

# Japan nuclear watchdog asks Fukushima plant operator to assess risk from reactor damage

May 25 2023, by Mari Yamaguchi

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The Fukushima Daiichi nuclear power plant sits in coastal towns of both Okuma and Futaba, as seen from the Ukedo fishing port in Namie town, northeastern Japan, on March 2, 2022. A nuclear watchdog has asked the operator of Japan's wrecked Fukushima nuclear power plant to assess potential risks from damage found in a key supporting structure inside the worst-hit of the three melted reactors. Credit: AP Photo/Hiro Komae, File

A nuclear watchdog has asked the operator of [Japan's wrecked Fukushima nuclear power plant](#) to assess possible risks resulting from damage that was found in a key supporting structure inside one of the three melted reactors.

A [robotic probe sent inside the Fukushima Daiichi](#) plant's Unit 1 primary containment chamber found that its pedestal—the main supporting structure directly under its core—was extensively damaged. Most of its thick concrete exterior was missing, exposing the internal steel reinforcement.

About 880 tons of highly radioactive melted nuclear fuel remain inside the plant's three damaged reactors. Robotic probes have provided some information, but the [status of the melted debris is still largely unknown](#).

Based on data collected from earlier probes and simulations, experts have said most of the melted fuel inside Unit 1, believed to be the worst hit, fell to the bottom of the primary containment chamber, but some might have fallen through to the concrete foundation—a situation that makes the already daunting task of decommissioning extremely difficult.

At a meeting Wednesday of the Nuclear Regulation Authority, its commissioners agreed to order operator Tokyo Electric Power Company Holdings to urgently assess the risks from the pedestal damage, including the possible leak of radioactive substances from cracks and holes caused by the meltdown. The authority also requested that TEPCO assess potential risks if, in the event of another disaster, the pedestal fails to support the reactor.

"We need to think about responses in case of an accident," commissioner Shinsuke Yamanaka told reporters. "TEPCO has a responsibility to

make the risk assessment as soon as possible."

TEPCO has said that, even though the concrete exterior is largely missing, the steel reinforcement remains intact and there is little safety risk. If the pedestal fails, its surrounding structures could prevent the reactor from collapsing. TEPCO said it plans to further analyze data and images over the next few months to determine how resistant the reactor is to earthquakes.

The images were the first to be taken from inside the pedestal since the March 11, 2011, disaster caused by a massive earthquake and tsunami. Robots were sent inside in earlier attempts but were unable to reach the pedestal and take pictures. The images, captured in March by a remote-controlled underwater vehicle, show details of the damage inside the pedestal and places where traces of melted fuel can most likely be found, and will be key to an investigation by TEPCO and nuclear experts.

The damage is believed to be from the initial earthquake in 2011, but might have happened more recently. The images of the exposed steel reinforcement have triggered concerns among local residents about the reactor's safety.

A plan to release treated, but still slightly radioactive, water from the Fukushima Daiichi plant into the sea has also triggered concerns and protests from the local fishing community and neighboring countries, including South Korea.

A [South Korean delegation of government experts visited the plant](#) for two days this week to see the facilities related to the planned water release. The [team members](#) were to meet with Japanese officials on Thursday in Tokyo, where they said they plan to follow the review of the International Atomic Energy Agency, which has been assisting Japan to improve transparency and credibility.

Yoo Guk-hee, chairperson of South Korea's Nuclear Safety and Security Commission who heads the delegation, said the plant visit was to review and confirm "certain things that needed to be seen in person." He said his team plans to release its findings from the visit as soon as possible.

Yuki Tanabe, a Japanese industry ministry official in charge of the Fukushima Daiichi accident response team, said government and TEPCO officials responded sincerely to the South Korean experts' questions and that she hopes their plant visit helped their understanding about the safety of the water release plan. She said Japanese officials will continue their efforts to be transparent in disclosing information.

Trial removal of melted debris from the Unit 2 reactor is expected to begin later this year after a nearly two-year delay. Removal of [spent fuel](#) from the Unit 1 [reactor](#)'s cooling pool is to start in 2027 after a 10-year delay. Once all the spent fuel is removed from the pools, melted debris will be taken out of the reactors starting in 2031.

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Citation: Japan nuclear watchdog asks Fukushima plant operator to assess risk from reactor damage (2023, May 25) retrieved 6 May 2024 from <https://techxplore.com/news/2023-05-japan-nuclear-watchdog-fukushima-reactor.html>

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