<Reference>

# Changing D/W pressure to purge hydrogen gas out of the suppression chamber at Fukushima Daiichi Nuclear Power Station Unit 2 (Bulletin report)

July 26, 2013

Tokyo Electric Power Company

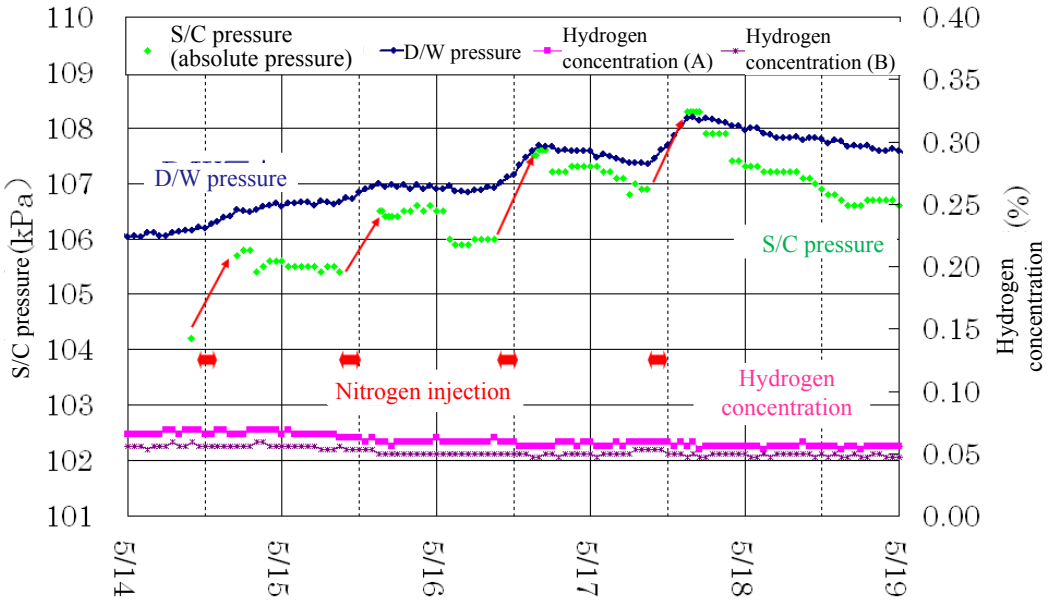
東京電力 TEPCO

# 1. Past developments

Nitrogen was injected into Unit 2 S/C in May due to the possibility that it contains a high concentration of hydrogen gas, generated at the accident, similarly to Unit 1.

## Result of first nitrogen injection (at S/C)

(1) Increase of S/C pressure
(2) Corresponding increase in D/W pressure
(3) Almost no change to the hydrogen concentration in D/W




Result of 1st nitrogen injection

## Observation

The increase of D/W pressure corresponding to S/C pressure suggests that gas inside S/C may have flown into D/W via vacuum breaker valves and vent pipes.
There is also a possibility that there was no gas flow, as the presence of hydrogen gas in S/C has not been confirmed.

## Nitrogen injection approach from the second attempt

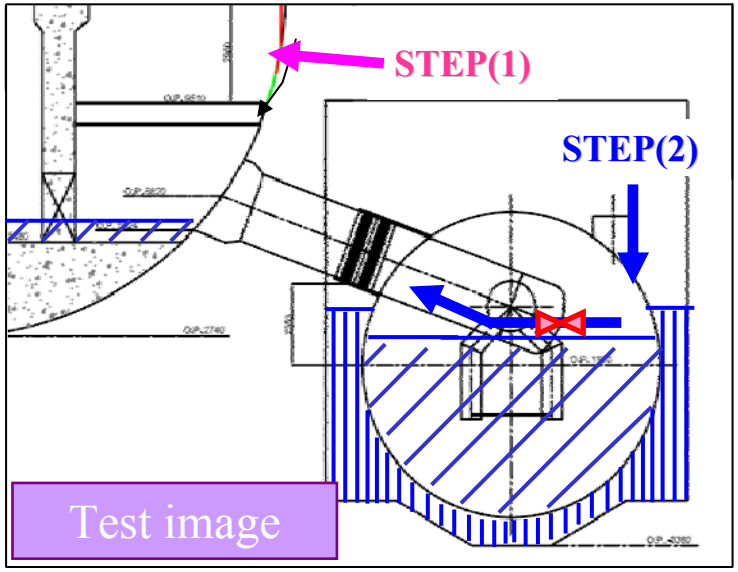
A nitrogen injection test (2nd) is carried out to confirm that gas in S/C is traveling into D/W.

# 2. Objectives and schedule of the 2nd test

The test is carried out in two stages according to the following objectives:

## Objectives of the 2nd test

STEP(1) (Nitrogen injection from D/W)
: Injecting nitrogen from D/W to confirm the level of D/W pressure increase
STEP(2) (Nitrogen injection from S/C)
: Injecting the same amount of nitrogen as STEP(1) from S/C to confirm that it causes the same level of D/W pressure increase
→This would confirm that, even without observing the increase of hydrogen concentration, there is a gas flow between S/C and D/W.



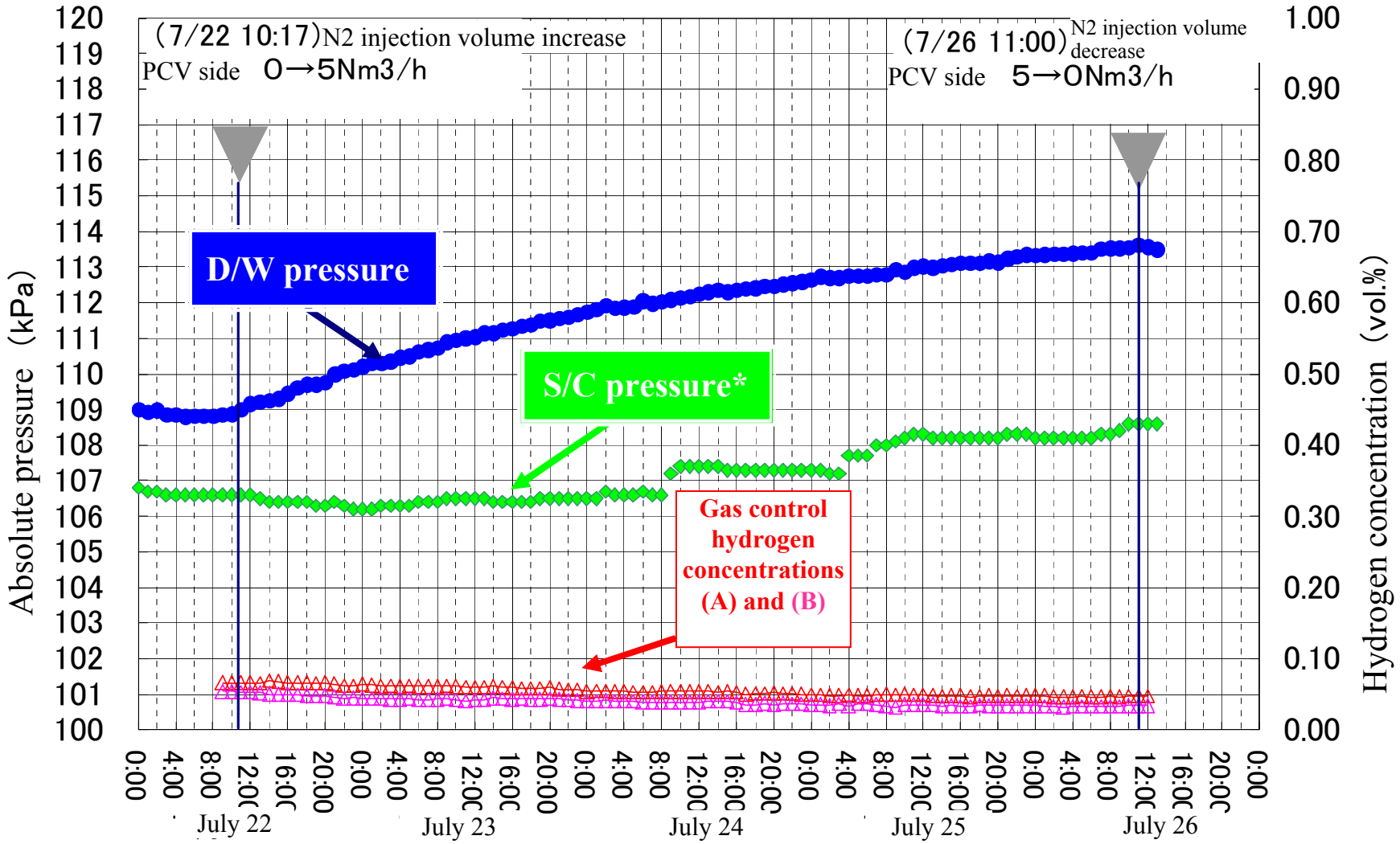
Test image

## Schedule

➢STEP(1): Nitrogen injection commenced on July 22 (Mon) and completed today (Fri, July 26)

➢STEP(2): Test schedule is to be coordinated.

# 3. Test results




*: Readings of the site instrument converted into absolute pressure

# 4. Summary

- The increase of nitrogen injection into D/W (+5Nm$^3$/h) caused an increase of D/W pressure, reaching approximate pressure equilibrium

- A significant increase of S/C pressure was confirmed.
  →There is a possibility of gas flow between D/W and S/C.

- Based on the abovementioned test results, it has become possible to presume the establishment of gas flow between S/C and D/W, even without the confirmation of hydrogen concentration increase, if STEP(2) of this test shows that the similar injection of nitrogen into S/C (5Nm$^3$/h) causes the same level of D/W pressure increase.

Accordingly, TEPCO concludes STEP(1) of the test as of 11:00 on July 26, and begins preparing for STEP(2) of the test (nitrogen injection into S/C).