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## Tokyo Electric Uses Sawdust to Stop Radiation Leaking Into Sea

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By *Shinhye Kang and Jae Hur*

(See EXT3 &lt;GO&gt; for news on Japan's nuclear crisis.)

April 3 (Bloomberg) -- Tokyo Electric Power Co. used a mix of polymer, sawdust and newsprint in an attempt to stop radioactive water from the stricken Fukushima nuclear plant seeping into the sea.

The absorbent material was injected into a power-cable storage pit from where polluted water is escaping through a crack, the power utility said today at a briefing in Tokyo. It will introduce a tracer to the pit to check whether the operation has been successful.

Tokyo Electric, which has been working to stop radiation leaks since the March 11 earthquake and tsunami knocked out the plant's cooling systems, also plans to start infusing nitrogen gas into the reactors today to reduce the threat of hydrogen explosions, and is connecting power cables to pumps.

"The water-absorbent polymer has never been used before in these cases so I'm not sure whether this works well or not," said Suh Kune Yull, a professor of Nuclear Energy System Engineering at Seoul National University. "It may not be easy as the leaking pit is very wide."

Radiation in contaminated seawater near the Fukushima Dai-ichi plant was measured at more than 1,000 millisieverts an hour, Tokyo Electric said yesterday in a statement. Exposure to that level for an hour would trigger nausea, and four hours might lead to death within two months, according to the U.S. Environmental Protection Agency.

"The level of radiation may not affect the seawater and fish, which are moving, but it's enough to contaminate sea algae and clams near the plant if Japan fails to block the leak soon," Suh said by phone from Seoul.

### Bodies Found

The bodies of two workers missing since the March 11 earthquake were found today, Tokyo Electric said. They had been performing maintenance in the basement of the No. 4 reactor at the plant, the company said today on a news conference streamed over the Internet. The latest deaths bring to seven the number of workers killed at Tokyo Electric's two nuclear power complexes in Fukushima, including five employees of sub-contractors whose deaths were confirmed on March 12 and 14.

The total number of dead and missing from the disaster in Japan was 27,481 as of 10 a.m. Tokyo time today.

It may take several months to stop the emission of radioactive material, Goshi Hosono, a lawmaker in the Democratic Party of Japan in the ruling coalition, told reporters. Hosono is an envoy between the government and Tokyo Electric.

### Radiation Levels

A company executive said earlier today he isn't optimistic about the prospect of containing damage at the Fukushima Dai-ichi nuclear power plant's No. 3 reactor.

"I don't know if we can ever enter the No. 3 reactor building again," Hikaru Kuroda, the company's chief of nuclear facility management, said at a press conference.

Japan's Nuclear and Industrial Safety Agency yesterday ordered Tokyo Electric to increase monitoring of seawater near the No. 2 reactor after the leaks led to a rise in radiation, agency Deputy Director Hidehiko Nishiyama said. Above-normal levels of radioactive iodine were detected in seawater 40 kilometers (25 miles) south of the plant, broadcaster NHK reported.

About 10 centimeters (4 inches) to 20 centimeters of radioactive water was found in the leaking pit, which is 1.2 meters by 1.9 meters across and 2 meters deep, and had a crack about 20 centimeters wide, Takashi Kurita, a company spokesman, told reporters at a briefing at Tokyo Electric's Tokyo headquarters.

Tokyo Electric tried to plug the crack by filling the pit near reactor No. 2 with concrete yesterday, Junichi Matsumoto, another company official, said at a later press conference. Water in the pit was found to have 10,000 times the normal level of toxic iodine 131, he said. Kyodo News first reported the leak yesterday.

### Offering Help

The pit is separate from the trenches where the company found contaminated water earlier, Susumu Tsuzuki, a Tokyo Electric nuclear facility maintenance official, told reporters.

General Electric Co. Chief Executive Officer Jeff Immelt will meet officials from Tokyo Electric as the utility struggles to stabilize its damaged reactors, designed by the U.S. company.

Immelt is traveling to Japan "to meet with employees, partners and customers including Tokyo Electric," Deirdre Latour, a GE spokeswoman, said in an e-mail. Reactors at the crippled plant are based on a four-decade-old design from Fairfield, Connecticut-based GE.

### Nitrogen Infusion

Tokyo Electric plans to begin infusing nitrogen into the plant today, Tsunoda said, without specifying where. Several hydrogen explosions happened when the gas was released from overheating reactors after the March 11 tsunami knocked out their cooling systems.

A 9-magnitude earthquake and subsequent tsunami severed power and damaged reactors at the Fukushima complex about 220 kilometers (136 miles) north of Tokyo. Workers have been spraying water on the reactors to cool radioactive fuel rods in the worst nuclear accident since Chernobyl in 1986.

Tokyo Electric said it is connecting power cables to cooling systems on three of four damaged reactors. Connecting power may not work because of potential damage caused by blasts that ripped through the plant in the days after the quake.

Japanese Prime Minister Naoto Kan yesterday made his second visit to the areas hit by the quake and tsunami, according to the prime ministers website. Kan flew on a helicopter to Iwate prefecture in the northeast to meet with evacuees and then went to neighboring Fukushima prefecture to talk with Self-Defense Forces members and other workers at the Dai-Ichi nuclear plant.

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