

Active fault decision could affect all nuclear facilities in Aomori Prefecture

December 21, 2012

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THE ASAHI SHIMBUN

The new industry watchdog said faults under a nuclear plant in Aomori Prefecture are likely active, an assessment that could have far-reaching ramifications for the operators of the many nuclear facilities in the prefecture.

The judgment of a Nuclear Regulation Authority panel on Dec. 20 is expected to prompt further studies not only at Tohoku Electric Power Co.'s Higashidori plant, but also at other nuclear-related operations in the northern end of Honshu.

The web of fault lines that may be active could force electric power companies to further postpone plans to restart their reactors and enhance quake-resistance measures at their plants, further hammering their bottom lines.

"It is our shared understanding that (Tohoku Electric's) argument that they are not active faults is totally unacceptable," said Kunihiko Shimazaki, an NRA commissioner and head of the panel that studied the fault lines--called F-3 and F-9--on Dec. 13-14.

Four outside experts are on the panel.

Despite the panel's assessment, Tohoku Electric repeated its argument to reporters that the faults are not active.

The panel's decision is unlikely to result in the immediate decommissioning of the sole reactor at Tohoku Electric's plant in Higashidori village because the fault lines do not run directly beneath it. Under current safety guidelines, reactors cannot be built directly above active faults.

But the F-3 fault is located only about 400 meters west of the reactor building and stretches several kilometers. The F-9 fault runs parallel to the F-3.

Tohoku Electric will be forced to study how possible earthquakes and land slippage triggered by the two active faults would affect the plant, prolonging the period when it will be allowed to restart the reactor.

Depending on the results of the study, the company could be required to spend huge sums to reinforce the plant against earthquakes.

Tohoku Electric, much like other regional utilities, has already been saddled with rising fuel costs for its thermal plants since all reactors were shut down in Japan after the accident at the Fukushima No. 1 nuclear power plant last year.

The panel experts said other faults known to exist at the Higashidori plant could also be active.

Heitaro Kaneda, associate professor of earth sciences at Chiba University and a member of the NRA panel, said Tohoku Electric should be prepared for a temblor with a magnitude exceeding 7.0 and its focus directly below the plant.

Shimazaki noted the difficulty in predicting the impact of an earthquake and the scale of the slippage because of the proximity of the faults.

"We have no adequate measures" to figure out them, Shimazaki said.

Tohoku Electric operates three other reactors. Those at its Onagawa plant in Miyagi Prefecture were damaged by last year's Great East Japan Earthquake and tsunami that led to the triple meltdown at the Fukushima plant.

When Tohoku Electric applied to the central government for a permit to build the Higashidori reactor in 1996, it acknowledged signs of strata slippage resembling those caused by active faults.

But the utility insisted they were created by clay that swelled up after the infusion of underground water.

The central government granted the permit in 1998, and the reactor went online in 2005.

However, the Nuclear and Industrial Safety Agency, the predecessor of the NRA, ordered the utility to conduct additional studies after guidelines for the quake resistance of nuclear facilities were revised in 2006.

Other operators could be affected by the panel's assessment of the fault lines.

The F-3 fault extends into the grounds of Tokyo Electric Power Co.'s Higashidori nuclear plant, which is under construction to the north of Tohoku Electric's plant of the same name.

"A string of faults also go into (the site of) TEPCO," Shimazaki said at the panel meeting on Dec. 20.

Work to construct the No. 1 reactor at TEPCO's plant was suspended after the Great East Japan Earthquake. About 10 percent of the work has been completed.

TEPCO, operator of the crippled Fukushima plant, could be asked to re-evaluate the Higashidori plant's ability to withstand the impact of a major earthquake.

In Oma, a town west of Higashidori, Electric Power Development Co. (J-Power) has completed about 40 percent of the construction work for a one-reactor nuclear plant.

Geologists now warn that faults running below Oma plant's premises could be active.

TEPCO and J-Power, like Tohoku Electric, argued that the signs of active faults were simply caused by swollen clay.

The NRA is set to conduct an on-site inspection of the Oma plant, depending on the results of J-Power's studies.

Particularly worrisome is the continental shelf edge fault running north to south for about 80 kilometers off the Pacific coast of the Shimokita Peninsula in the prefecture.

If active, it could unleash an earthquake with a magnitude of 8.0 or more, putting at risk the many nuclear facilities concentrated in the peninsula, according to the experts.

In addition to the Higashidori plants and the Oma plant, the peninsula is home to the spent nuclear fuel recycling plant in Rokkasho village and a temporary storage facility for spent nuclear fuel under construction in Mutsu.

Some experts say the branches of the continental shelf edge fault extend beneath the grounds of the reprocessing facility.

Shunichi Tanaka, chairman of the NRA, has indicated that additional studies will be needed on the faults of the entire peninsula.

The NRA panel concluded earlier this month that a fault under Japan Atomic Power Co.'s Tsuruga plant in Fukui Prefecture is active, and that the plant's No. 2 reactor building likely sits directly above an active fault.

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