supply," a woman was heard saying. There was no earthquake in Taiwan.

Chinese authorities have tried to quash the rumors, explaining that the country has massive reserves and that 80% of its salt sources were on land.

Thousands of television screens on Beijing's subway cars displayed a public service announcement Thursday that said: "The local salt bureau has stated that there's an adequate supply of salt. Salt is a special product that is controlled by the government. Supply is greater than demand."

Meanwhile, China's National Development and Reform Commission told price-control authorities to crack down on hoarding.

The Chinese National Marine Environmental Forecasting Center also tried to allay fears that radioactive particles were headed toward China, explaining that currents in the Pacific Ocean next to Fukushima were flowing east.

"It is impossible for radioactive substances to reach China's sea areas via the ocean current," the forecasting center said, according to the official New China News Agency.

Salt producers benefited from the pandemonium. Shares of Yunnan Salt & Chemical Industry Co. rose by the daily limit of 10%.

In another sign that panic over Japan's nuclear crisis is spreading across borders, authorities in the Philippines held a news conference Thursday to silence rumors that the country would be hit by radioactive fallout.

More: Articles, videos and graphics on radiation exposure, nuclear crisis

david.pierson@latimes.com

G-7 Sells Yen In First Joint Intervention In More Than Decade (BLOOM)

By Toru Fujioka And Mayumi Otsuma

[Bloomberg News](#), March 18, 2011

The Group of Seven will jointly intervene in the foreign exchange market for the first time in more than a decade after Japan's currency soared, threatening its recovery from the March 11 earthquake.

Japan began the effort, sending the currency down 3.1 percent against the dollar at 9:34 a.m. in Tokyo. Each of the G-7 members will sell yen as their markets open, Japan's Finance Minister Yoshihiko Noda told reporters in Tokyo today. The G-7

said in a joint statement after a conference call of its finance ministers and central bank chiefs that it will "provide any needed cooperation" with Japan.

Japan's central bank also said in a statement that it will pursue "powerful monetary easing" as policy makers sought to reduce the threat the world's third-largest economy sinks into a recession. The Nikkei 225 (NKY) Stock Average gained after the announcements, paring losses to 12 percent since the quake and ensuing tsunami killed thousands and led to rolling blackouts and radiation leaks at a nuclear plant.

"It will be supportive for the economy if they can manage to stabilize the yen," said Thomas Harr, Singapore-based head of Asian foreign-exchange strategy at Standard Chartered Plc. "You will have better chance of succeeding when you have the joint intervention rather than just Bank of Japan."

The G-7 said in its statement that "in response to recent movements in the exchange rate of the yen associated with the tragic events in Japan, and at the request of the Japanese authorities" it will intervene in the currency market today. "We will monitor exchange markets closely and will cooperate as appropriate," the statement said.

Against the dollar, the yen was at 81.39, while it slid 2.8 percent versus the euro to 113.80. The Nikkei 225 rose 2.9 percent.

A stronger exchange rate threatened to hamper Japan's recovery from its worst postwar crisis by curtailing the earnings of its exporters.

French Finance Minister Christine Lagarde, whose nation chairs the group, said two days ago she wanted to hold G-7 talks on the financial response to the catastrophe, including possibly buying Japanese bonds. The G-7 is made up of the U.S., Germany, France, Canada, Italy, the U.K. and Japan.

G-7 members hadn't entered the market together since September 2000, when they sought to buoy the euro as it tumbled in its second year of existence. The U.S. Treasury's participation was its first since September 2000, ending the longest period of American inaction in foreign-exchange markets since at least 1973, according to department figures.

In 2000 current Treasury Secretary Timothy F. Geithner was then the department's undersecretary for international affairs.

Japan had called on the group to issue a statement in October 2008, when the global financial crisis drove the yen near a 13-year high against the dollar. They responded by expressing concern about "excessive" volatility, stopping short of indicating any intervention. Japan's government didn't step into currency markets until Sept. 15 last year.

Japan's exporters say they can remain profitable as long as the yen trades at 86.30 per dollar or weaker, compared with the previous year's breakeven point at 92.90, an annual Cabinet Office survey showed on March 11.

At the same time, companies from Sony Corp. to Toyota Motor Co. have already halted some domestic operations because of the earthquake, reducing the need for policy makers to step in to weaken the yen, according to Azusa Kato, an economist at BNP Paribas SA in Tokyo.

The Bank of Japan has been pouring cash into the financial system to stabilize money markets and on March 14 doubled an asset-purchase fund to 10 trillion yen, pledging to step up purchases of securities including government debt, exchange-traded funds and real-estate investment trusts.

Noda and Economic and Fiscal Policy Minister Kaoru Yosano sought to quell speculation driving the yen higher yesterday. Noda said markets were nervous and Yosano said there was no basis for an argument that the nation's insurance companies were repatriating foreign assets to pay for earthquake damage.

"The speculation was that Japanese life and casualty insurers will repatriate dollar-denominated assets to secure funds in the wake of the earthquake," Yosano told reporters in Tokyo yesterday. "But they have ample cash, deposits and other liquid assets," he said, adding that the Financial Services Agency and Bank of Japan have confirmed insurers aren't selling their dollar assets.

Shirakawa said on March 13 that he was prepared to unleash "massive" liquidity to secure stability, a commitment followed up the next day with a record 15 trillion yen in one-day cash, with injections diminishing since then.

To contact the reporters on this story: Toru Fujioka in Tokyo at tfujioka1@bloomberg.net; Mayumi Otsuna in Tokyo at motsuma@bloomberg.net

To contact the editor responsible for this story: Paul Panckhurst at ppanckhurst@bloomberg.net

Group Of 7 To Help Keep Japanese Yen From Rising Too Sharply (WP)

By Howard Schneider And Neil Irwin

[Washington Post](#), March 18, 2011

The United States and other major industrialized nations will combine in a rare coordinated currency intervention on Friday to keep the Japanese yen from rising too sharply in value in the wake of the country's recent natural disasters, a sign of the deep global concern about the health of the world's third-largest economy.

After a conference call on Thursday evening, finance ministers of the Group of 7 industrialized nations pledged "solidarity" with Japan and said that a recent run-up in the value of the yen led them to decide on a "concerted intervention in exchange markets" to try to stabilize the value of the currency.

The yen touched a historic high of about 76 to the dollar this week as markets anticipated a rush of money into the country to fund reconstruction, insurance payments and other needs following the earthquake, tsunami and lingering crisis over the state of several nuclear reactors. The rise in the value of the yen is of concern because an expensive currency might undercut the country's export industries and make it more difficult for Japan to avoid a return to recession.

No target rate for the yen was given, and it is not clear how aggressive the participating countries will have to become to prevent it from rising in value or to bring it back in line with pre-crisis levels. The fact that the United States, the United Kingdom, Canada and the European Central Bank are ready to sell or buy yen as needed may be enough to change market dynamics. The statement is also important because it gives the Bank of Japan a freer hand to intervene on its own, without worrying that its moves might be criticized as part of a "currency war."

The United States and other major economic powers typically argue for free-floating exchange rates — and have particularly criticized China for controlling the value of its currency to support its export industries. However, there was clear concern in the G-7 statement that the recent sharp movements in the yen's value could have unintended consequences for a world economy that is still mending from the recent financial crisis and recession. The last time a similar action took place was more than a decade ago, when efforts were made to support the value of the recently introduced euro.

"Excess volatility and disorderly movements in exchange rates have adverse implications for economic and financial stability," said a statement released by the group. The statement said that Japan had requested the assistance.

"We will monitor exchange markets closely and will cooperate as appropriate."

On Thursday, the stock market rose in the United States and much of the world, offering a day of relative calm in a week roiled by calamitous developments in Japan.

Investors were partly reassured by news that the Japanese were making modest progress toward getting a cooling system at a key nuclear plant to work. And the markets were buoyed by encouraging data on the U.S. economy and a favorable outlook for FedEx Corp., which analysts consider a bellwether company.

But even as markets offered a breather in a week of volatility, analysts said that the outlook for the world economy and the financial markets remains highly unclear amid turmoil in the Middle East and devastation in Japan.

"At the margin, there was a little bit of optimism today," said Bruce McCain, chief investment strategist for Key Private Bank. "But right now the uncertainty looks like it will be with us for a while."

Throughout the week, global stock markets and other risky assets have zigged on promising reports about efforts to contain the nuclear danger and zagged on setbacks. World stock markets have become a barometer of investors' confidence in the abilities of Japanese authorities to prevent a catastrophic nuclear meltdown.

Thursday was mainly a day of zigs. The U.S. stock market closed up 1.3 percent for the day, and major European markets rose by more than 2 percent.

The yen fell about three percent, to more than 81 to the dollar, when markets opened in Tokyo on Friday, according to Bloomberg News. In early trading, Tokyo's Nikkei index was up about 3 percent.

The Labor Department, meanwhile, offered an upbeat report on the U.S. labor market, saying that the number of people filing new claims for unemployment insurance benefits fell to 385,000 last week, from a revised 401,000 the previous week.

Also Thursday, the Federal Reserve Bank of Philadelphia reported that its index of manufacturing activity was the highest it has been since 1984. The index, which is based on a survey of manufacturers in Delaware and parts of Pennsylvania and New Jersey, rose to 43.4 in March, from 35.9 in February, indicating a strong expansion of manufacturing in that region.

But there was also some disappointing U.S. economic news. Industrial production was weaker than forecast in February. The Federal Reserve reported that output decreased 0.1 percent last month, much worse than the 0.6 percent gain forecasters had expected. That decline, however, was attributed to a 4.5 percent drop in output by utilities, reflecting warmer-than-usual February weather. Manufacturing output rose a steady 0.4 percent.

irwinn@washpost.com

schneiderh@washpost.com

Group Of 7 To Intervene To Stabilize Yen's Value (NYT)

By Binyamin Appelbaum

New York Times, March 18, 2011

WASHINGTON — The United States and other major industrial nations will join Japan in a highly unusual effort to stabilize the value of the yen by intervening in currency markets, the Group of 7 nations announced Thursday night.

Markets responded immediately by driving down the value of the yen against the dollar, reversing almost a week of sharp increases. The Nikkei 225, the leading index of the Japanese stock market, also surged on the news.

The rising value of the yen threatened to undermine demand for Japanese exports at the same time that a series of disasters has damaged the domestic economy.

Japanese officials said earlier on Thursday that they could respond unilaterally and wanted only the approval of other nations, but they requested and received additional help during a conference call with finance ministers and central bankers on Thursday night.

In a statement expressing "solidarity with the Japanese people," the Group of 7 nations said they would conduct a "concerted intervention in exchange markets" on Friday.

"As we have long stated, excess volatility and disorderly movements in exchange rates have adverse implications for economic and financial stability," the group said in a joint statement.

It is the first time since 2000 that the Group of 7 nations has made a coordinated intervention into the currency markets, then to stabilize the euro. During the 1990s, the yen and the dollar were also the targets of similar coordinated interventions.

The governments of Japan, the United States, Britain and Canada, and the European Central Bank, will seek to reduce and stabilize the value of the yen by selling their own reserves of the Japanese currency for other currencies as necessary.

Stabilizing exchange rates is intended to curb speculation, which the Japanese government described as a main driver of recent market activity. Weakening the yen will also allow consumers in other countries to buy Japanese goods at lower prices.

"I think there's a very good argument that it's in everyone's interest to stabilize the Japanese financial system, and part of that effort is to stabilize the yen," said Jens Nordvig, an analyst with Nomura Securities. "Normally it only happens when the currency is completely misaligned, and that condition is not in place here, but I think the extraordinary circumstances have made them go ahead and do it nonetheless."

The intervention is billed as a one-day event, but Mr. Nordvig said it may serve as a blessing from the other countries for additional unilateral action by Japan.

Investors might have been expected to sell yen as Japan struggles to deal with the impact of an earthquake, a tsunami and a nuclear crisis.

Instead they had flocked to the currency, briefly driving its value relative to the dollar to the highest level on record Thursday, before it receded to close at about 79 yen to the dollar.

In overnight trading, the yen weakened by 3 percent, to 81.3 to the dollar.

Some analysts said the buying was driven by speculation that Japanese insurance companies and other investors would sell foreign assets to cover the cost of rebuilding after the earthquake.

Japanese officials sought to dispel that theory, noting that past disasters such as a 1995 earthquake did not create such an effect.

Japanese investors who have taken advantage of low interest rates to borrow yen cheaply and invest in higher yielding foreign currencies may have responded to the disaster by pulling money out of the markets.

The rise may have been amplified by investors forced to cover bets that the yen would remain weak, analysts said.

The jump in price might not cause concern in normal times, as the yen has remained within a fairly normal range of its historic value.

But the upward movement and accompanying volatility are hitting Japan at a time when it needs fewer problems.

"As Japan faces a period of adversity, it is extremely significant for the G-7 to jointly work toward stability in markets," the Japanese finance minister, Yoshihiko Noda, told reporters in Tokyo Friday.

The value of the yen has been on the upswing since 2007, a reflection of the relative strength of the Japanese economy as financial crises hit the United States and Europe.

One dollar now buys 34 percent fewer yen than it did four years ago.

The Bank of Japan intervened briefly in September, buying dollars to drive down the value of the yen and drawing a rebuke from European officials for acting alone.

"Unilateral actions are not an appropriate way to deal with global imbalances," Jean-Claude Juncker, Luxembourg's prime minister and president of the Euro Group, an organization of European finance ministers, said at the time.

Thursday's meeting, organized by the French finance minister Christine Lagarde, who holds the rotating chair of the Group of 7, hewed closely to that advice.

It also followed a recent pattern of responses by authorities in the United States and other countries that are calibrated to overwhelm emerging financial problems.

The call, held before markets opened Friday in Tokyo, included officials from Canada, Germany, Italy and the United Kingdom.

The United States was represented by the Treasury secretary, Timothy F. Geithner, and the Federal Reserve chairman, Ben S. Bernanke. Mr. Geithner briefed President Obama on the decision, officials said.

Hiroko Tabuchi contributed from Tokyo.

Nations Act To Put Brakes On Yen's Rise (WSJ)

By Damian Paletta And David Wessel

[Wall Street Journal](#), March 18, 2011

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

G7 In Rare Intervention To Weaken Yen (FT)

By Robin Harding In Tokyo And Robert Cookson In Hong Kong

[Financial Times](#), March 18, 2011

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

Trace Radiation At Airports Determined OK, But Highlights Concerns About Spread From Japan (CHIT)

United, American airlines jets found to be OK; testing done as cautionary measure

By Julie Johnsson, Tribune Reporter

[Chicago Tribune](#), March 18, 2011

Federal officials found traces of radiation on United and American airlines jets that arrived Wednesday at Chicago's O'Hare International Airport from Tokyo and later determined that the planes' cargo and passengers were not at risk.

But those false alarms signaled that officials are concerned about the effects of radiation spewing into the atmosphere from Japan's crippled nuclear reactors. U.S. Customs and Border Protection, operated by the Department of Homeland Security, said it had begun testing airline and maritime traffic for radiation contamination "out of an abundance of caution."

Radiation is a common side effect of flying. The U.S. Environmental Protection Agency estimates an airline passenger flying cross country receives 2 to 5 millirems of radiation, about half the dose of a typical chest X-ray, because high altitudes increase exposure to cosmic rays.

Still, U.S. airlines and government officials are paying close attention to the radiation plume spreading over the Pacific that, according to reports, could reach the U.S. by Friday. Officials are sweeping surfaces of Japan-based aircraft and cargo holds for possible contamination that could injure workers or travelers.

Traces of radiation turned up in cargo containers on two flights that landed Wednesday at O'Hare from Tokyo's Narita International Airport and an additional flight operated by American Airlines into Dallas/Fort Worth International Airport.

Officials quickly determined that the packages were safe, sources said. "To our knowledge no United passenger or passenger luggage has tested positive for elevated levels of radiation," said Megan McCarthy, a spokeswoman for Chicago-based United.

On the two American flights, the isotope discovered was likely emitted by medical devices, which the carrier was shipping. The jets were quickly returned to service, said Tim Smith, spokesman for the Fort Worth, Texas-based carrier.

"We've said all along that we're monitoring every possible aspect of the Japan operation," Smith added.

Chicago Mayor Richard Daley acknowledged Thursday that inbound flights from Tokyo had set off radiation detectors at O'Hare, but he offered no details and said federal officials were handling the situation.

"Of course the protection of the person coming off the plane is very important in regards to any radiation, especially within their families and anything else," Daley said at a news conference to discuss his trip to China this week.

Airborne nuclear waste is just the latest hazard for an industry trained to expect the unexpected. The Federal Aviation Administration works with other government agencies to alter flight paths during sun spots and other solar events, officials said, to lower the potential dose to passengers.

Maps used to guide aircraft around hazards like storms and active volcanoes on the North Pacific now carry a red radioactive sign to denote a no-fly zone over the crippled Fukushima Dai-ichi reactors. Flight dispatchers Thursday were also given the coordinates of an area over the Pacific where airborne concentrations are of greatest concern, sources told the Tribune.

"Upper air forecasts are pretty good," said aviation consultant Robert Mann. "As long as you know what to look for, you can forecast where the stuff is going to go."

Mann was an executive at Pan American World Airways when the Chernobyl nuclear disaster occurred in 1986. Soviet officials didn't alert the world to the crisis and a Pan Am jet unwittingly flew through the fallout zone on a flight marking the resumption of air service between the U.S. and Soviet Union. "Nobody knew it was there at the time," Mann said. "The information was so poor."

Radioactive materials have long been a concern for U.S. customs officials. They routinely screen overseas flights and passengers for radioactive materials that pose potential security risks, scanning more than half a million flights for nuclear materials in 2010, said an airline official who had been briefed on the initiative.

Front-line personnel also carry small personal radiation detectors that can sniff out radiological materials without attracting passenger attention. U.S. airports are equipped with more-sensitive devices that can determine the presence and type of radiation encountered, said U.S. Customs.

Federal officials provided few details about the hazards they were trying to detect in wake of the disaster in Japan.

"No aircraft entering the United States (Wednesday) tested positive for radiation at harmful levels," U.S. Customs said in a statement.

The airline source briefed on Wednesday's screenings said that the highest reading on any flight from Japan on Wednesday was roughly equivalent to one hour of commercial flight.

The 3-millirem exposure typical for a transcontinental flight carries the same chance of death — 1 in a million — as breathing New York City's air for two days, riding 1 mile on a motorcycle or 300 miles in a car, eating 10 charbroiled steaks or smoking one cigarette, according to the EPA.

The radiation alert in Chicago and Dallas was first reported by the New York Post.

Tribune reporters Jon Hilkevitch and John Byrne contributed.

jjohnsson@tribune.com

Radiation exposure

Cross-country flight: 2 to 5 millirems

Chest X-ray: 8 millirems

Dental X-ray: 40 millirems

Airport backscatter imaging technology: less than 10 microrems

Total average annual exposure, U.S. resident: 360 millirems

SOURCES: EPA, TSA

Tokyo Passengers Set Off Radiation Detectors At O'Hare (CHIST)

By Fran Spielman, City Hall Reporter Fspielman@suntimes.com

[Chicago Sun-Times](#), March 18, 2011

Passengers arriving this week on a flight from earthquake- and tsunami-ravaged Tokyo set off radiation detectors at O'Hare Airport, city officials acknowledged Thursday.

"We are aware that occurred [Wednesday]. We are working with Customs and Border Protection on this issue," Aviation Commissioner Rosemarie Andolino said.

Officials declined to say what happened to the passengers, referring all questions to the U.S. Department of Homeland Security. Mayor Daley said the situation was "handled ... very professionally" by Homeland Security.

"The protection of the person coming off the plane is very important in regards to any radiation — especially within their families and anything else," Mayor Daley said.

In an e-mail to the Sun-Times, Homeland Security spokesperson Jenny Burke also refused to answer specific questions about the O'Hare incident.

She simply stressed that no aircraft entering the United States has "tested positive for radiation at harmful levels" and that "travelers who manifest signs of radiation sickness are referred to health authorities and provided appropriate treatment."

Burke noted that out of "an abundance of caution," U.S. Customs and Border Protection uses "several types of radiation detection equipment."

The New York Post reported that the same thing happened in Dallas.

With U.S. Nuclear Plants Under Scrutiny, Too, A Report Raises Safety Concerns (NYT)

By Tom Zeller Jr.

New York Times, March 18, 2011

With Japan's nuclear industry facing intense scrutiny after the devastating earthquake and tsunami, critics of nuclear power in the United States are increasingly shining a spotlight on American regulators and power companies.

On Thursday, the Union of Concerned Scientists, an environmental and nuclear watchdog group based in Cambridge, Mass., accused the federal Nuclear Regulatory Commission in a report of allowing companies that operate plants to ignore, or delay repairs to, leaky pipes, electrical malfunctions and other problems that could escalate into something more serious.

"It's like the spinning wheels on a slot machine," David Lochbaum, the author of the report and the director of the organization's nuclear safety program, said in a prepared statement. "One ingredient showing up causes a puddle on the floor. Two ingredients yield a near miss. All three ingredients showing up can cause nuclear disaster."

The report echoes more general concerns raised on Wednesday in Congressional hearings, when the chairman of the Nuclear Regulatory Commission, Gregory Jaczko, fielded questions from lawmakers about the age of the nation's nuclear plants and whether safety and oversight procedures needed to be revisited.

David McIntyre, a spokesman for the commission, said the fact that the organization had reports of problems to scrutinize suggested that the regulatory system was working.

"We have resident inspectors stationed full time at each plant," Mr. McIntyre said, "and if they say our inspectors are catching these things then that says they're doing their job."

The report by the Union of Concerned Scientists examined 14 instances in 2010 in which significant problems at nuclear power facilities set off special inspections by federal regulators — incidents characterized by the regulators as "near misses." Reports on such incidents are made available publicly by the regulatory commission.

Twelve of the events involved lingering safety problems, among them leaky roofs and floods near safety equipment, faulty pumps, rusty pipes, fires and inadvertent shutdowns. Two others involved compromises in plant security, though details on those were not made public.

Special inspections are typically done when a problem increases the possibility of nuclear core damage by a factor of at least 10. But the report's authors said operators should be catching and repairing those problems long before the commission orders a special inspection.

The 14 special inspections involved plants in 12 states and nine corporate owners, including large players like Exelon, Duke Energy, and Pacific Gas & Electric. Progress Energy, a utility operating five nuclear facilities in the Carolinas and Florida, was singled out as being particularly problematic, with four of its plants being among the 14 that required special inspections.

In one instance described in the report, a high-voltage power cable at Progress Energy's Robinson Nuclear Power Plant, near Hartsville, S.C., failed, causing a fire. "Hours after the fire had been put out, workers re-energized the cable that had started it all," Mr. Lochbaum said. "It was still failed, and ignited a second fire."

Responding to the report, Mike Hughes, a spokesman for Progress Energy, said: "We have the highest safety standards for our nuclear plants and our employees, and we work continuously to improve safety. We remain focused on addressing each of the events last year that led to special inspections.

Questions of risk and emergency preparedness at nuclear power plants have gained new prominence globally as people watch the operators at the crippled Fukushima Daiichi nuclear power plant in Japan fight to stave off a full-scale nuclear meltdown. Nuclear regulators and Obama administration officials have said that they are watching the situation in Japan closely and that they will harvest any lessons as they become clear.

But in a conference call in which he discussed Thursday's report, Edwin Lyman, a senior scientist with the Union of Concerns Scientists, argued that one such lesson was already at hand: the need for a wider evacuation zone around American nuclear plants.

Mr. Lyman criticized a recommendation on Wednesday by the Nuclear Regulatory Commission that Americans in Japan remain at least 50 miles away from the Fukushima Daiichi plant, which Mr. Jaczko, the commission chairman, said was leaking radiation at rates far higher than Japanese government officials had suggested.

Mr. Lyman suggested that the commission was being hypocritical: the official evacuation zone surrounding nuclear power plants in the United States is only 10 miles, although critics have long urged that it be increased.

The agency "should not be using different standards for Americans abroad than it does at home," Mr. Lyman said.

Citing plants like the Indian Point nuclear plant, about 35 miles north of New York City, Mr. Lyman, a physicist and member of the Institute of Nuclear Materials Management, called it "utterly unrealistic" to expect that a parallel evacuation could be undertaken should a disaster like the earthquake or tsunami in Japan occur in the United States.

But Mr. McIntyre, the regulatory commission spokesman, said the agency continued to believe that a 10-mile evacuation zone — required as part of the emergency protection plant at every nuclear facility in the United States — was adequate for what would be an "anticipated event." In Japan, he emphasized, "you have a multiple-worst-case scenario."

Mr. McIntyre also noted that the standard evacuation zone for American nuclear plants was backed up by a "50-mile ingestion zone," in which potential radiation contamination of food supplies is planned for. He said the 10-mile evacuation zone could be expanded as circumstances warranted.

"However, once this is over," Mr. McIntyre said, "we're going to evaluating everything for lessons that can be learned, and I would be very surprised if this wasn't one of the things that we look at."

Diablo Canyon Nuclear Plant 'Near Miss' In Report (SFC)

By David R. Baker, Chronicle Staff Writer

[San Francisco Chronicle](#), March 18, 2011

For 18 months, operators at the Diablo Canyon nuclear plant near San Luis Obispo didn't realize that a system to pump water into one of their reactors during an emergency wasn't working.

It had been accidentally disabled by the plant's own engineers, according to a report issued Thursday on the safety of nuclear reactors in the United States.

The report, from the Union of Concerned Scientists watchdog group, lists 14 recent "near misses" - instances in which serious problems at a plant required federal regulators to respond.

The report criticizes both plant operators and the Nuclear Regulatory Commission for allowing some known safety issues to fester.

"The severe accidents at Three Mile Island in 1979 and Chernobyl in 1986 occurred when a handful of known problems - aggravated by a few worker miscues - transformed fairly routine events into catastrophes," the report notes. The problem

The problem at Diablo Canyon, which is owned by Pacific Gas and Electric Co., involved a series of valves that allow water to pour into one of the plant's two reactors during emergencies, keeping the reactor from overheating.

The loss of water in a reactor can lead to at least a partial meltdown - a process believed to be under way at Japan's stricken Fukushima Dai-ichi nuclear plant after last week's earthquake and tsunami.

Engineers at Diablo Canyon inadvertently created the problem while trying to solve another issue, according to the report.

A pair of remotely operated valves in the emergency cooling system was taking too long to move from completely closed to completely open. So engineers shortened the distance between those two positions, according to the report.

Unfortunately, two other pairs of valves were interlocked with the first. They couldn't open at all until the first pair opened all the way. No one noticed until the valves refused to open during a test in October 2009, 18 months after the engineers made the changes.

"It was disabled, and they didn't know it," said Jane Swanson, spokeswoman for the Mothers for Peace anti-nuclear group, which frequently spars with federal regulators over Diablo Canyon. "That's unforgivable, and it's not that unusual."

In an emergency, Diablo Canyon operators still could have opened the valves manually.

They could also have used a separate system of pumps to inject water into the reactor, PG&E spokesman Kory Raftery said.

"We want to make sure we put safety first - that's why we have redundant systems," he said.

He added, "The potential is very small for the type of situation where we'd need this system in the first place."

PG&E has asked the Nuclear Regulatory Commission to extend the licenses of Diablo Canyon's twin reactors past their original expiration dates of 2024 and 2025. Mothers for Peace has opposed that move.

The valve problem and the union's report, Swanson said, illustrate how even minor technical issues at a plant have the potential to cause serious problems. 'Domino effect'

"Any given nuclear power plant is such a complex system," she said. "As we've seen in Japan, the domino effect can happen."

With the Japanese crisis riveting world attention, Sens. Barbara Boxer and Dianne Feinstein called on the Nuclear Regulatory Commission on Wednesday to perform thorough safety inspections at Diablo Canyon as well as California's other commercial nuclear plant, San Onofre, in San Diego County.

But the commission's chairman said Thursday there was no immediate need to inspect any U.S. nuclear plants.

Later Thursday, President Obama said the United States faces no danger of radioactive contamination from Japan's nuclear plant and has ordered a comprehensive review of safety at U.S. plants.

Bloomberg News contributed to this report.

E-mail David R. Baker at dbaker@sfchronicle.com.

U.S. Had 'Near-miss' Nuclear Accidents At Indian Point, 13 Other Plants Last Year: Report (NYDN)

By Richard Sisk, Daily News Washington Bureau

[New York Daily News](#), March 18, 2011

Federal inspectors found "near-miss" accidents at Indian Point on the Hudson and 13 other U.S. nuclear power plants last year, a watchdog group charged on Thursday.

A report by the Union of Concerned Scientists, based on Nuclear Regulatory Commission data, claimed that "many of these significant events occurred because reactor owners, and often the NRC, tolerated known safety problems."

In the inspection of Indian Point about 25 miles from New York City, NRC auditors found that "the liner of a refueling cavity at Unit 2 has been leaking since at least 1993."

The USC report charged that "By allowing this reactor to continue operating with equipment that cannot perform its only safety function, the NRC is putting people living around Indian Point at elevated and undue risk."

David Lochbaum, director of UCS's Nuclear Safety Program, said that "the chances of a disaster at a nuclear plant are low" but "the more owners sweep safety problems under the rug and the longer safety problems remain uncorrected, the higher the risk climbs."

Edwin Lyman, a physicist in the UCS Global Security Program, also questioned the U.S. action in advising Americans to clear out for a 50-mile radius around the crippled Fukushima nuclear plant in Japan.

Lyman said that the standard in the U.S. set by the NRC and the Environmental Protection Agency only called for a 10-mile evacuation radius around a stricken plant.

"The level of complacency here at home is appalling," Lyman said. "They're gonna have to get their act together."

As first reported on the Mouth of the Potomac blog.

Scientists' Report Faults U.S. Oversight Of Nuke Plants (ASBPP)

By Todd Bates

[Asbury Park Press](#), March 18, 2011

U.S. nuclear regulators failed to enforce their own rules aimed at preventing Oyster Creek and many other nuclear plants from illegally releasing radiation into the environment, a group of scientists claim.

In 2009, Oyster Creek leaked an estimated 200,000 gallons of water contaminated with radioactive tritium. Groundwater contamination is being cleaned up now under a state Department of Environmental Protection order.

The U.S. Nuclear Regulatory Commission, which oversees all nuclear plants, has issued no fine against the Lacey plant.

Nationwide, many nuclear plants have released unmonitored amounts of radiation into the environment in the last decade, according to the Union of Concerned Scientists report.

Fourteen had "near-misses," or an increased risk of core damage, in 2009 or last year, according to the report. Oyster Creek was not among the 14.

The failure to enforce the rules against uncontrolled releases is "unfair to the people living around the plants," according to David Lochbaum, report author and director of the Nuclear Safety Project at the group, a nonprofit alliance of more than 250,000 citizens and scientists who say they are working toward a healthy environment and a safer world.

"It's also unfair to the plant owners, but not to the owners of the plants that leak and spill" and benefit financially by violating federal rules with impunity, according to Lochbaum.

The NRC should aggressively enforce its rules, according to Lochbaum.

NRC spokesman Neil A. Sheehan said in an e-mail that the NRC had not yet reviewed the report. An attempt to reach Exelon Corp., the owner of Oyster Creek, for comment was unsuccessful.

The scientific group released its report, titled "The NRC and Nuclear Power Plant Safety in 2010: A Brighter Spotlight Needed," Thursday as workers in Japan attempted to bring the heavily damaged Fukushima nuclear power plant under control and limit radioactive releases.

Meanwhile, the Japanese crisis has some in Ocean County seeking radiation protection.

About a couple of dozen people have picked up potassium iodide (KI) pills at the Ocean County Health Department since the Japan nuclear crisis began about a week ago, according to spokeswoman Leslie Terjesen.