

<Reference>

Implementation of the Hydrogen Discharge Test (2nd)
from the Fukushima Daiichi NPS
Unit 2 Suppression Chamber

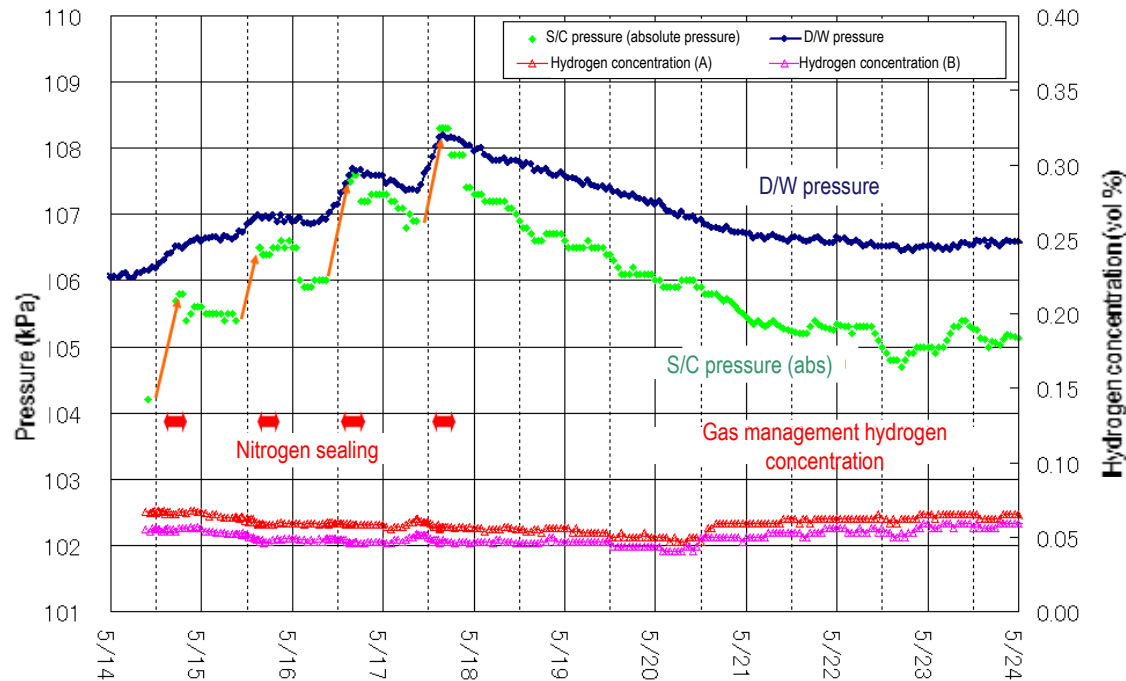
July 19, 2013

Tokyo Electric Power Company

1. Background

[Previous test: May 14-17, 2013]

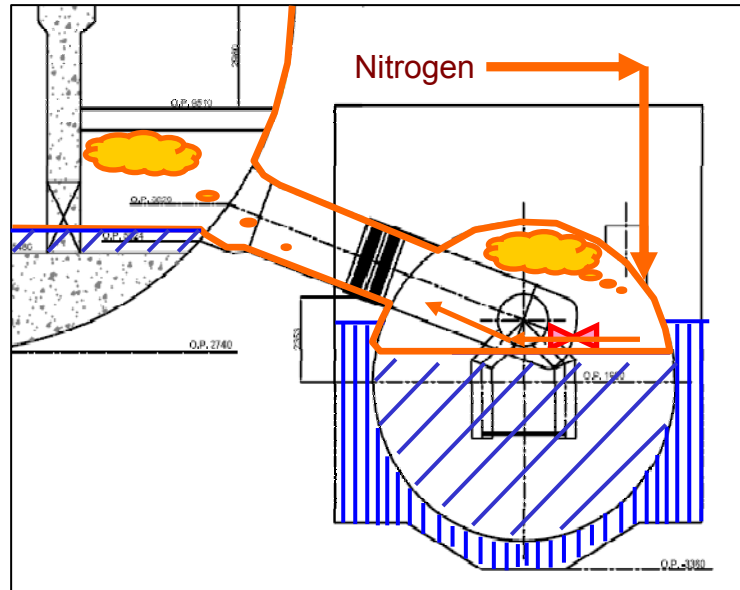
180Nm³ of nitrogen was sealed in the suppression chamber (S/C) in four days, and response was confirmed. An increase in D/W pressure was seen, but there was no change in the D/W hydrogen concentration.



- The S/C pressure increased each time nitrogen was sealed, from Day 1:3kPag→Day 4:7kPag
→It was determined that nitrogen was sealed in the S/C
- The D/W pressure increased during nitrogen sealing to the S/C, and decreased after nitrogen sealing was complete
→(1) It is possible that a flow was formed from the S/C to the D/W
- There were no changes in the D/W hydrogen concentration
→(2) It is possible that no flow was formed from the S/C to the D/W

2. Speculations from the first test results

(1) If a flow was formed



- ✓ The S/C pressure increased due to the sealed nitrogen, and as a portion passed to the D/W, the D/W pressure increased

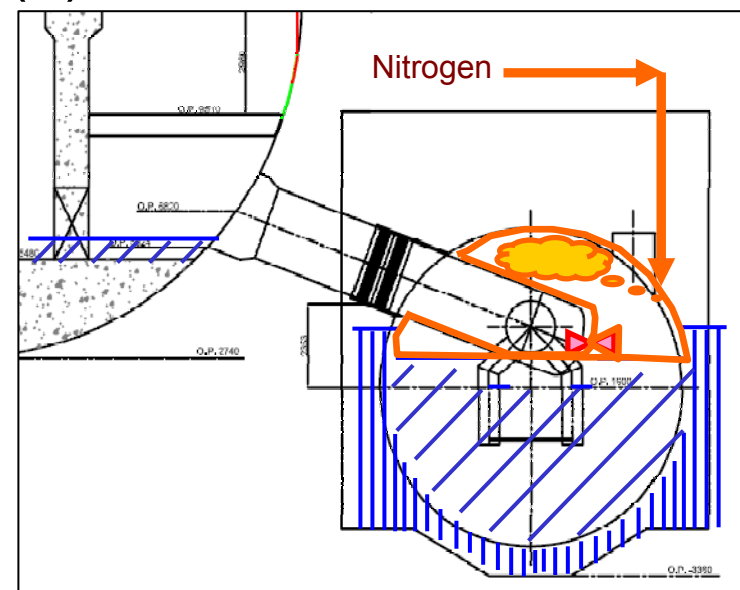


<Fact> The hydrogen concentration did not increase



No hydrogen remained in the S/C
The mechanism needs to be verified

(2) If a flow was not formed



- ✓ The sealed nitrogen accumulated in the S/C vapor phase part, and the pressure increased. The S/C water surface gradually decreased



It is possible that there is hydrogen remaining in the S/C



The presence of residual hydrogen in the S/C is unclear
Nitrogen sealing in the S/C is required once again

*On the first day and last day of the test, the hydrogen concentration of the torus room was measured.
 The hydrogen concentration of the torus room was 0%.

3. Objective of the verification test





➤ A verification test is implemented to narrow down Cases 2-4

Case	Presence of gas flow from S/C→D/W /presence of hydrogen in the S/C	Detection through fluctuation in hydrogen concentration	Action	Conclusion
1	Flow-Yes/Hydrogen-Yes	Detection possible	Nitrogen sealing of the S/C (total of 180Nm ³ in 4 days) was conducted, and the hydrogen concentration did not fluctuate <i>First test</i>	Not applicable
2	Flow-Yes/Hydrogen-No	Detection not possible	Nitrogen sealing of the D/W and S/C was implemented and the hydrogen concentration and pressure fluctuation was verified. <i>Range of verification test</i>	
3	Flow-No/Hydrogen-Yes	Detection not possible		
4	Flow-No/Hydrogen-No	Detection not possible		

➤ The verification test will be **implemented in two stages**.

<STEP1>	Objective	Collection of data regarding nitrogen sealing (1) Amount of increase in D/W pressure (2) Presence of S/C pressure increase
	Action	The amount of nitrogen sealing of the D/W is increased and fluctuations in D/W and S/C pressure is checked.
<STEP2>	Objective	Presence of residual hydrogen in the S/C is checked.
	Action	Nitrogen sealing of the S/C is implemented, and fluctuations in hydrogen concentration and D/W pressure changes are checked.

4. Entire process

	Early July	Mid-July	Late July	Early August onwards...
Review of procedures				
Process adjustment				
<STEP 1> D/W pressure fluctuation test*				
<STEP 2> S/C nitrogen sealing				

*Implementation is scheduled between July 22-29