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Japan Raises Estimate of Initial Radiation Release

By MITSURU OBE



Agence France-Presse/Getty Images

Workers prepare to spray dust inhibitor onto the walls and roof of unit two reactor building at the Fukushima Daiichi complex on June 1.

TOKYO— Providing fresh evidence on the severity of the nuclear crisis at the Fukushima Daiichi complex, the Japanese government more than doubled its estimate for the amount of radiation released from the plant in the first week of the March disaster and said holes may have formed around pipes attached to reactor

containment vessels.

The Nuclear and Industrial Safety Agency also said on Monday that it believes reactor cores at some of the units at the complex melted much faster than the plant operator previously suggested, citing recent evidence that initial efforts to inject seawater water into the reactors failed to cool the fuel rods as intended.



Architect Tadao Ando is a member on Japan's reconstruction panel tasked with drawing up proposals

Government safety officials briefing reporters on the new figure played down any suggestion of a greater impact on human health or food safety in the affected area.

"The levels of radiation people are exposed to are not going to change just because the government issued a new estimate," said Yasuo Kosaku, a NISA official involved in writing the report. The agency has pointed out that most of the radiation was released in the first week.

on how to rebuild the quake-ravaged country. He says the twin disasters exposed Japan's systemic flaws, but sees reconstruction as a healing opportunity.

Chief government spokesman Yukio Edano, however, said that Tokyo was continuing to monitor the situation and that it could look to evacuate people outside the current evacuation zones if it

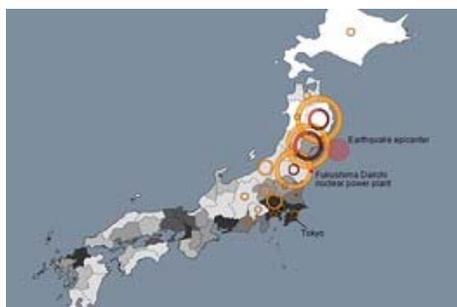
becomes clear the residents are receiving an unacceptable level of radiation.

Officials also said the new report wouldn't alter the plans to bring the nuclear reactors to a safe shutdown.

"There is no change to the road map," said Goshi Hosono, special adviser to the prime minister on the Fukushima accident. Plant operator Co. has plans to halt the release of radiation and bring the reactors to a state of cold shutdown by the end of this year.

Estimates by NISA now put the total amount of radiation released into the atmosphere in the first week of the crisis at 770,000 terabecquerels. This compares with a previous estimate, made April 12, of 370,000 terabecquerels for the first month of the crisis. A terabecquerel is equivalent to one trillion becquerels. A becquerel represents one radioactive event per second.

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The new estimate now brings NISA's estimate more in line with that of another government watchdog, the Nuclear Safety Commission, which has projected the total radiation release at 630,000 terabecquerels.

The disparity between the two estimates was never explained, but the figures partly reflect different methodologies. The commission calculated emissions based on actual measures of radiation taken on the ground. NISA's estimates were based on analysis of the conditions of the reactors.

The NSC is an independent expert panel modeled on the U.S. Nuclear Regulatory Commission, and oversees the regulatory activities of NISA, part of the nuclear-power promoting Ministry of Economy, Trade and Industry. During the current crisis, the

low-profile commission has consistently been seen as the stronger advocate of public safety, coming out first with a call to raise the rating of the crisis to the highest level, seven, on the international nuclear event scale.

The sharp upward revision shows the failure to contain the crisis swiftly resulted in greater radioactive contamination of surrounding regions than previously thought. The latest figure is about 10% of the radiation released from the 1986 Chernobyl disaster, estimated at 5.2 million terabecquerels, NISA said.

NISA estimates that less than 1% of the nuclear fuel inside the three units is likely to have leaked out. It said this demonstrated the importance of keeping the remaining fuel cool to prevent a much greater disaster.

NISA added that it now believes reactors No. 1 and No. 2 could have leakage areas of up to 35 square centimeters and 50 square centimeters, respectively. Initially, it said leaks of contaminated steam were likely from loosened pipe joints, rather than holes.

NISA spokesman Hidehiko Nishiyama said the new analysis will be part of the Japanese government's report, set to be approved Tuesday by the nuclear-crisis task force, headed by Prime Minister Naoto Kan. The report is to be presented to the International Atomic Energy Agency at the agency's conference in Vienna on June 20-24.

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The IAEA on June 2 wrapped up a 10-day fact-finding mission and released its own findings, which highlighted Japan's inadequate tsunami monitoring and the need for greater regulatory independence.

Monday's estimates follow the release last month by Tepco of new information about the conditions of reactor cores.

Tepco said the reactor core at Unit No. 1 completely melted away and dropped to the bottom of the reactor 15 hours after the plant lost electricity for essential cooling operations.

NISA said the core melted and dropped to the bottom in just five hours into the crisis, or by 8 p.m. of March 11, citing a spike in pressure inside the containment vessel.

NISA now believes the burning steam from the reactor has damaged the top part of the containment vessel and created a leak in the flange between the lid and the vessel's main body.

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