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Deja Vu All Over Again at Fukushima Daiichi?

Amid the fallout from the Fukushima Daiichi nuclear power plant crisis, it now appears operator Tokyo Electric Power Co., or Tepco, and Japan's Nuclear and Industrial Safety Agency, or NISA, may have missed troubling signals. These include signs the 40-year old plant was vulnerable in terms of precautionary procedures and outmoded equipment in a way that's disconcertingly reminiscent of incidents at Three Mile Island.



Associated Press

Technicians prepared to enter the containment building housing the damaged Unit Two reactor of Three Mile Island in Middletown, Pa. on October 16, 1980.

Nine months before the March 11 earthquake and tsunami that precipitated the nuclear disaster, a loss of power triggered a two-meter drop in water levels inside the plant's No. 2 reactor. Unlike the March meltdown, the little-reported June 17, 2010 glitch didn't release radiation. And it wasn't caused by a giant wave, but rather [a misplaced elbow](#).

In a final report issued about the incident on July 6, 2010, Tepco noted the cramped work space in the plant's control room as a [contributing factor](#). For some nuclear power plant experts, that invokes a powerful sense of déjà vu.

"These plants are all of roughly the same vintage and suffer from a common lack of 'human factors' considerations in the design of their control systems. That was a major contributing cause to the Three Mile Island accident," said Najmedin Meshkati, a professor of civil engineering at the University of Southern California in Los Angeles, who authored [a 1991 study of human factors in large-scale industrial accidents](#).

Following the March of 1979 core meltdown at the Three Mile Island plant in the U.S., [a report by a blue ribbon Presidential commission determined that poor ergonomics played a role in that accident](#). Specifically, it cited a confusing array of indicators on the main control panel, some of which were placed in areas that were hard for control room operators to see and engage.

More ominously, the report goes on to mention an incident that occurred at the U.S. plant the year before the infamous accident—one which bears an eerie resemblance to what happened at Fukushima Daiichi in 2010 and 2011.

According to the report: "On November 3, 1978, a mechanic caused a complete shutdown of the plant, including exercising of emergency systems, when he tripped a switch on the polisher electrical panel, thinking he was turning on a light. The only corrective action was to put a guard on the switch."

After the Fukushima Daiichi incident in June of last year, what were Tepco's remedial actions? Posting warnings signs and guards on critical switches, according to a company spokesman.

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