

# Fukushima: Absent TEPCO execs slowed crucial action

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This is the second installment in a series focusing on delays in implementing emergency steps by the government and Tokyo Electric Power Co. to deal with the unprecedented nuclear crisis at the Fukushima No. 1 nuclear power plant.

It took TEPCO about 15 hours to vent steam from the nuclear reactor vessel at the Fukushima facility's No. 1 reactor, despite having recognized the need to do so by the evening of March 11.

A major reason for the delay is believed to have been the malfunction of an automatic switch for a pressure-regulating valve on the containment vessel due to the loss of power, compounded by a delay in opening the valve after switching the device to manual operation.

According to some observers, Prime Minister Naoto Kan's on-site inspection of disaster-stricken areas on the morning of March 12 may also have contributed to the delay. "TEPCO might've held off the venting so the prime minister wouldn't be exposed to radiation," one observer said.

At a press conference Thursday, Chief Cabinet Secretary Yukio Edano hinted at his distrust in the power utility. "[TEPCO] didn't explain why it hadn't started [the venting] yet. We'd already issued an order [to do so]," he said.

Edano's remark has aroused speculation that the absence of top TEPCO officials from the company early on in the crisis might have adversely affected the company's decision-making process regarding the venting of steam from the reactor.

At the time of the earthquake, Chairman Tsunehisa Katsumata was in Beijing, while President Masataka Shimizu was in Kansai, both of them on business trips. Lacking their top two executives, the utility's head office in Tokyo launched a disaster management headquarters with Vice President Takashi Fujimoto as its acting chief.

According to sources, Katsumata received a phone call from his secretary at 2:52 p.m. on March 11—immediately after the earthquake. Katsumata was visiting China as the head of a Japan-China economic exchange group. He reportedly told the secretary he would cancel the rest of his trip and "return to Japan right away."

But since Narita Airport was closed due to the quake, Katsumata did not arrive in Japan until March 12. He landed at about 12:50 p.m. but only arrived at the office a little before 4 p.m. due to traffic congestion.

Shimizu, meanwhile, found out about the earthquake via TEPCO's independent alert system on his mobile phone. Shimizu called Fujimoto and tried to return to Tokyo, but was not able to find a train, plane or helicopter to take him to the capital. He decided to head by train to Nagoya where he hired a helicopter and arrived in Tokyo at about 10 a.m. on March 12.

The firm's top two executives did not arrive at its Tokyo headquarters until about 20 hours after the

earthquake.

"There was no problem with the chain of command since we kept in touch by cell phone," according to one TEPCO official. But during that time, the firm faced a series of major decisions.

From the evening of March 11, the Prime Minister's Office and other authorities had asked TEPCO repeatedly to vent the reactor, but the operation did not take place until 10:17 a.m. after Shimizu had arrived at the main office.

The decision to inject seawater to cool the reactor cores was another big call, but did not begin until past 8 p.m. on March 12 after Katsumata returned to Japan.

Venting a reactor heightens the risk of radioactive contamination. This decision could place enormous social responsibility on the company and also make it liable for substantial damages. And injecting water into a reactor core essentially destroys it. One reactor costs about 100 billion yen to replace.

A company's shareholders generally are informed before such major actions are taken, and they are not the type of orders that can easily be conveyed over a mobile phone from the Kansai region or China.

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\* *The Yomiuri Shimbun*, Apr. 13, 2011:

<http://www.yomiuri.co.jp/dy/national/T110412006319.htm>

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## **One crisis after another harried TEPCO's response**

This is the third installment in a series focusing on delays in implementing emergency steps by the government and Tokyo Electric Power Co. to deal with the unprecedented nuclear crisis at the Fukushima No. 1 nuclear power plant.

TEPCO's venting of radioactive steam from a reactor at the crippled Fukushima No. 1 nuclear plant came too late, but even after the utility acted, a series of hydrogen explosions at the plant's reactor buildings quickly turned the situation into a nightmare the government's Nuclear and Industrial Safety Agency had never anticipated.

Under ordinary circumstances, reactor containment vessels that cover pressure vessels contain nearly no oxygen, making it almost impossible for the substance to chemically react with hydrogen and set off a blast. Even if hydrogen is generated in a reactor, it should not leak from the containment vessel. But after the disaster damaged pipe joints in the reactor building, hydrogen from inside the reactor leaked into the outer structure.

The first blast occurred at the No. 1 reactor at 3:36 p.m. on March 12, about five hours after the radioactive steam was released. The event violently shook an earthquake-resistant building nearby that was housing the crisis headquarters in the compound.

An employee of a TEPCO partner company said he was sitting on the floor when the explosion hit

and it tossed him about 10 centimeters up in the air. "I thought an earthquake had hit nearby," he said. People around him started shouting, "Check the [radiation] dose!"

TEPCO officials at the crisis headquarters became seriously alarmed. They feared another explosion could rock the No. 3 reactor.

On the night of March 12, workers from the headquarters tried to lay power cable from No. 4 reactor's turbine building to the No. 3 reactor's cooling motor, hoping No. 4's power supply was still functioning. But the door to the turbine building had been warped by the tsunami and was stuck shut. It took the workers about three hours to remove the door, but they soon saw their work had been for nothing. The No. 4 reactor's power supply was dead.

Slowly, workers at the power station were realizing the tsunami had caused destruction beyond their imagination.

At 11 a.m. on March 14, the No. 3 reactor building exploded and again the headquarters in the quake-resistant structure was given a violent shake.

These two explosions—on March 12 and 14—underlined the severity of the nuclear crisis for Defense Ministry officials in Tokyo.

After the blast at the No. 1 reactor on March 12, the officials received a report from the nuclear safety agency saying, "The No. 2 reactor is unstable." But the only action TEPCO's crisis headquarters said it would take was to "respond to rising pressure [at the No. 3 reactor] by venting the reactor."

Even after the blast at No. 3 reactor, the nuclear safety agency continued to say the reactor vessel was sound and the container was filled with water.

At 6:10 a.m. on March 15, an explosion was heard from the No. 2 reactor. This was followed by a fire near a storage pool for spent nuclear fuel at the No. 4 reactor at 9:38 a.m. Radiation in excess of 400 milisieverts per hour was detected in the vicinity.

Until this point, the nuclear safety agency had been saying the No. 4 reactor was relatively stable. TEPCO had repeatedly said the No. 4 reactor had been stopped and as long as there was water in the spent fuel storage pool, things would be fine. The firm had been frantically trying to deal with the crises that kept erupting at the Nos. 1-3 reactors, like a deadly game of whack-a-mole.

It was starting to dawn on government officials, including Defense Minister Toshimi Kitazawa, that the nuclear safety agency and TEPCO lacked the ability to make appropriate decisions. They were becoming frustrated by what they saw as constant changes to explanations about what was happening at the power station. Distrust in the agency and TEPCO was soaring.

But TEPCO and the nuclear safety agency had their hands full responding to the volatile situation surrounding the No. 2 reactor after the blast at the No. 1 reactor. Dealing with one urgent crisis after another, they had no time to take actions that would have averted the more serious situation that was to develop.

The situation at the Fukushima complex had grown from simply out-of-hand into a disaster of unimaginable dimensions.

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\* *The Yomiuri Shimbun*, Apr. 14, 2011

<http://www.yomiuri.co.jp/dy/national/T110413004031.htm>

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