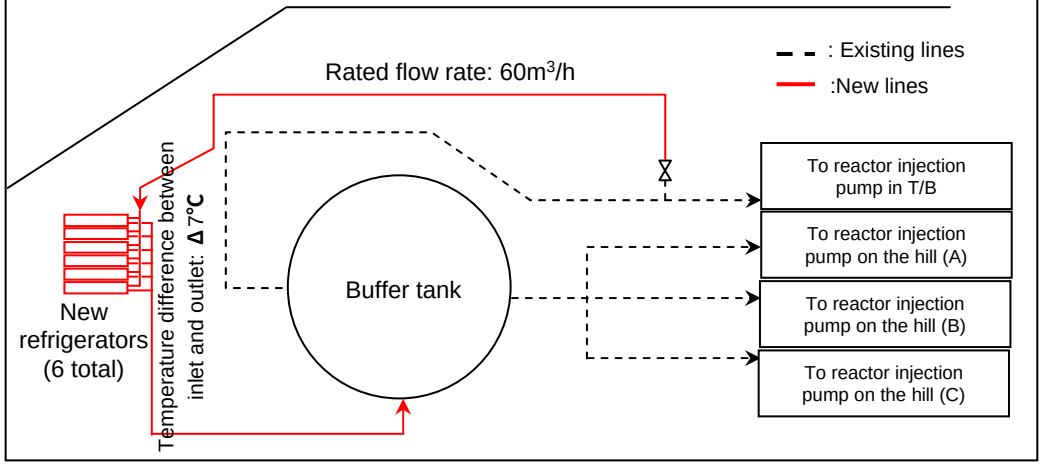
# Operational Commencement of the Refrigerators Installed by the Treatment Water Buffer Tank at Fukushima Daiichi Nuclear Power Station

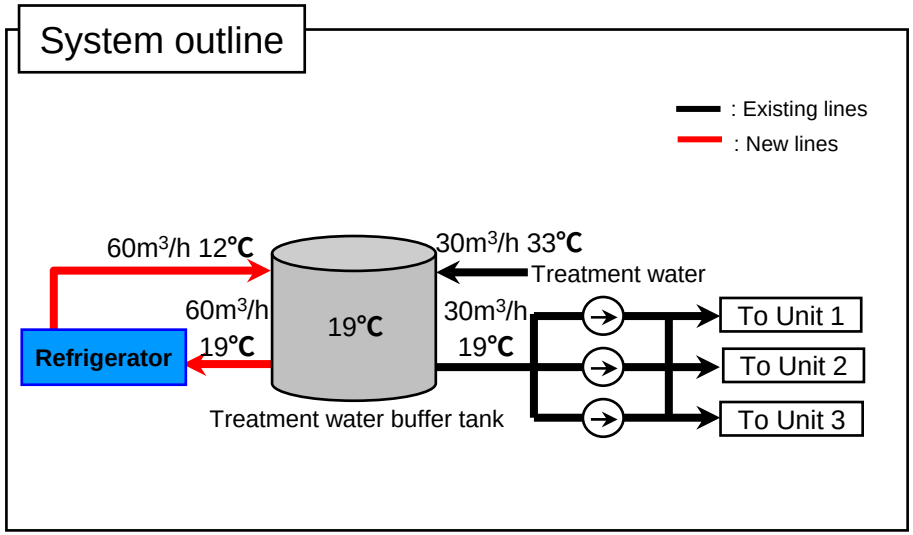


The RPV/PCV ambient temperatures are estimated to increase up to approx. 65℃ in the summer according to the analysis result based on the model developed with the current findings. Though this estimate still satisfies the temperature requirements specified by the technical specification, refrigerators have been installed for the purpose of preventing temperature increase without increasing the water injection amount.

Refrigerators installation




System outline




## Refrigerator Capability

Temperature difference between inlet and outlet: ⊿7℃ (Rated flow rate: 60m$^3$/h)

Buffer tank water temperature: 33℃→19℃

(Treatment water supplied to the tank: 30m$^3$/h, 33℃, Reactor injection water flow rate: 30m$^3$/h, without taking into consideration the heat input to the buffer tank.)

# Schedule after refrigerators start operation

The buffer tank temperature will decrease once the refrigerators start operating. The temperature is assumed to be maintained below 23℃ (though it should stabilize at lower temperature in actual condition), even under the following conditions.

-Refrigerators operate with Approx. 70% performance

-Extremely hot summer (the hottest in the past 30 years), warm treatment water (approx. 33℃) flows in

The RPV/PCV ambient temperatures are expected to decrease and stabilize in 3 to 10 days.

Once the temperatures stabilize, water injection amount will be adjusted (to a lower amount) based on the evaluation results of RPV/PCV ambient temperatures.

Back: Treatment water buffer tank, Front: Refrigerators
Photo taken on July 13, 2012

Pipe connection for the refrigerators
Photo taken on July 13, 2012