

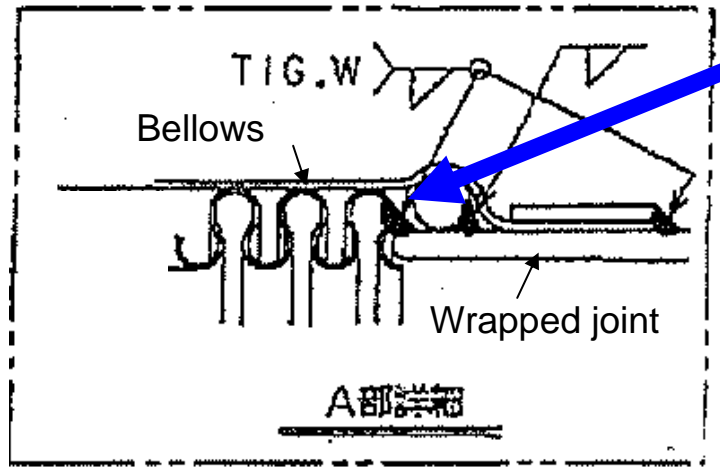
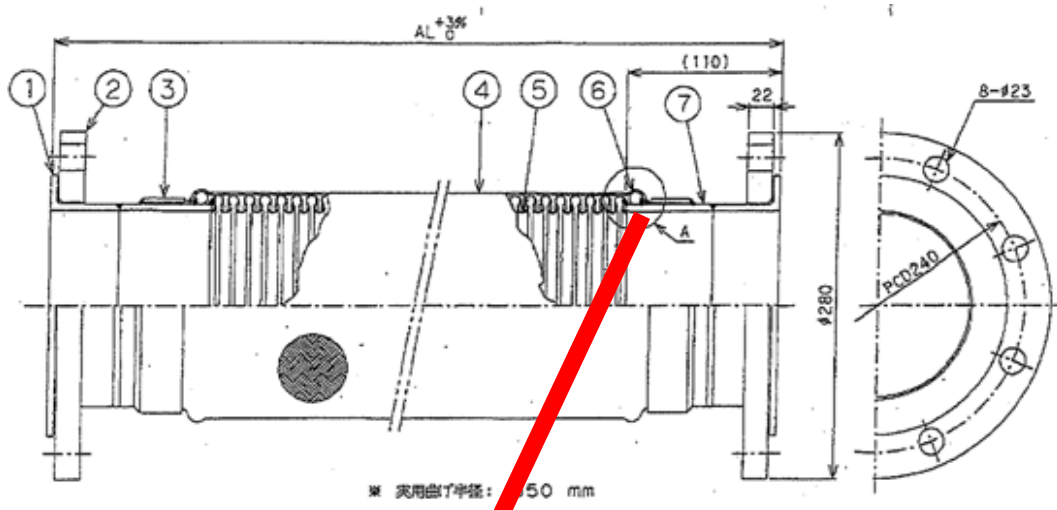
Investigation of water leaking
from flexible hose
at alternative circulating cooling
system
Spent Fuel Pool at Unit 4

September 1, 2011
Tokyo Electric Power Company



東京電力

1. Leaking part of flexible hose



Found corrosion at the bellows and welding of wrapped joint

- Bellows
- Materials: Stainless steel(SUS316L)
- Wrapped joint (at short pipe)
- Materials: Stainless steel(SUS316L)
- Welding materials 316L(TIG weld)
- Leak occurred at welding part and the corrosion is not found on the bellows itself.

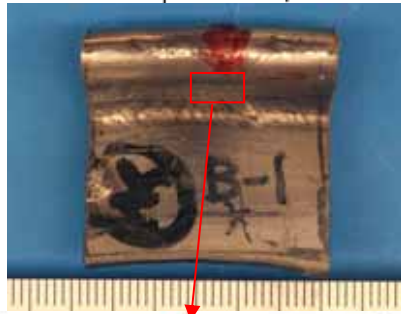
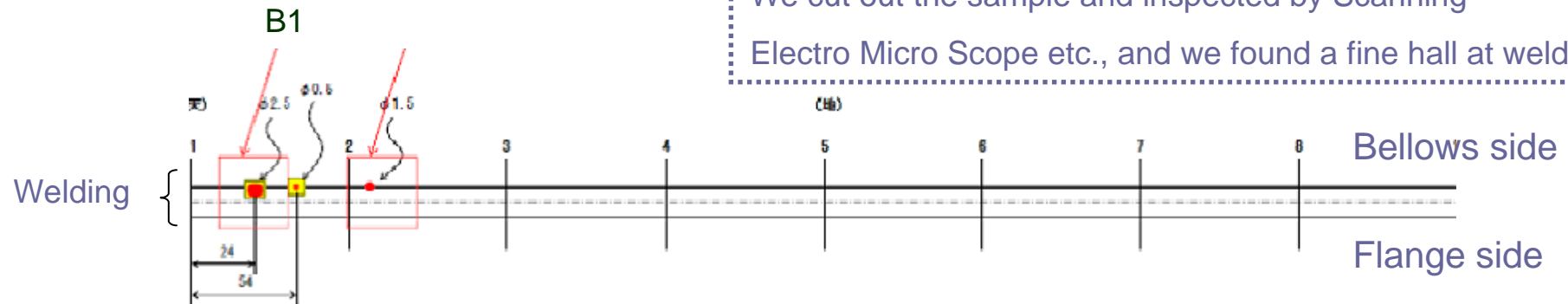
2.Result of inspection about Leak point on flexible hose

PT indicating pattern

Sampling point

■ The point where the leak was found by leak test

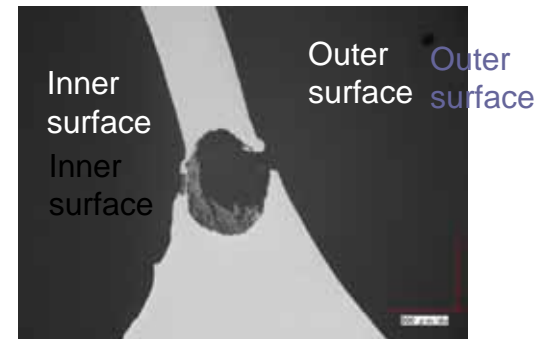
As we conducted Penetrant Test (PT) about the bellows that leak was found, indicating pattern is found from it.
We cut out the sample and inspected by Scanning Electro Micro Scope etc., and we found a fine hole at welding.



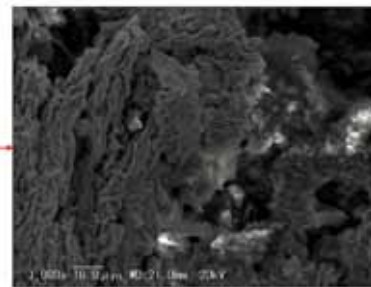
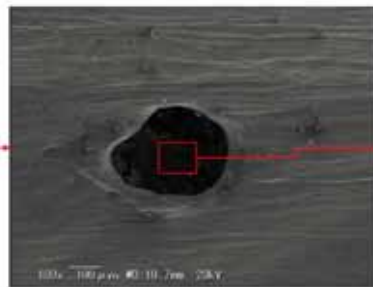
Surface of sample B1

Cross-section of sample B1

Bellows



Welding metal



3. Probable Cause:

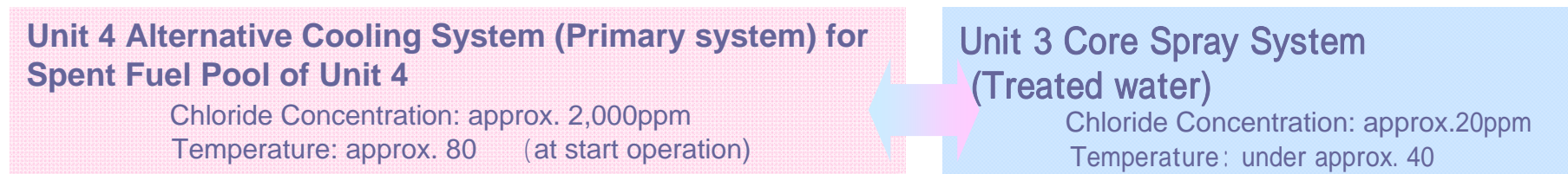
Injecting water to the Reactor unit 3 from Core Spray System

Probable Cause

The cause of leak by corrosion is estimated that chloride concentration of water passing in the hose was high, and the temperature of water at start of operation of alternative cooling system for spent fuel pool at Unit 4 was high. (under continuous investigation)

The impact of injecting water from Core Spray System to Reactor Unit 3

The environment in the Core Spray System is at the condition that significant Corrosion is unlikely occurred because of different internal fluid condition



Injecting water from Core Spray System to Reactor Unit3

We considered that there is no problem about Core Spray System of Unit 3 due to low chloride concentration and low temperature.

We plan to Start injecting water by core spray system line from September 1.