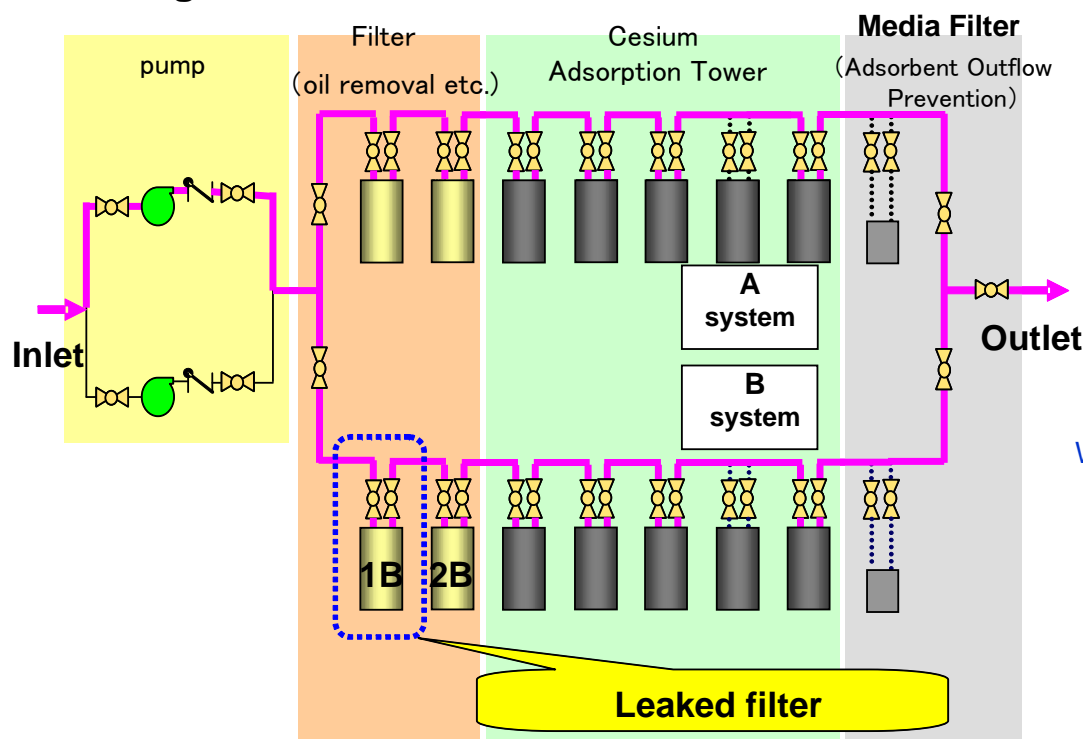


Situation of investigation on water leakage from around the welded part of filter valve of 2nd Cesium adsorption apparatus (Sarry) B system (Continued report)

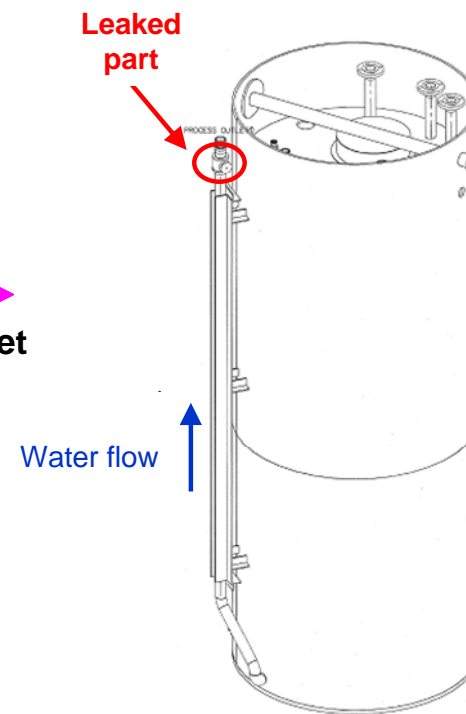
■ At around 8:30 am on February 25, water leakage was found at around the welded part of filter valve inlet of 2nd Cesium adsorption apparatus (Sarry) B system. On February 26, the filter was replaced and operation was restarted. Its operation was continued without any problem until its operation stop (scheduled stop) on March 2.

■ On February 28, for the purpose of investigation of causes of leakage, inside of the pipe of the leaked part was checked by CCD camera. <Previously announced>

■ This time, the leaked part of the pipe was cut, and the situation of the leaked part was further investigated.



Outline of 2nd Cesium adsorption apparatus (Sarry) system

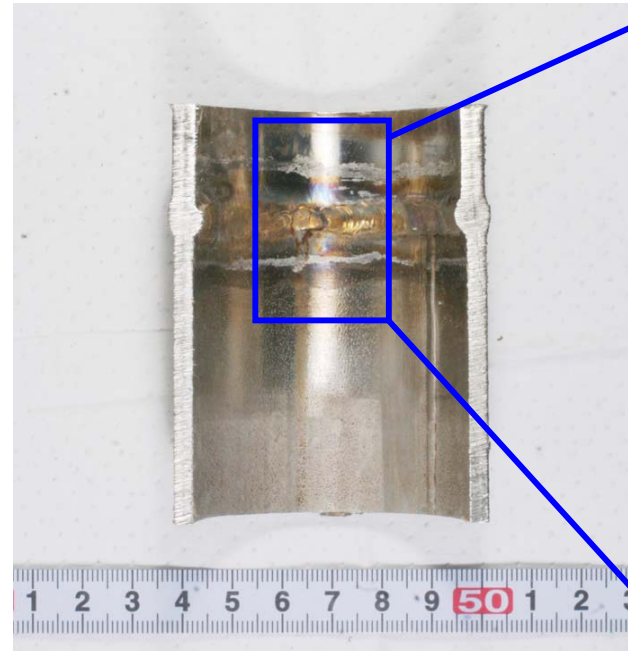
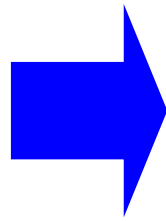
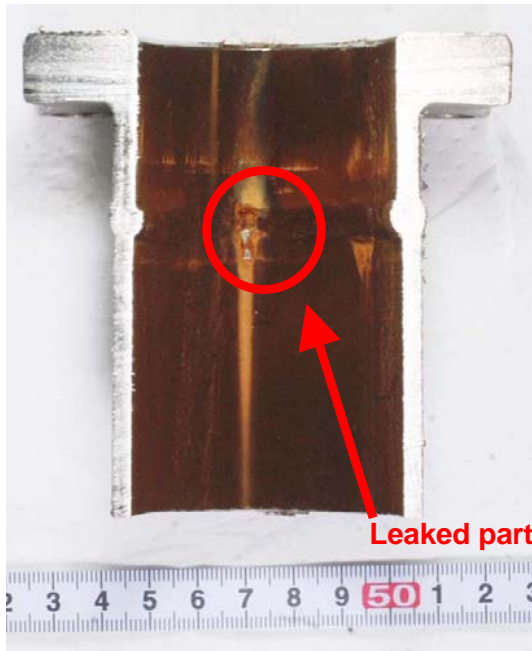


Outline of filter



Leaked part

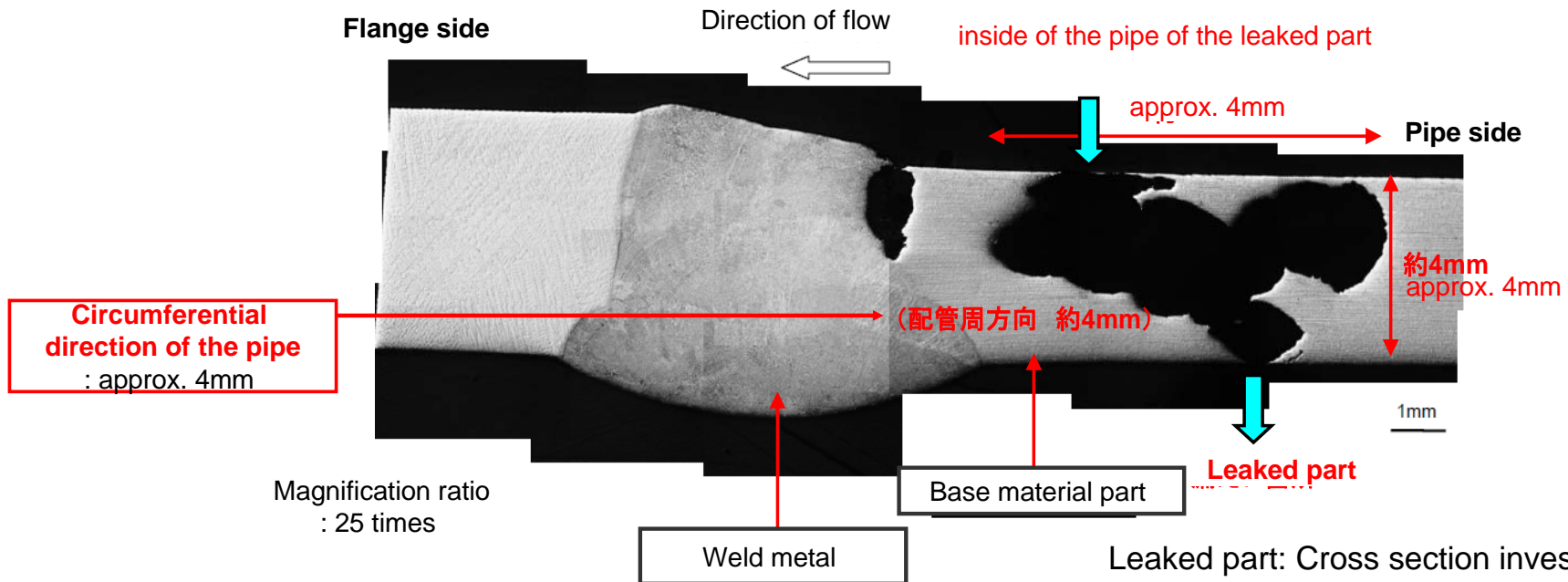
Investigation result of cross section of the leakage part



Leaked part: Before the clad (water stain) removed

Leaked part: After the clad (water stain) removed

Close-up picture



Leaked part: Cross section investigation

Probable cause and investigation result of similar parts

■ Probable cause

- i) Due to the passing of accumulated water containing clad and so on, clad (water stain) and other materials are accumulated, which causes the environment that the corrosion is likely to occur.
- ii) Starting from the accumulated part of clad and other materials (base material around the welded part), partial corrosion (corrosion hole by the crack corrosion) was generated and developed by the chloride ion containing in the accumulated water, and as the result of penetration for the direction of pipe thickness, leakage was occurred from the pipe surface
※ In order to prevent the microbially caused clog of the filter, sodium hypochlorite was injected into the system, which might have facilitated the corrosion.

■ Investigation result of similar parts

<Object of investigation>

Filters of the same shape (1A), (2A), (2B) Welded part of the outlet pipe

<Result of investigation>

- i) Knobby attachment, like the leaked part for this time, was not found. (confirmed by CCD camera)
- ii) There are much metallic luster in whole, little attachment of rust colored materials. (confirmed by CCD camera)



After the filter 1A valve removed



After the filter 2A valve removed



After the filter 2B valve removed

Countermeasure and further responses

■ Countermeasure

- i) Replacement of (1A), (2A), (2B), the same shape of filters as the leaked filter
- ii) Temporary suspension of sodium hypochlorite injection

For further mitigation of corrosion environment, injection of sodium hypochlorite was temporarily suspended.

Filter clog and so on are continuously monitored from operation parameters.

※ Comparing with the point of operation start of 2nd Cesium adsorption apparatus B system, current density of chloride ion was reduced below 1/10, and corrosion environment will be mitigated by the circular operation.

■ Further responses

- i) Development of investigation method for the purpose of valuating soundness of pipe parts and so on
- ii) To prepare for the leakage, sheet was covered for curing around pipe parts of valve rack and booster pump skid to prevent the leakage from outspreading.



Situation of sheet curing