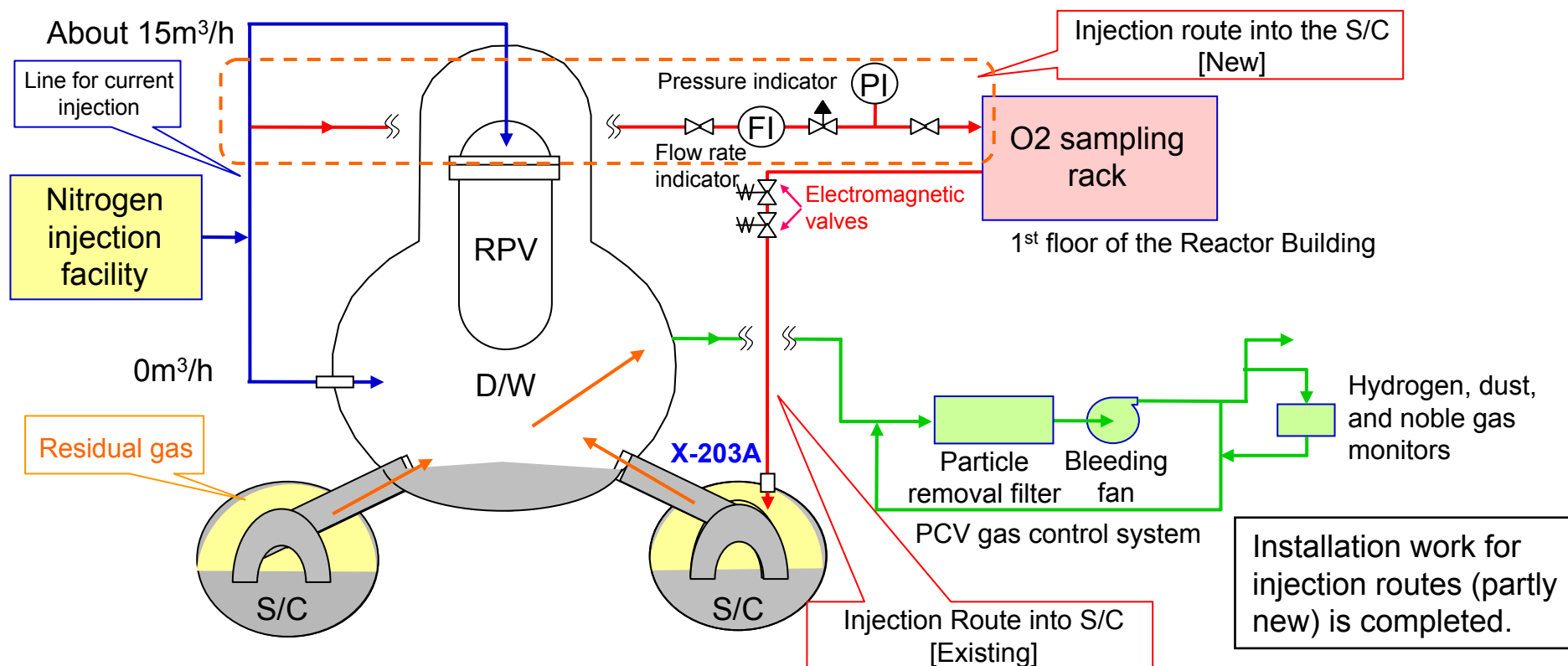


Testing of Nitrogen Injection into the Suppression Chamber of Fukushima Daiichi Nuclear Power Station Unit 2

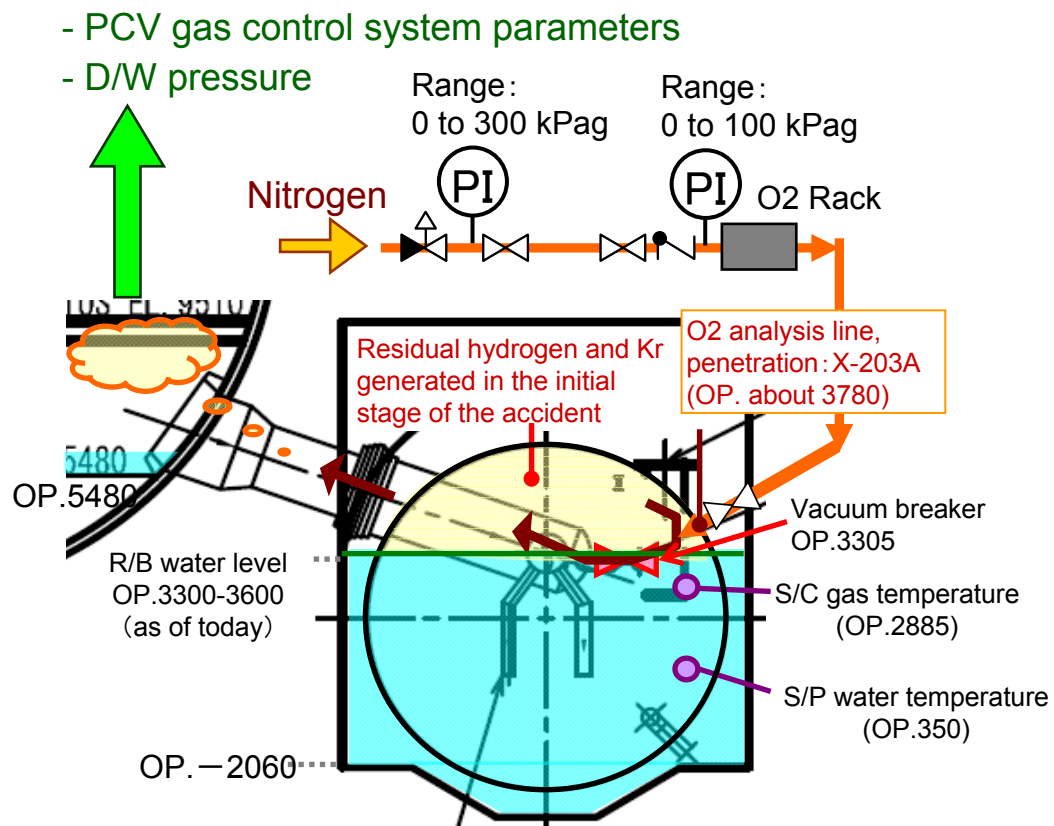
<Reference>
May 13, 2013
Tokyo Electric Power Company

1. Method for Nitrogen Injection into the Suppression Chamber (S/C) (Overview)

- It is estimated that hydrogen and Kr85 generated in the initial stage of the accident remain inside the S/C and have been released into the D/W through the vacuum breaker.
- **Nitrogen Injection into the S/C and observation of reaction inside the D/W are to be performed (on May 14-17).**
- Hydrogen purging is to be performed in the event that residual hydrogen is found.
- In Unit 1, an estimation mechanism was verified through testing of nitrogen injection into the S/C, and hydrogen purging is underway.



2. Policies for Nitrogen Injection into the Suppression Chamber (S/C)



- Keep the hydrogen concentration inside the D/W at 2 % or less

Limit the amount of nitrogen injected into the S/C to 140 Nm³ so that the hydrogen concentration can be kept at 2% or less even at the occurrence of instantaneous release from the S/C (hydrogen concentration at 50 %) to the D/W (3500 m³)

- Inject nitrogen in a stepwise manner while checking for abnormalities by monitoring various parameters

- Perform nitrogen injection into the S/C for about 6 hours during the daytime so as to prevent contingencies from occurring during the nighttime

- Set the injection flow rate to 5 Nm³/h in principle as in the case of Unit 1, and repeat the 6-hour injection up to four times (four days)

- Prior to the 6-hour injection each time, check the S/C pressure (nitrogen injection pressure) data for the purpose of grasping the state of the gas phase portion in the S/C.

3. Safety Measures

1) Monitoring hydrogen concentration and other data using Unit 2 PCV gas control system

Nitrogen injection will be performed with parameters monitored and with the amount of injected nitrogen set so that the hydrogen concentration inside the PCV can be kept at 2 % or less.

2) Measuring hydrogen concentration in the Unit 2

Torus Room using a hydrogen concentration meter

Considering the possibility of leak into the Torus Room, the hydrogen concentration in the Torus Room will be measured for confirmation before nitrogen injection (on May 14) and when the injection is stopped (on the first and last days).

3) Entry restriction into Unit 2 Reactor Building

Entry restriction will be implemented as preparation for a possible increase in hydrogen concentration

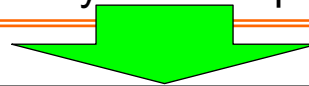
(Reference) Evaluation of Influences of Nitrogen Injection into the S/C

(1) Hydrogen Flammability Limit

- Even in a conservative scenario assuming 50% concentration for stagnant hydrogen in the upper part of the S/C, the hydrogen concentration inside the D/W will be 2 % or less when hydrogen corresponding to the amount of nitrogen injected into the S/C (four times of injection with 5 Nm³/h each time; 140 Nm³ in total) is released into the D/W. → Sufficient allowance for the **Flammability Limit of 4 %**

(2) Additional Release of Radioactive Materials

- **Abnormal release of Cs is not expected** because there was no increase in Cs when hydrogen and Kr increased in the past, and because it is considered that Cs, contained in deposits on the wall surface and in the liquid phase, cannot move to the gas phase portion due to the cool temperature inside the S/C.
- The release amount of Kr corresponding to the release amount of this time, 140 Nm³, is 5 x 10¹² Bq. The influence of this release is small because the corresponding radiation exposure at the site boundary is 0.005 μSv.



Inject nitrogen in a stepwise manner while checking for abnormalities by monitoring various parameters