

Leakage of Water Treated by the Multi-Nuclide Removal Facility (ALPS) at Fukushima Daiichi NPS – Confirm No Leakage to Ocean

On 17 December 2014, the Nuclear Regulation Authority (NRA) of Japan received a report from TEPCO regarding an event at Fukushima Daiichi NPS, pursuant to the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors.

The report delineates the event in which water treated by the Multi-Nuclide Removal Facility (ALPS)* leaked from an open end of a branch pipe branching off the main pipe.

*ALPS treats water to remove radionuclides from contaminated water in tanks, aiming to reduce levels of 62 nuclides not including tritium (H-3). Hereinafter referred to as “treated water”

Summary of TEPCO’s report:

- At around 3:00 pm on 17 December 2014, treated water being transferred to the J6 Tank Area at Fukushima Daiichi NPS was found leaking from an open end of a branch pipe connected to the main pipe.
- While having an open end, the valve on the branch pipe was open. Closing the valve on the branch pipe stopped the leakage. The estimated volume of the leaked treated water is approximately 6 tons, based on the flow rate and time.
- Analyses of the treated water – dated 15 December, H-3 not included – are as follows:
 - A-line ALPS: 8.9×10^1 Bq/L (Total beta)
 - C-line ALPS: 1.2×10^2 Bq/L (Total beta)
- Leakage of the treated water to the ocean was ruled out based on the following observations:
 - The layer of soil above the asphalt-covered ground at the point of leakage was soaked with the leaked treated water.
 - The leaked treated water was also found accumulating in the closed pipe trench at a lower elevation from the point of leakage.

- Approximately 9 m³ of water – rainwater included – was removed from the pipe trench by 7:35 pm on 17 December. Approximately 20m x 0.5m of soil soaked with water was removed by 5:30 pm the same day.

NRA's action :

Upon observation, nuclear safety inspectors at the NRA Regional Office confirmed that the situation posed no threat of leakage to the ocean, thus having no adverse impact on the environment.

For the time being, the following instructions were given to TEPCO:

- To identify the scope of contamination caused by the leakage
- To measure the volume and the radiation concentration of the leaked water
- To remove the leaked water and contaminated soil

The NRA will continue to be vigilant about TEPCO's cause determination and prevention measures.

Attached: Photos of the leakage

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Photos of the leakage



Open end of the branch pipe which caused the leakage



Accumulated water in the pipe trench

(by the NRA)