

INSIDE FUKUSHIMA: How workers tried but failed to avert a nuclear disaster

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THE ASAHI SHIMBUN

RADIATION RISES

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Personal radiation dosimeters worn by workers in the central control room of the No. 3 and 4 reactors began to beep every three seconds. This meant only one thing: Radiation levels were rising rapidly.

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At 3:16 p.m. on March 13, it was reported during a teleconference that the radiation level at the central control room had reached 12 millisieverts per hour.

"This is not good at all," Yoshida muttered, 23 minutes later. "This is especially bad news for the No. 3 reactor, given what's been happening there. And since we probably should anticipate a hydrogen explosion at the No. 2 reactor, I've ordered all workers to evacuate."

"The No. 2 reactor's seawater injection line is still not working," he said. "To go there and get the line working again takes tremendous courage. But since we now know that the safety-release valves can be opened, I was just discussing with my people that it's time to put together a 'geezers' suicide squad."

At 5 p.m., it was reported that the No. 3 reactor had white vapor rising above it.

TEPCO Managing Executive Officer Komori expressed a growing sense of crisis. The No. 1 reactor building had exploded the day before. "This is very, very bad. Vapor began rising (from the No. 1 reactor) 30 minutes (before the explosion). We've only got 30 minutes (before the No. 3 reactor building goes)," he said.

OPTIONS EXHAUSTED

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Work continued in fits and starts, disrupted by high radiation. By the night of March 13, there was increasing concern over rising water temperatures not only in the No. 1, No. 2 and No. 3 reactors but also in the spent fuel storage pool of the No. 4 reactor building. In the absence of any effective countermeasures, time kept ticking away.

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At 6:40 a.m. on March 14, Yoshida reported on the gravity of the situation at the No. 3 reactor.

"Since 6:10 this morning, the water level has fallen (to below the bottom of the fuel rods)," he said. "To put it bluntly, I'd say we may already be at a hypothetical accident level."

"There are many people in the vicinity of the plant, and a lot of people at the plant itself, too. Given the situation at hand, it may be time now to start thinking about what to do with these people, rather than about how we should proceed with our work."

At 11:01 a.m., an explosion occurred at the No. 3 reactor building.

Akio Takahashi, a TEPCO official, gave Yoshida an order: "Give us your radiation level readings quickly so we can determine whether we need to evacuate you."

TEPCO President Masataka Shimizu wondered aloud: "What happened? Haven't we found out yet?"

At 7:20 p.m., the technical team at the Fukushima No. 1 plant predicted imminent damage to the No. 2 reactor. At 8:22 p.m., a core meltdown would begin. And two hours later, the reactor's pressure vessel would be damaged. There was less than three hours left to deal with the situation.

Senior TEPCO officials began seriously discussing evacuation. "You've got to start setting the conditions for evacuation," Komori said. "There will be a terrible mess unless you make a judgment call on whether or not the plant workers should remain in the central control room."

"I hear you," said TEPCO Executive Vice President Sakae Muto. "Let's do it."

Takahashi was sitting beside TEPCO Chairman Tsunehisa Katsumata. "We've exhausted our options," Takahashi said.

"What?" Katsumata exclaimed, obviously not expecting this.

TEPCO headquarters told the plant what it must do ahead of the evacuation. "If you evacuate while you are still unable to open the vents, the resultant situation will be extremely difficult to control. Therefore, please complete your work on the vents."

The headquarters continued: "Here's an interim report on what is being considered. Evacuation should begin one hour before (expected damage to the No. 2 reactor pressure vessel). We are thinking that you should start preparing for evacuation 30 minutes before (you leave)."

EVACUATION

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More than 6,000 workers were at the Fukushima No. 1 plant when the magnitude-9.0 earthquake and tsunami struck on March 11. More than 700 workers were still there on the night of March 14. In the morning of March 15, all but about 70 had evacuated to the Fukushima No. 2 plant. This evacuation plan had been under consideration while the situation continued to deteriorate at the No. 2 reactor.

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With the likelihood of a reactor explosion hanging over them, TEPCO headquarters stressed: "We want you to leave the plant after the pressure inside the reactor has been lowered."

TEPCO official Takahashi said: "What's the time of evacuation, or withdrawal, from the plant? Did we tell them to set the conditions of evacuation? Mr. Muto, around what time is everyone supposed to leave the plant?"

Someone from headquarters replied: "They can all leave after successful venting."

Around 8 p.m., cooling water was pumped into the No. 2 reactor.

TEPCO Chairman Katsumata, who had been out of the room, returned to his seat and asked Takahashi: "What happened? Did the water go in?"

"The water went into the No. 2 reactor around 8 p.m., just a minute or two ago," Takahashi replied.

"Ah. But perhaps it's too late?" Katsumata said.

Takahashi then asked: "All the people who right now are at the 1F (Fukushima No. 1 plant) are going to evacuate to the visitor hall of the 2F (Fukushima No. 2 plant), am I correct?"

Naohiro Masuda, general manager of the Fukushima No. 2 plant, interjected: "We are setting up two emergency response rooms, one for our No. 2 plant and the other for use by people from the No. 1 plant. I ask the (TEPCO) headquarters not to confuse the two."

With that, it was decided that emergency response functions would be effectively transferred from the Fukushima No. 1 plant to the Fukushima No. 2 plant.

TEPCO President Shimizu, who had been frequently leaving his seat to make calls on his mobile phone, said, "I am in the process of confirming our plans with the appropriate parties."

The situation appeared to be improving. But around 9:20 p.m., pressure in the No. 2 reactor's containment vessel began to rise. Unless the vessel was vented quickly, the danger of the reactor itself blowing up was becoming very real.

As for its evacuation plans, TEPCO insists on its website that it told the prime minister's office of its intention to discuss them: "Given the critical nature of the situation at the Fukushima No. 1 plant, it will eventually become necessary to consider evacuating non-essential staffers from the plant temporarily."

But the teleconference tapes show no one, not even TEPCO President Shimizu, making remarks that can corroborate TEPCO's claim that it had planned to evacuate "non-essential staffers temporarily."

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