

Discovery of a crack in a connection valve between tanks for concentrated water* treated by Reverse Osmosis at Fukushima Daiichi NPS

On 17 September 2014, the Nuclear Regulation Authority (NRA) of Japan received a report from TEPCO regarding a recent incident at Fukushima Daiichi NPS, pursuant to the Act on Regulation of Nuclear Source Material, Nuclear Fuel Material and Nuclear Reactors. The report delineates as follows:

- TEPCO found on 4 September that the concentrated water treated by Reverse Osmosis (RO) was leaking from a connection valve between A5 tank and A6 tank in the G4 South Tank Area. The leaked water was remaining within the dike surrounding the area.
- As a result of inspection by TEPCO, it was found on 17 September that the connection valve had a crack which penetrated the valve.
- Therefore, this crack constitutes a lack of functionality in ensuring safety in the nuclear reactor facility under TEPCO's Implementation Plan.

*concentrated water treated by RO: Concentrated saline water remaining after the desalination by RO. Contaminated water in the basement of reactor and turbine buildings undergo cesium removal, and are then treated by RO for desalination.

NRA's actions

Nuclear safety inspectors of the NRA Regional Office acknowledged the situation that this incident would not cause effects to the environment. The NRA issued the following instructions to TEPCO:

- To swiftly inspect similar valves connecting storage tanks which are not surrounded by dikes, to ensure there are no cracks.
- To take prevention measures including review of inspections of equipment (i.e. tanks, valves and connection pipes) in light of the result of cause-finding measure.

The NRA pays careful attention to TEPCO's cause-finding and prevention measures.

Attachment 1: Tank Areas (G4 South)





Attachment 2: Location of the valve with the crack and leakage

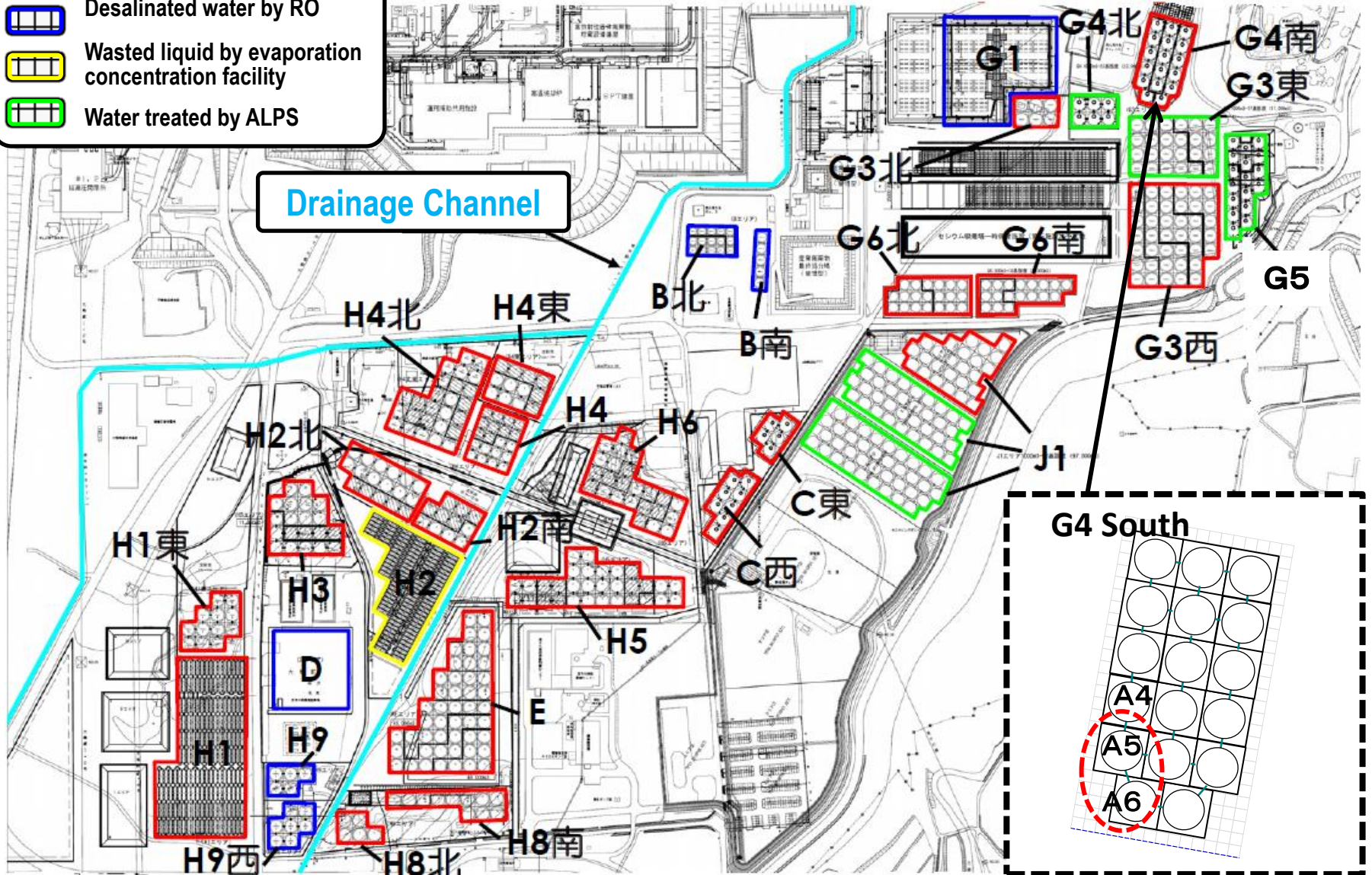
Attachment 3: Inspection by dissection of the valve

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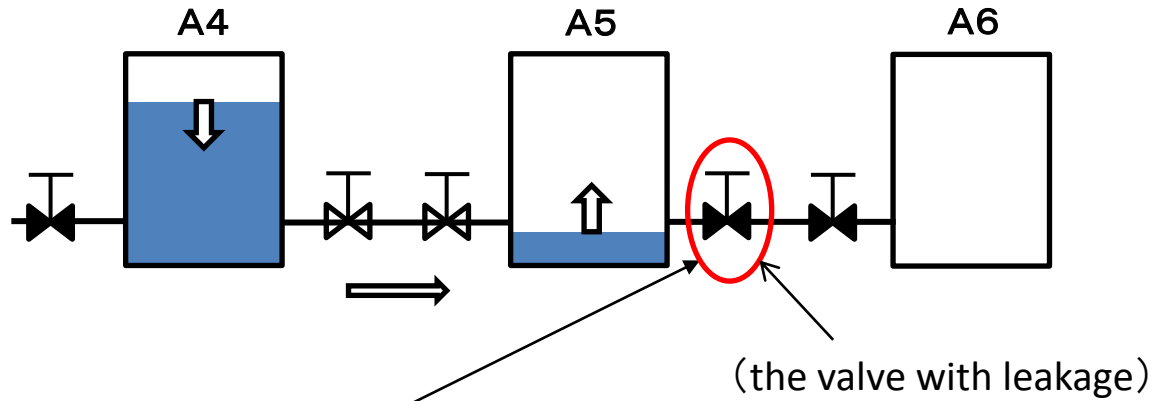
Tank Areas (G4 South)

-  Concentrated water by RO
-  Desalinated water by RO
-  Wasted liquid by evaporation concentration facility
-  Water treated by ALPS



(illustrated by TEPCO and modified by the NRA)

Location of the valve with the crack and leakage



the valve where the leakage was found



location of the crack

(illustrated by TEPCO and modified by the NRA)

Inspection by dissection of the valve



provided by TEPCO