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## Lack of data from Japan distresses nuclear experts

**Nuclear scientists and policy experts say the quality and quantity of information coming out of Fukushima has left gaping holes in their understanding of the nuclear disaster nearly two weeks after it began.**

By Ralph Vartabedian, Los Angeles Times

5:24 PM PDT, March 24, 2011

How did Japanese workers at the crippled Fukushima nuclear plant jury-rig fire hoses to cool damaged reactors? Is contaminated water from waste pools overflowing into the Pacific Ocean? Exactly who is the national incident commander?

The answers to these and many other questions are unclear to U.S. nuclear scientists and policy experts, who say the quality and quantity of information coming out of Japan has left gaping holes in their understanding of the disaster nearly two weeks after it began.

At the same time, they say, the depth of the crisis has clearly been growing, judging by releases of radioactivity that by some measures have reached half the level of those released in the Chernobyl accident of 1986, according to new analysis by European and American scientists.

### [Photos: Japan's earthquake, tsunami and nuclear crisis](#)

The lack of information has led to growing frustration with Tokyo Electric Power Co., known as Tepco, and the Japanese government, which has parceled out information with little context, few details and giant blind spots. It has left the international community confused about what is happening and what could come next.

"Information sharing has not been in the culture of Tepco or the Japanese government," said Najmedin Meshkati, a USC engineering professor who has advised federal agencies on nuclear safety issues. "This issue is larger than one utility and one country. It is an international crisis."

Almost every step of the way, the problems at the Fukushima Daiichi plant have been understated by those in charge in Japan, outside experts say, leaving observers scrambling to analyze the situation as best they can from afar.

The public health concern is growing with news that the radiation has spread, leading to advisories on food and water. An Austrian meteorological institute, the Central Institute for Meteorology and

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Geodynamics, said this week that computer models showed the emissions of radioactive cesium from the plant might already amount to 50% of what was released from Chernobyl, and that releases of radioactive iodine could be 20% of the Chernobyl total.

Edwin Lyman, a physicist with the Union of Concerned Scientists in Washington, said Thursday that his own modeling of the data had confirmed the Austrian analysis, suggesting that Japan might ultimately have to exclude humans from a large area and face a remediation effort more costly than thought.

"Confusion seems to be growing," Lyman said.

But Masaru Tamamoto, a professor of Asian and Middle Eastern studies at the University of Cambridge in Britain, said the handling of the crisis by Japanese government and corporate authorities is consistent with a culture that carefully guards information from the public and leaves decisions in the hands of anonymous bureaucrats.

Japan, Tamamoto said, lacks a nonprofit sector of government watchdog organizations that work closely with the news media to investigate and publicize government coverups. It leaves the public comfortably reliant on official pronouncements, he said.

"The public lives this way every day, and that's the way things are," Tamamoto said. "Even if you demanded the information, nobody has the information. Even the prime minister blurted out at one point that he didn't have information."

Tamamoto said that even significant nuclear contamination in the country might not be enough to prompt a change in this highly controlled and guarded bureaucracy, adding, "If this doesn't do it, I can't imagine what else would do it."

Experts contrast the events at Fukushima with the U.S. handling of the Deepwater Horizon oil spill in the Gulf of Mexico last year. Even though American watchdogs were highly critical of the accuracy of information, the national incident commander overseeing the crisis provided daily televised briefings. A video of oil leaking at the bottom of the gulf was put on the Internet.

By contrast, critics say, until recent days few detailed photographs of the equipment or the personnel working at the Fukushima plant have been made public.

It remains unclear whether there is an incident commander managing the day-to-day crisis and exactly who holds the authority for the operations at the plant. Tepco officials have never said whether water poured onto the reactors and the pools of still-radioactive spent fuel are draining directly into the Pacific or flooding the sub-basements of the reactor buildings.

"I have this image that they are forcing seawater through the piping somehow," said Frank N. von Hippel, a Princeton University physicist. Von Hippel said he wasn't quite sure how the repair efforts were accomplished, but added, "I have a lot of sympathy for these people."

It's also unclear how hydrogen gas escaped from the reactors and exploded. And though Japanese officials have said there may be a breach in one of the reactors, they have offered no details, photographs or data about it.

Even U.S. government agencies, including the Energy Department and the Nuclear Regulatory Commission, have been circumspect about what's going on at Fukushima, saying they are there at the invitation of Japan and cannot become the primary source of information.

But in at least two instances, U.S. officials have asserted an independent voice and offered candid warnings and explicit data. The NRC last week advised U.S. citizens to evacuate from within a 50-mile zone around the plant, more than double what Japanese citizens had been told to do. And this week the agency released radioactivity data that showed a highly radioactive plume on the ground extending northwest of the plant.

Nuclear experts have sharply criticized the International Atomic Energy Agency, which promotes the peaceful use of nuclear energy and reports to the United Nations, for not taking a more aggressive role in the crisis.

"The IAEA has been missing in action," said Meshkati, the USC professor. He testified before a U.N. commission in 1993, calling on the IAEA to adopt an international capability to respond to nuclear emergencies, a proposal he said fell on deaf ears.

"We don't have an international mechanism to deal with a nuclear crisis," Meshkati said. "We are still in the same place we were all these years after Chernobyl."

On Wednesday, when black smoke was seen rising from one of the Fukushima reactors, U.S. scientists had to speculate about whether it was coming from a motor that caught fire or a reactor that was sending up radioactive particulates. The answer was not forthcoming from sources in Japan.

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