

# TEPCO admits nuclear meltdown occurred at Fukushima reactor 16 hours after quake

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Tokyo Electric Power Co. (TEPCO) admitted for the first time on May 15 that most of the fuel in one of its nuclear reactors at the Fukushima No. 1 Nuclear Power Plant had melted only about 16 hours after the March 11 earthquake struck a wide swath of northeastern Japan and triggered a devastating tsunami.

According to TEPCO, the operator of the crippled nuclear power plant, the emergency condenser designed to cool the steam inside the pressure vessel of the No. 1 reactor was working properly shortly after the magnitude-9.0 earthquake, but it lost its functions around 3:30 p.m. on March 11 when tsunami waves hit the reactor.

Based on provisional analysis of data on the reactor, the utility concluded that the water level in the pressure vessel began to drop rapidly immediately after the tsunami, and the top of the fuel began to be exposed above the water around 6 p.m. Around 7:30 p.m., the fuel was fully exposed above the water surface and overheated for more than 10 hours. At about 9 p.m., the temperature in the reactor core rose to 2,800 degrees Celsius, the melting point for fuel. At approximately 7:50 p.m., the upper part of the fuel started melting, and at around 6:50 a.m. on March 12, a meltdown occurred.

On the reason why it took over two months after the earthquake to reveal the information, TEPCO said it had only been able to start obtaining detailed data on the temperature and pressure in the reactor for analysis in early May.

Junichiro Matsumoto, a senior TEPCO official, said, "Because there is similar damage to the fuel rods at the No. 2 and 3 reactors, the bottoms of their pressure vessels could also have been damaged." He said the utility would carry out similar analysis on the two reactors.

Hiroaki Koide, professor of nuclear safety engineering at Kyoto University, was critical of TEPCO.

"They could have assumed that when the loss of power made it impossible to cool down the reactor, it would soon lead to a meltdown of the core. TEPCO's persistent explanation that the damage to the fuel had been limited turned out to be wrong," he said.

**Mainichi** , May 16, 2011

<http://mdn.mainichi.jp/mdnnews/news/20110516p2a00m0na028000c.html>

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## **Meltdown may have occurred also at Nos. 2, 3 reactors**

An adviser to Prime Minister Naoto Kan said Monday that the operator of the Fukushima Daiichi nuclear power plant had failed to inject water into the Nos. 2 and 3 reactors for more than six hours after the March 11 massive earthquake and ensuing tsunami.

Goshi Hosono, tasked with handling the nuclear crisis, said at a press conference that Tokyo Electric Power Co. had not been able to cool down the reactors' cores due to loss of external power for a long time after the quake, acknowledging that fuel in the vessels might have largely melted "in the worst-case scenario."

But he added the utility, known as TEPCO, has been succeeding in preventing the reactor's fuel from overheating so far and reiterated the government will stick to the timetable set by the firm, which announced April 17 it aims to bring the crisis there under control in six to nine months.

Kyodo, May 16, 2011

<http://english.kyodonews.jp/news/2011/05/91395.html>

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## **No. 2, No. 3 Reactors May Have Also Suffered Core Melt: Hosono**

Tokyo, May 16 (Jiji Press)—Cooling water was not injected for some six hours into the No. 2 and No. 3 reactors of the Fukushima No. 1 nuclear power plant and their fuel rods may have melted, Goshi Hosono, special adviser to the prime minister, said Monday.

Tokyo Electric Power Co., the plant's operator, has already acknowledged that fuel melted at the No. 1 reactor and all the fuel piled up at the bottom of the reactor pressure vessel.

Hosono said at a news conference that the cooling systems halted for six hours and 29 minutes at the No. 2 reactor and for six hours and 43 minutes at the No. 3 reactor.

These were shorter than the loss of coolant for 14 hours and nine minutes at the No. 1 reactor but are never a short period of time, he said.

Hosono indicated that the government is reviewing the company's road map for containing the crisis at the plant crippled by the March 11 quake and tsunami, based on the assumption that each of the reactors suffered a meltdown. The government will announce its road map Tuesday.

**Jiji Press**, May 17, 2011

<http://jen.jiji.com/jc/eng?g=eco&k=2011051700009>

