

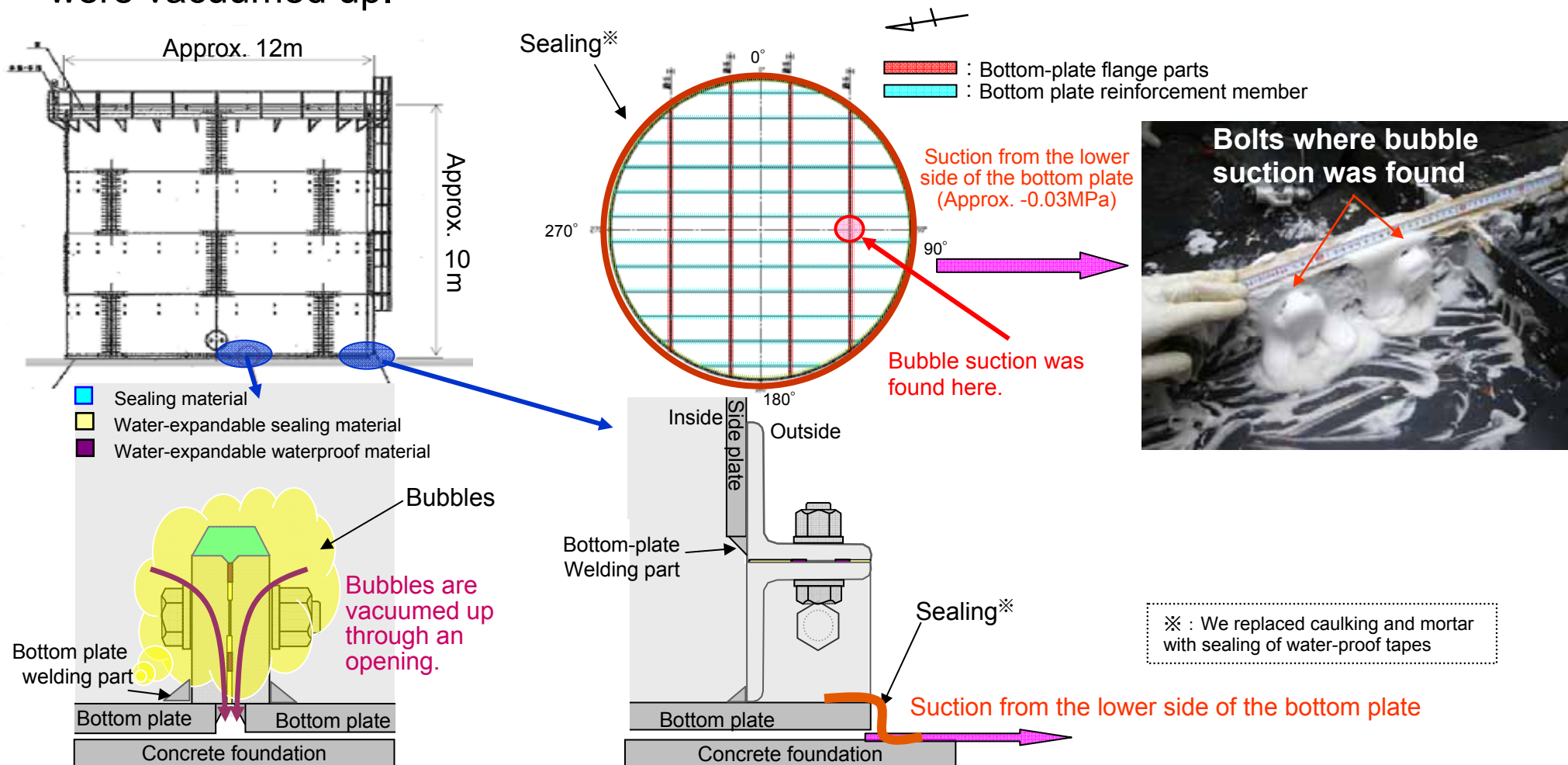
# Investigation into the Bottom Plate etc. of the Tank No.5 in H4 Area at Fukushima Daiichi NPS.

October 8, 2013

Tokyo Electric Power Company

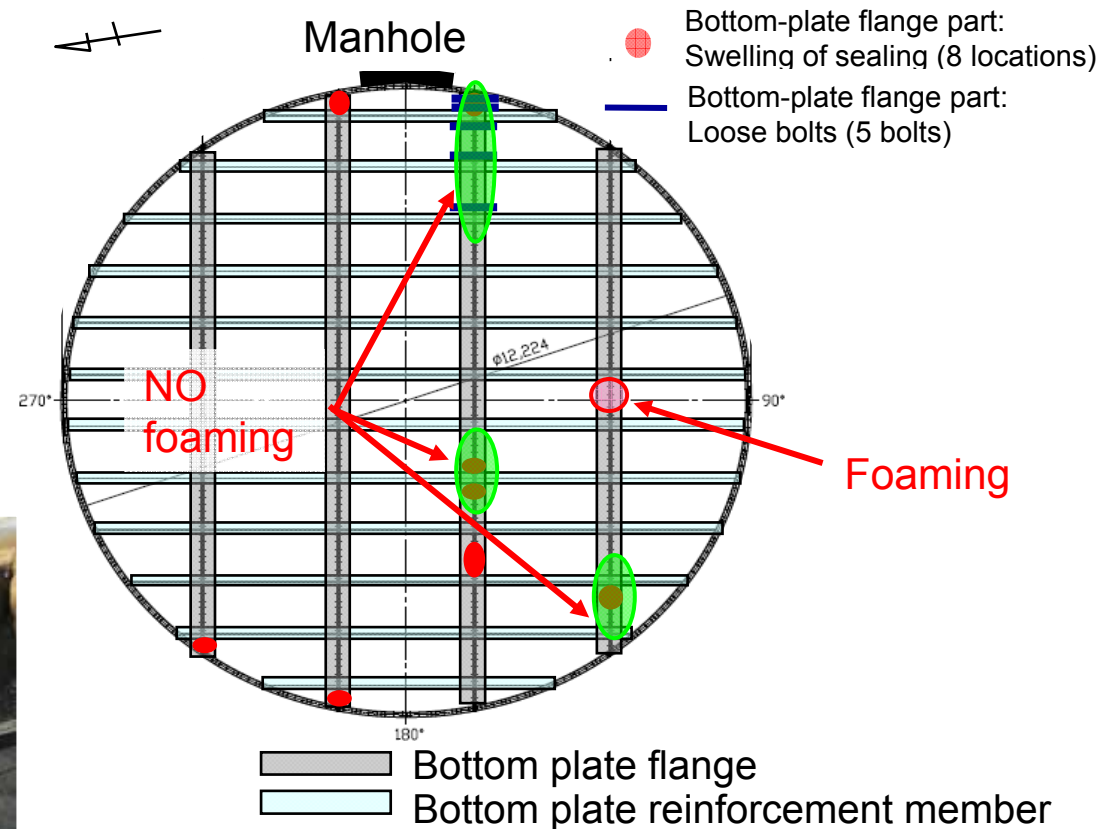
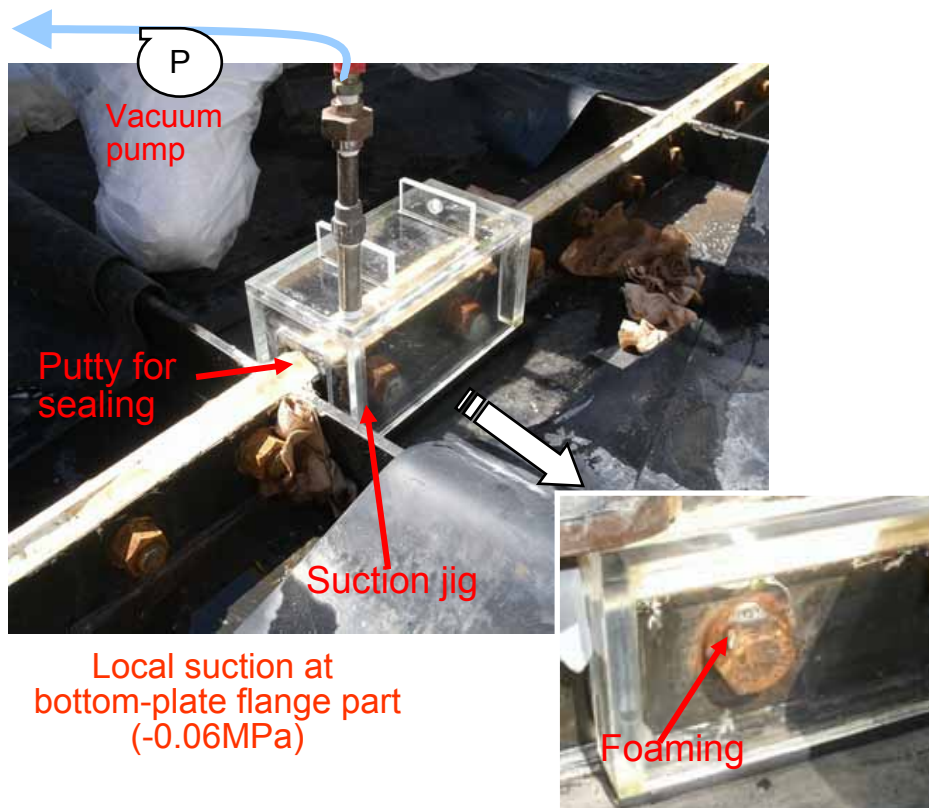
# Results of the Vacuum Test for the Tank Bottom Plate (Previously Announced)

- We applied bubbles to the flange parts etc. and conducted suction from the lower side of the bottom plate. We found the two adjacent bolts through which bubbles were vacuumed up.



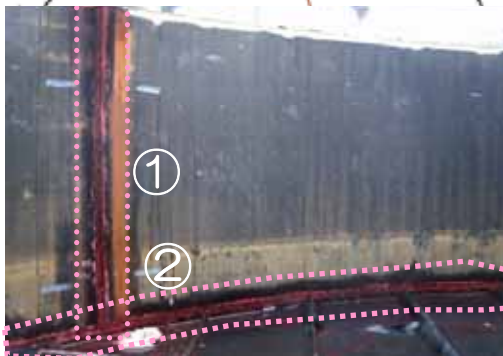
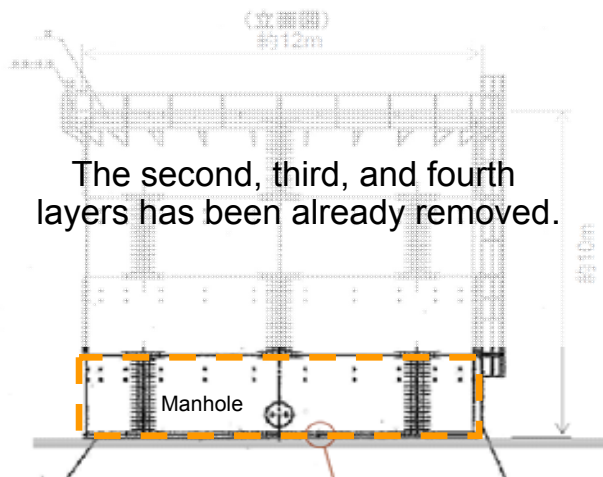
# Results of the Local Vacuum Test for the Tank Bottom Plate (Previously Announced)

- We conducted the local vacuum test at the point(s) where 1) bubbles were vacuumed up in the vacuum test for the bottom-plate, 2) bolts were loose, and 3) swelling of sealing was found. As a result, we found foaming at the point 1), but NO foaming at the points 2) and 3).

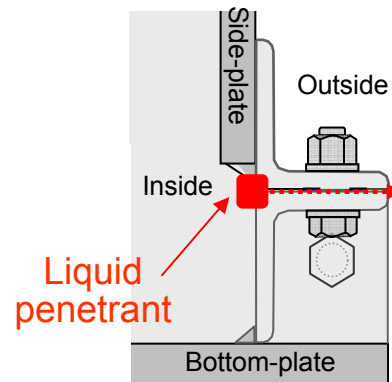


# Results of the Side Plate Removal (the First Layer)

- In accordance with the side plate removal (the first layer), we applied PT agent (red-color liquid penetrant) to the flange part. We checked and searched for a path where water could have leaked.
- As far as we checked with eyes as the removal, we found no path for a leak.



PT agent applied on the side plate on the inner flange part



Under removal (Side plate near ①)



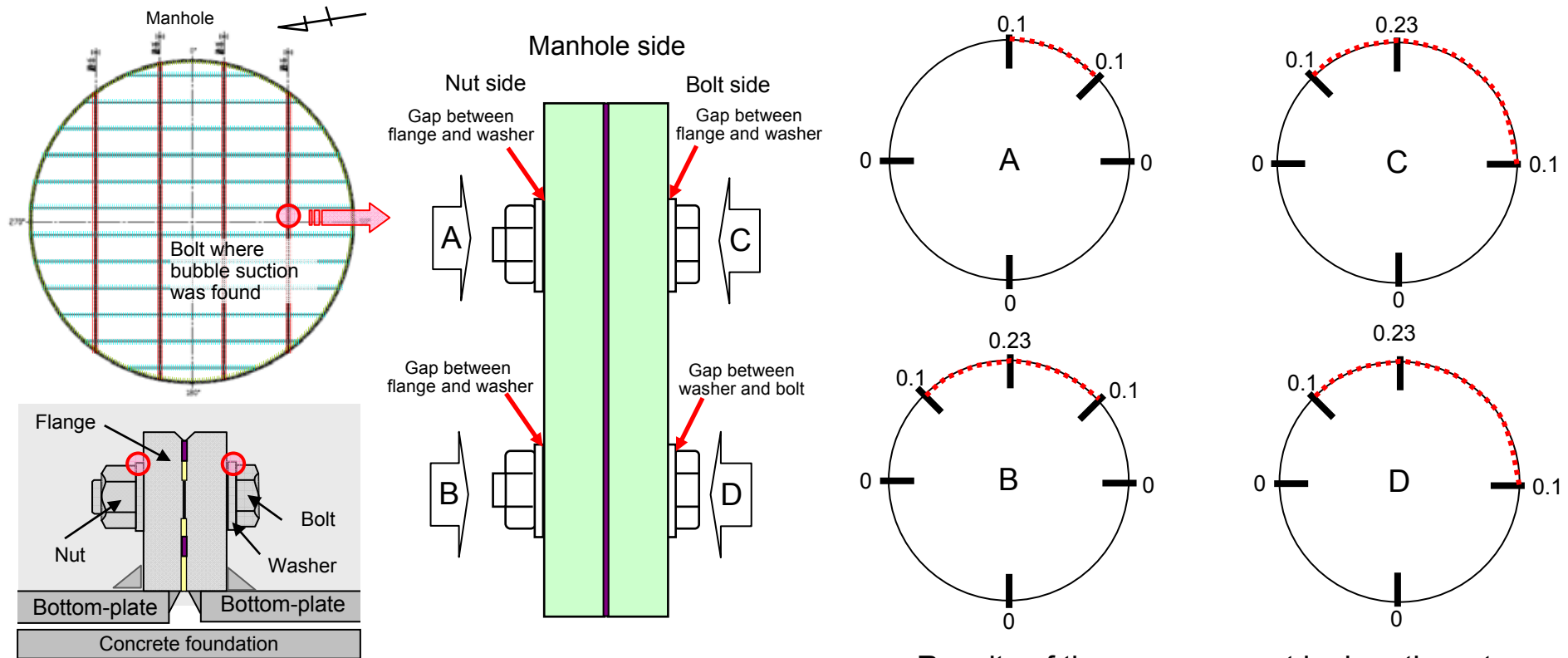
Under removal (Side-plate side near ②)



Under removal (Bottom-plate side near ②)

# Further Investigation into the Leak Points (Gap Gauge at the Leak-Path Part)

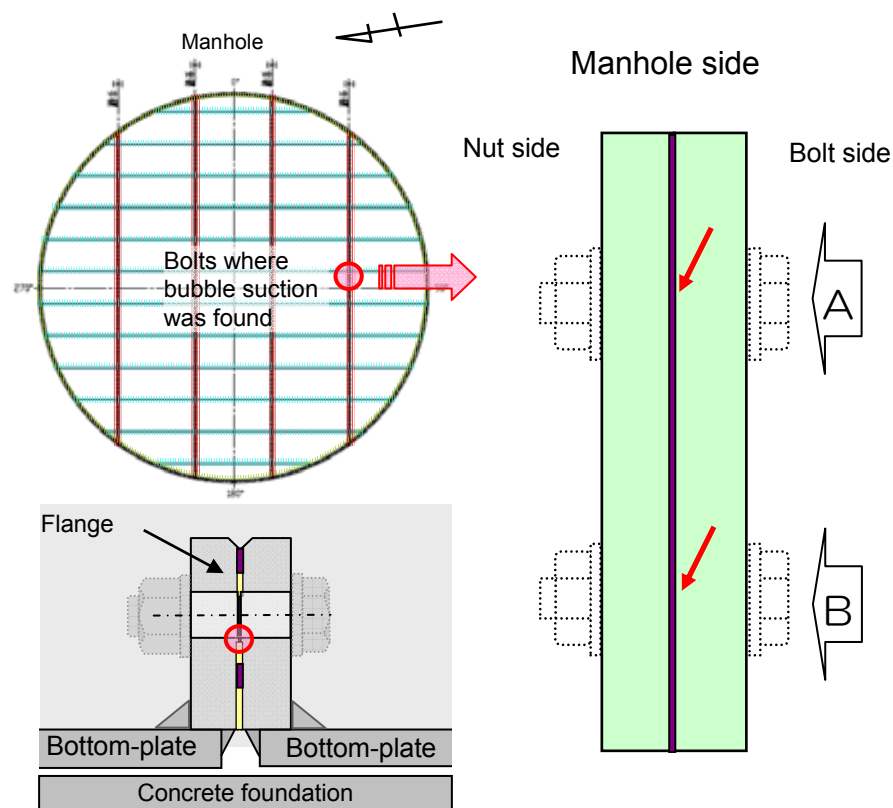
- We investigated further into the bolt parts which are suspected of leak, and measured the gaps (between a flange and washer/ a washer and bolt) with a gap gauge, and found, for instance, a maximum 0.23millimeter gap.



Results of the gap gauge at leak-path part  
(Looking from the front in each bolt and nut)

## Further Investigation into the Leak Points (After the Bolt Removal)

- We removed the two bolts on the bottom plate, and checked with eyes and conducted a vacuum test.
- As a result of checking with eyes, we found such openings as follows at the lower side of the bolts: Approx. 3mm (width) × 22mm (length) in the manhole side, and approx. 2-3mm (width) × 11mm (length) in the other side.
- As a result of the vacuum test, we found that bubbles were vacuumed up through the these openings.



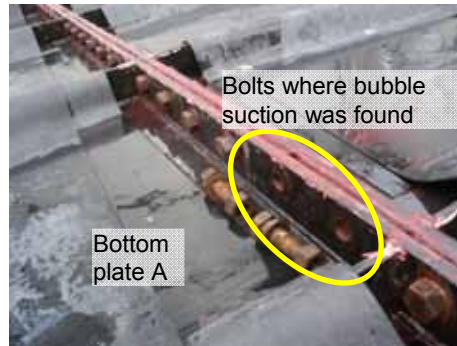
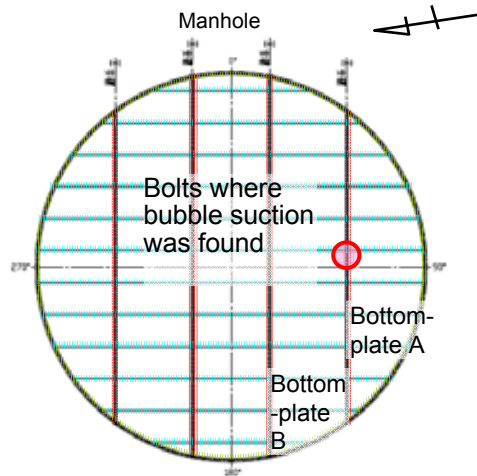
Vacuum test (Looking from the direction A)



Vacuum test (Looking from the direction B)

# Inspection Results after the Bottom Plate Removal

- In accordance with the bottom plate removal, we applied PT agent (red-color liquid penetrant) to the flange parts. We checked and searched for a path where water could have leaked.
- As a result of checking with eyes, we found no leak path other than the leak-path part which had been previously found.
- As for the leak-path part, we found a slipping-out packing, and rust on the flange.

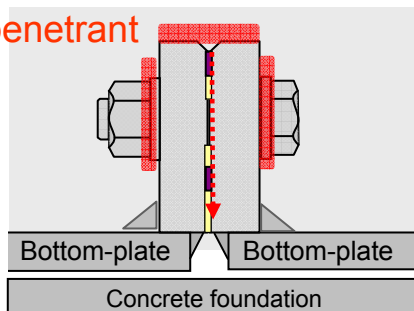


PT-material applying to the inner flange part on the bottom plate

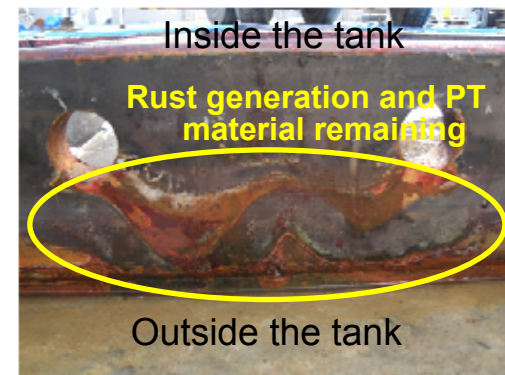


Leak path part on the backside the bottom plate before removal

Liquid penetrant



Under removal (Bottom plate B)



Under removal (Bottom plate A)