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As workers enter unit 2, TEPCO recounts events inside unit 4 spent fuel pool

22 June 2011

An investigation of the Fukushima Daiichi unit 2 reactor building ground floor and first floor found radiation levels as high as 430 mSv/hr.



Fukushima Daiichi Unit 2 emergency exit; Image taken on 20 June as reactor building airlock opened

Levels were 42 mSv/hr at the gauge racks. The maximum dose of the 10-man team in the 10-minute tour was 5.52 mSv.

Also, TEPCO has begun injecting water into the unit 4 drier/separator pit with water. It expects that injecting 1000 tons of water will help reduce radiation dose in the reactor building by covering irradiated parts of the core shroud and drier and separator, which are currently flooded by 2.8 m of water. The water will be injected through the in core monitor housing at the bottom of the reactor vessel.

TEPCO said that it originally thought that cooling water in the unit 4 spent fuel pool, which was 5m deep at the time of the accident, had boiled away from fuel decay heat (which was not removed by circulation systems, which were shut down for lack of power). However, later visual observations from a helicopter, pool water nuclide analysis and water injection data confirmed the existence of water in the pool, and the overall integrity of the pool.

It suggested a few weeks ago that the hydrogen explosion in the unit 4 spent fuel pond was not caused in the same way as hydrogen explosions in the reactor buildings of units 1 and 2—by the boiling away of stagnant cooling water, the uncovering of fuel rods, and a zirconium-oxygen chemical reaction. Instead, TEPCO suggested that unit 4 air intakes had accidentally sucked up hydrogen vented from unit 3.

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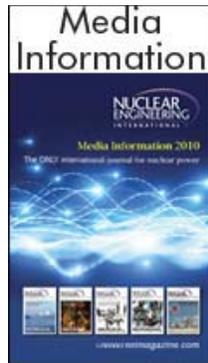
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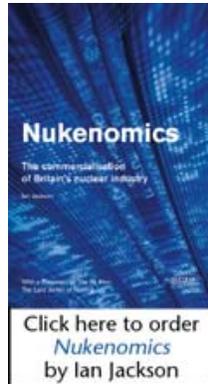
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TEPCO proposed that the reason that the spent fuel pond did not boil dry was because as spent fuel pool water evaporated, water from the drier/separator pit and the reactor well flowed into the spent fuel pond through a gate. However, water injected into the spent fuel pool on an emergency basis did not flow back into the reactor well and drier/separator pit.

In the meantime, TEPCO has restarted the Fukushima Daiichi contaminated water system. The system was stopped on 18 June after the radioactivity limit for the first stage oil and technetium removal skid was exceeded (4.7 mSv compared with 4 mSv), after pumping about 75 tons of water. The vessel was replaced and a test run began. By the time a pump tripped automatically on 21 June, the system had pumped 750 tons of water. After some further adjustments, the process was restarted at 12:16 on 21 June.



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