

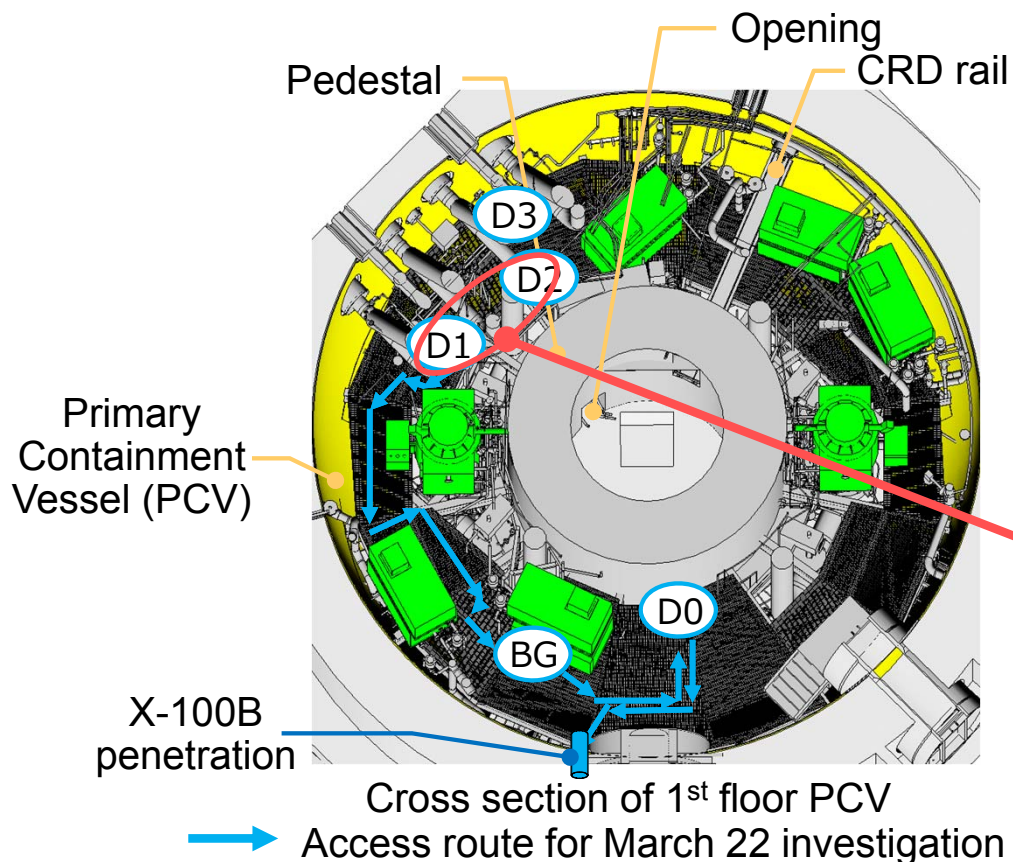
# 1. Progress of Unit 1 PCV internal investigation

(Preliminary report of March 22 investigation) 1/3

Reference  
March 23, 2017

Tokyo Electric Power Company Holdings, Inc.

- Investigation results at the vicinity of the measurement point D2 are as follows.



Shadow of the measurement unit

Underwater image at the vicinity of the measuring point D2

Radiation dose at the vicinity of the measurement point D2 (Provisional values)

- On metal grating: 9.3 Sv/h
- The lowest point: 9.4 Sv/h (About 0.9m above the PCV basement floor\*)

The conditions of PCV basement will be evaluated after organizing digital images and radiation data.

\*The exact height from the PCV basement floor will be examined later.

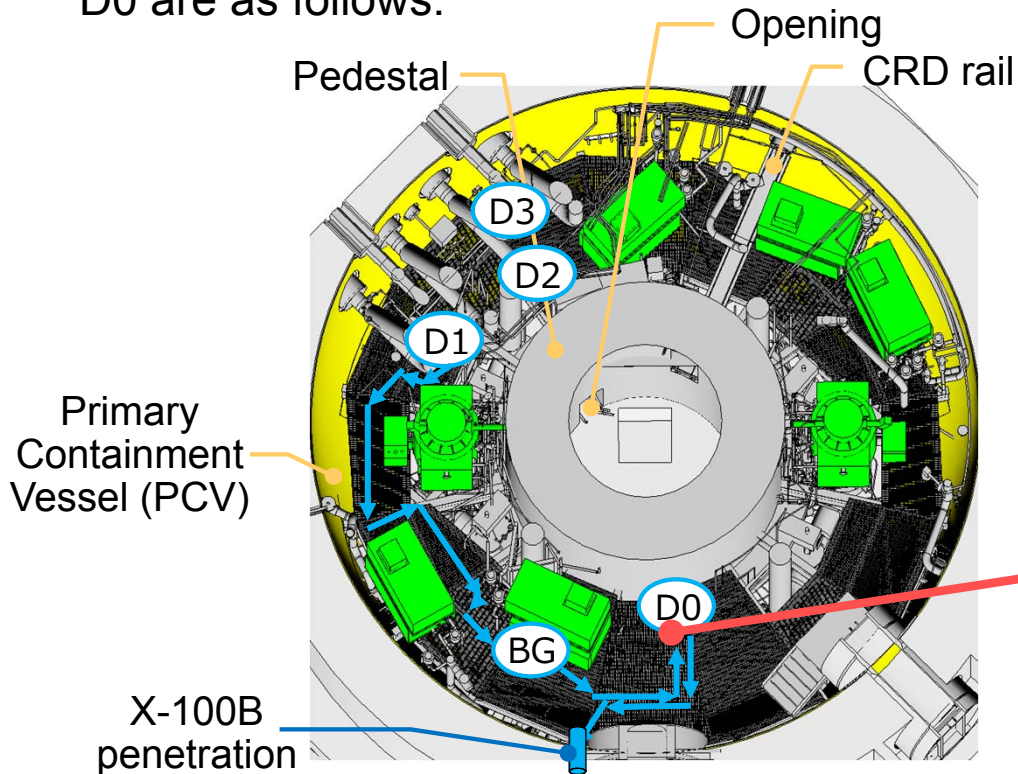
Measurement image

Measurement point	Contents of estimation, etc.
D0	Estimation of presence or absence of diffusion of fuel debris from the drain sump
D1, D2	Estimation of presence or absence of diffusion of fuel debris from the opening
D3	Estimating whether or not the fuel debris is likely to have reached the PCV shell
BG	Understanding the background level corresponding to measurement of D0 - D3

# 1. Progress of Unit 1 PCV internal investigation

(Preliminary report of March 22 investigation) 2/3

- Investigation results at the measurement point D0 are as follows.



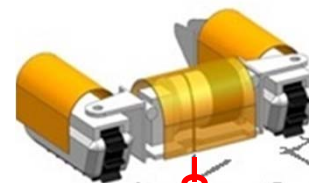
Cross section of 1<sup>st</sup> floor PCV

Access route for March 22 investigation

Measurement point	Contents of estimation, etc.
D0	Estimation of presence or absence of diffusion of fuel debris from the drain sump
D1, D2	Estimation of presence or absence of diffusion of fuel debris from the opening
D3	Estimating whether or not the fuel debris is likely to have reached the PCV shell
BG	Understanding the background level corresponding to measurement of D0 - D3



Underwater image at the measuring point D0



Measurement image

Radiation dose at the measurement point D0 (Provisional values)

- On metal grating: 6.7 Sv/h
- The lowest point: 1.6 Sv/h (About 0.6m above the PCV basement floor\*)

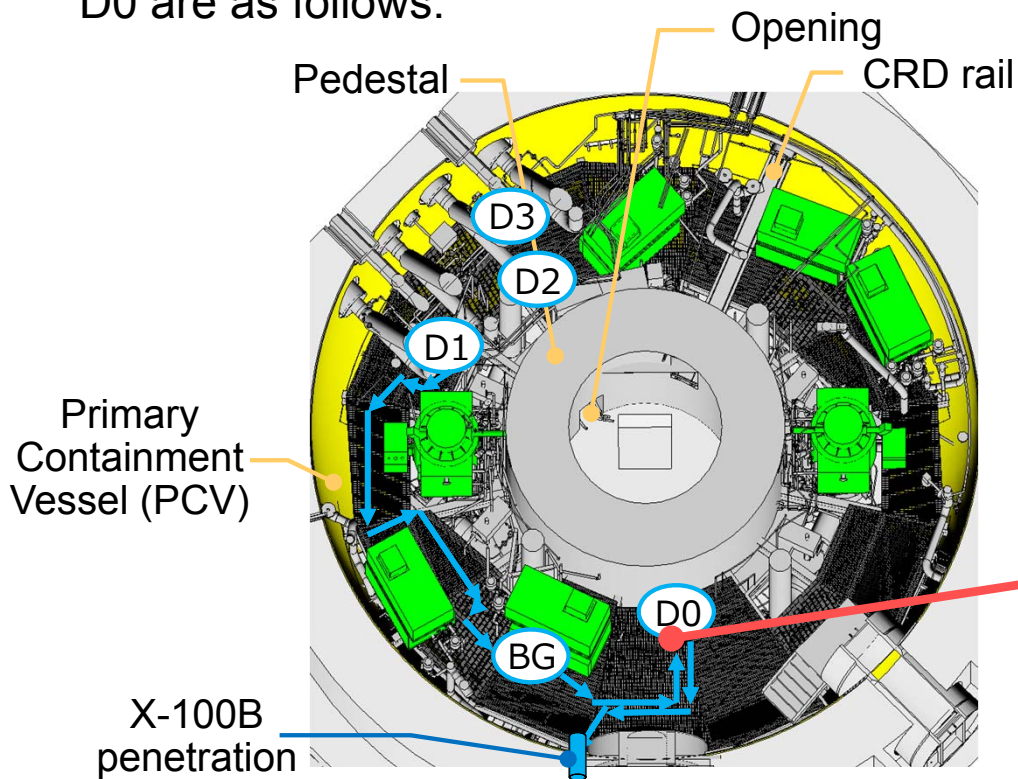
The conditions of PCV basement will be evaluated after organizing digital images and radiation data.

\*The exact height from the PCV basement floor will be examined later.

# 1. Progress of Unit 1 PCV internal investigation

(Preliminary report of March 22 investigation) 3/3

- Investigation results at the measurement point D0 are as follows.



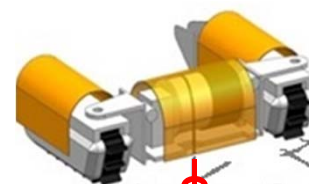
Cross section of 1<sup>st</sup> floor PCV

Access route for March 22 investigation

Measurement point	Contents of estimation, etc.
D0	Estimation of presence or absence of diffusion of fuel debris from the drain sump
D1, D2	Estimation of presence or absence of diffusion of fuel debris from the opening
D3	Estimating whether or not the fuel debris is likely to have reached the PCV shell
BG	Understanding the background level corresponding to measurement of D0 - D3



Underwater image at the measuring point D0



Radiation dose at the measurement point D0 (Provisional values)

- On metal grating: 3.6 Sv/h
- The lowest point: 5.4 Sv/h (About 0.3m above the PCV basement floor\*)

The conditions of PCV basement will be evaluated after organizing digital images and radiation data.

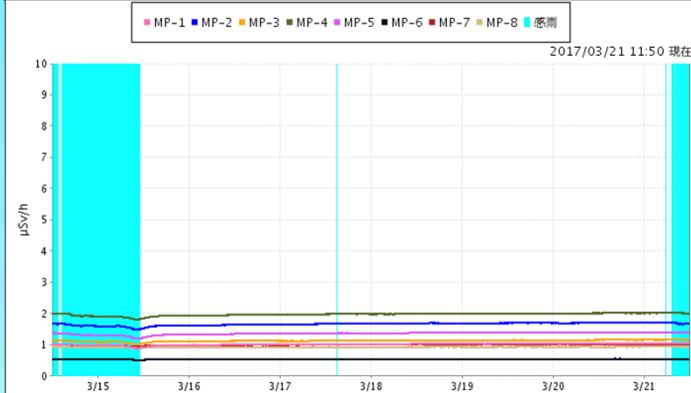
\*The exact height from the PCV basement floor will be examined later.

Measurement image

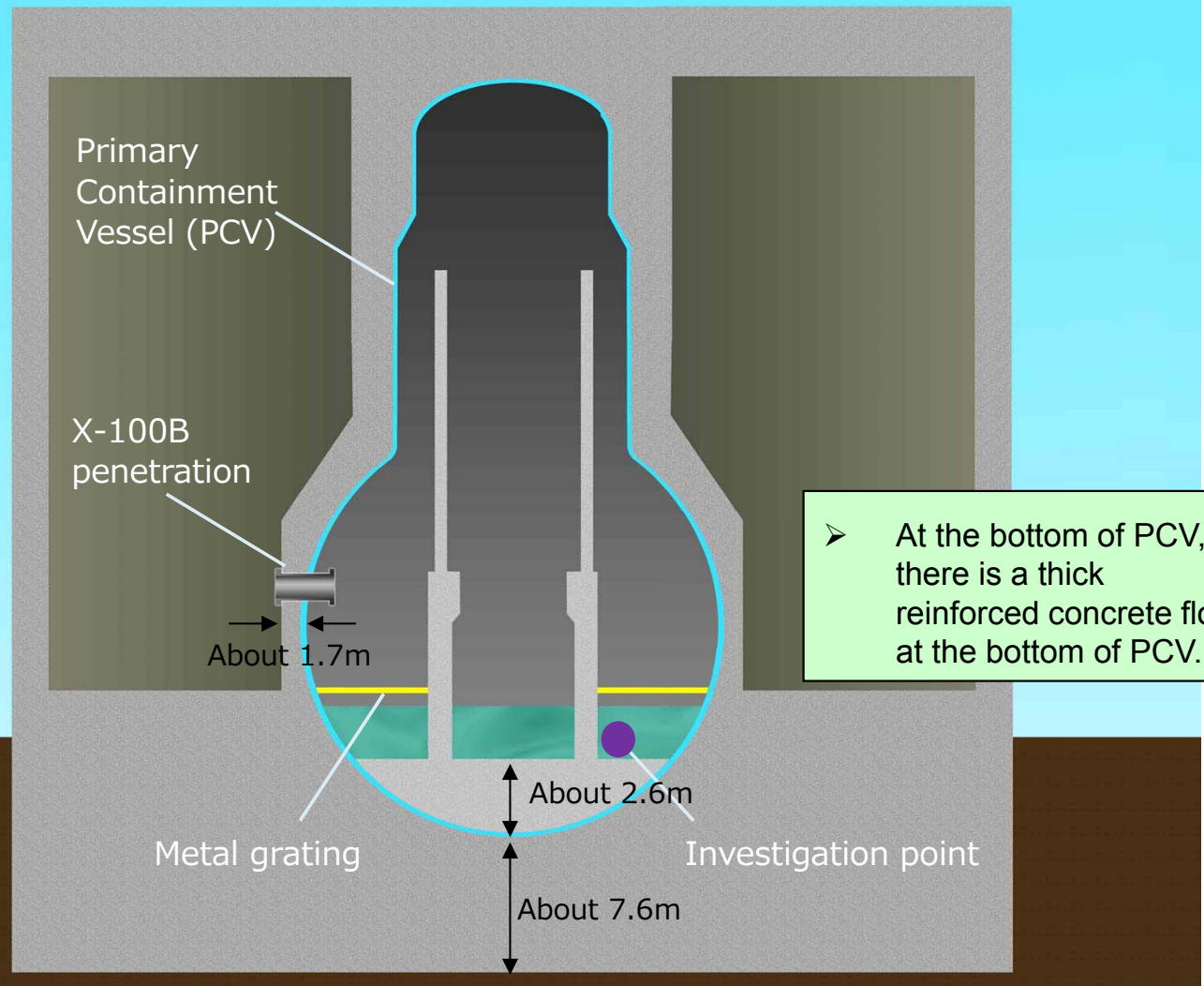
## 2. Impact to the surrounding environment (1/4)

- **No radiation impact has occurred to the surrounding environment because the radiation has been reduced by the shielding of PCV concrete walls and steels.**

There are no changes in measurement values at the monitoring posts before and after the investigation.



Monitoring posts



- At the bottom of PCV, there is a thick reinforced concrete floor at the bottom of PCV.

## 2. Impact to the surrounding environment (2/4)

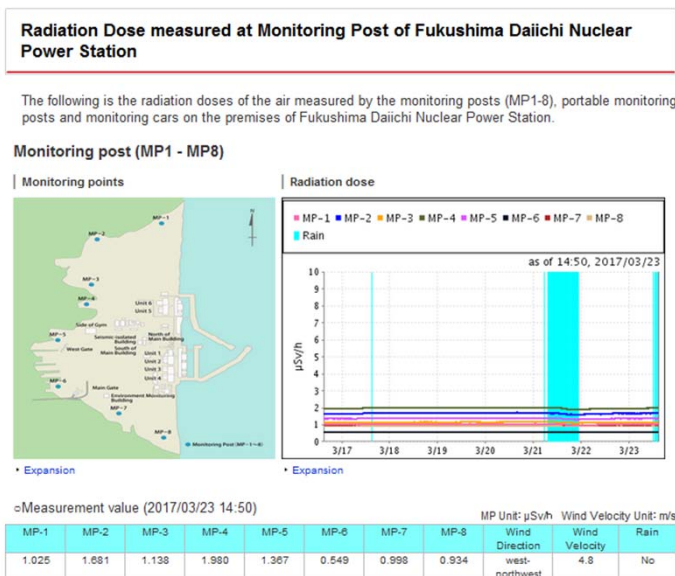
- The radiation level of 12 Sv/h\* was measured by a dosimeter during the March 20 investigation, but **the radiation impact has been reduced by the shielding** of PCV concrete walls and steel. **No radiation impact has been observed in the surrounding environment.**

\*The radiation rates measured on the metal grating in April 2016 were 4.7-9.7 Sv/h, almost the same levels as the measurement result this time.

- The investigation is conducted **while creating a boundary around the guiding pipe to prevent the air inside the PCV from leaking to the outside.**
- **No significant changes have been observed at the monitoring posts and dust monitors after the investigation, compared to the before.**
- **Real-time data of the monitoring posts and dust monitors along the site boundary are available on the website.**

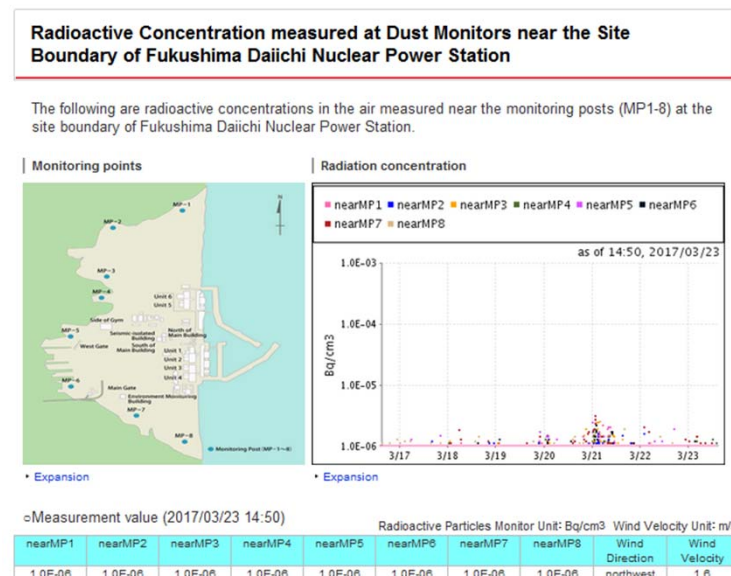
Reference URL: <http://www.tepco.co.jp/en/nu/fukushima-np/f1/index-e.html>

<http://www.tepco.co.jp/en/nu/fukushima-np/f1/dustmonitor/index-e.html>



As of 1:50 p.m. on March 22, 2017: about 0.5-2.0  $\mu\text{Sv/h}$

\*Radiation dose including the other influence than the PCV interior



As of 10:50 a.m. on March 23, 2017: 1.0E-06 Bq/cm<sup>3</sup>

## 2. Impact to the surrounding environment (3/4)

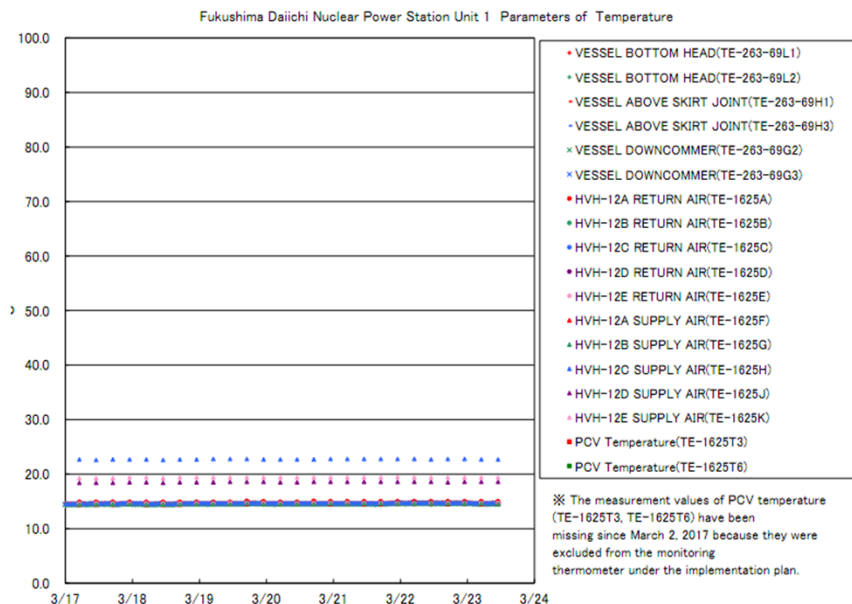
- The measurement result during the investigation does not mean that a new phenomenon has occurred in the PCV, but rather the area that has not been investigated since the March 2011 accident was investigated for the first time.

\*The radiation rates measured on the metal grating in April 2016 were 4.7-9.7 Sv/h, almost the same levels as the measurement result this time.

- Plant parameters are monitored all the time during the investigation, and **no significant changes have been observed in the PCV internal temperatures after the investigation, compared to the before. The condition of cold shutdown has not been changed.**

- Temperature data inside the PCV are available on the website.

Reference URL: <http://www.tepco.co.jp/en/nu/fukushima-np/f1/pla/index-e.html>



Fukushima Daiichi Nuclear Power Station Plant Parameters  
As of 11:00 on March 23 2017

	Unit 1	Unit 2	Unit 3	Unit 4
Status of water injection to the reactor	FDW line 1.5t/h CS line 1.5t/h (as of 11:00, 3/23)	FDW line 1.5t/h CS line 1.5t/h (as of 11:00, 3/23)	FDW line 1.5t/h CS line 1.5t/h (as of 11:00, 3/23)	-
Temperature at the bottom of RPV	VESSEL BOTTOM HEAD (TE-263-69L1) : 14.7°C VESSEL ABOVE SKIRT JOINT (TE-263-69H1) : 14.8°C VESSEL DOWNCOMMER (TE-263-69G2) : 14.5°C (as of 11:00, 3/23)	VESSEL WALL ABOVE BOTTOM HEAD (TE-2-3-69B-3) : 19.3°C RPV TEMPERATURE (TE-2-3-69B-7) : 19.7°C (as of 11:00, 3/23)	VESSEL BOTTOM HEAD (TE-2-3-69L1) : 18.4°C VESSEL ABOVE SKIRT JOINT (TE-2-3-69H1) : 18.5°C VESSEL WALL ABOVE BOTTOM HEAD (TE-2-3-69B-7) : 17.7°C (as of 11:00, 3/23)	-
Temperature in PCV	HVH-12A RETURN AIR (TE-1625A) : 15.0°C HVH-12A SUPPLY AIR (TE-1625F) : 14.5°C (as of 11:00, 3/23)	RETURN AIR DRYWELL COOLER (TE-16-114B) : 20.1°C SUPPLY AIR D/W COOLER HVH-2-16B (TE-16-114E-1) : 19.6°C (as of 11:00, 3/23)	RETURN AIR DRYWELL COOLER (TE-16-114A) : 18.3°C SUPPLY AIR D/W COOLER (TE-16-114E-1) : 17.6°C (as of 11:00, 3/23)	-
Pressure in PCV	0.87kPa g (as of 11:00, 3/23)	0.26kPa g (as of 11:00, 3/23)	0.26kPa g (as of 11:00, 3/23)	-
Flow rate of nitrogen gas injection to Reactors #3	RPV : 28.19t/h PCV : 40t/h (as of 11:00, 3/23)	#4	#4	#4
Outlet flow from PCV gas control system	20.3t/h (as of 11:00, 3/23)	17.91t/h (as of 11:00, 3/23)	20.34t/h (as of 11:00, 3/23)	-
Hydrogen concentration in PCV #1	System A : 0.00vol% System B : 0.00vol% (as of 11:00, 3/23)	System A : 0.00vol% System B : 0.00vol% (as of 11:00, 3/23)	System A : 0.00vol% System B : 0.00vol% (as of 11:00, 3/23)	-
Radioactive concentration in PCV (Xe 135) #2	System A : indicated value 7.90E-04 detection limit 5.60E-04 Ba/arf System B : indicated value 8.10E-04 detection limit 5.10E-04 Ba/arf (as of 11:00, 3/23)	System A : indicated value ND detection limit 1.7E-01 Ba/arf System B : indicated value ND detection limit 1.5E-01 Ba/arf (as of 11:00, 3/23)	System A : indicated value ND detection limit 2.5E-01 Ba/arf System B : indicated value ND detection limit 2.5E-01 Ba/arf (as of 11:00, 3/23)	-
Temperature in the spent fuel pool	25.4°C (as of 11:00, 3/23)	27.7°C (as of 11:00, 3/23)	27.0°C (as of 11:00, 3/23)	14.2°C (as of 11:00, 3/23)
PCV skimmer surge tank level	2.49m (as of 11:00, 3/23)	3.59m (as of 11:00, 3/23)	3.01m (as of 11:00, 3/23)	41.43x100mm (as of 11:00, 3/23)

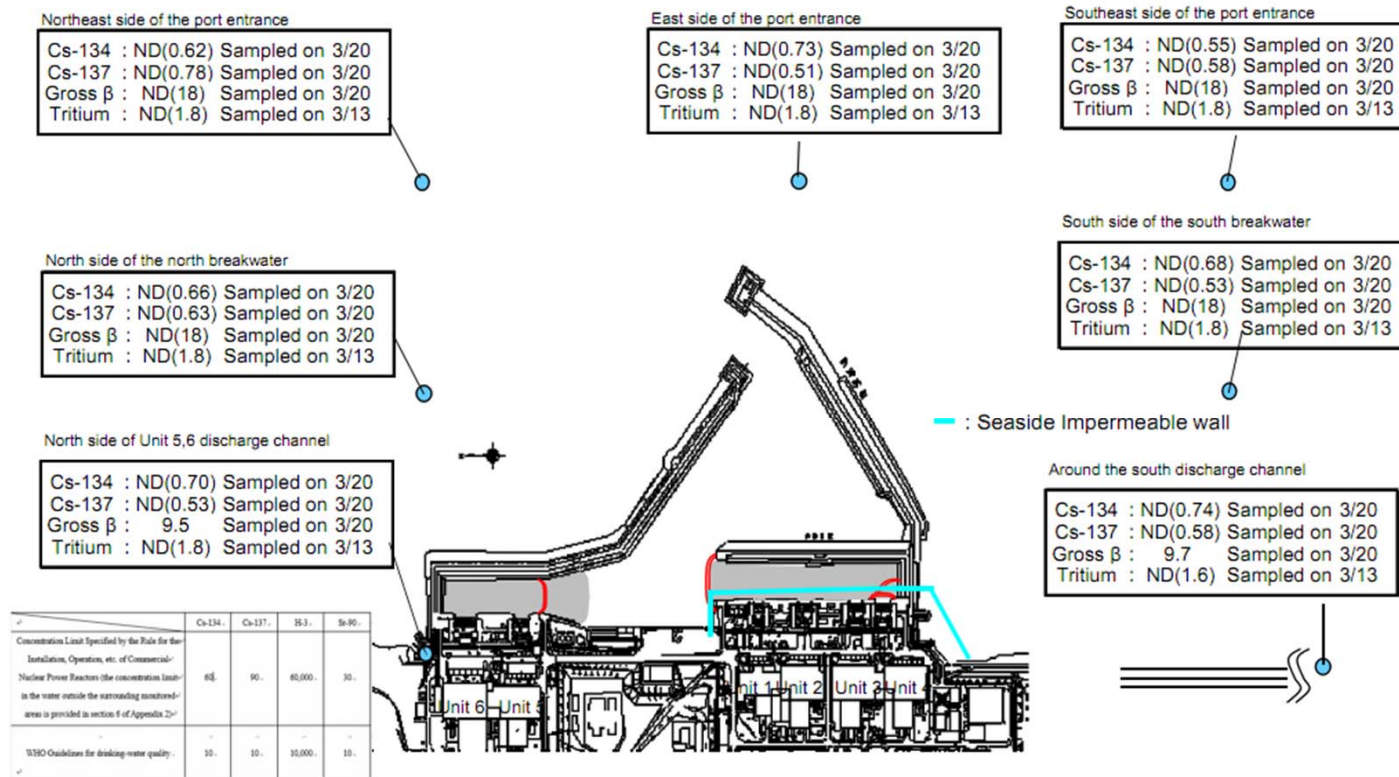
Information about measurements:  
#1 : In case that the instrument indicates minus a hydrogen density, "0%" is recorded. Because there is the possibility of minus indication due to the instrumental problem when hydrogen density is very low.  
#2 : The hydrogen concentration in the PCV gas control system is stopped.  
#3 : In case that the instrument reading is below measurable limit, "ND" is recorded. The radioactivity density (Xe135) in the PCV gas control system is stopped.  
#4 : Flow rate value is nullified according to the temperature and the pressure under surge condition.  
#5 : Nitrogen gas injection is under suspension.

As of 1:00 p.m. on March 23, 2017: about 14-23 °C

## 2. Impact to the surrounding environment (4/4)

- Analysis results of radioactive materials in seawater are monitored, and **no significant changes have been observed after the investigation, compared to the before.**
- Analysis results of radioactive materials in seawater around the Fukushima Daiichi Nuclear Power Station are available on the website.

Reference URL: <http://www.tepco.co.jp/en/nu/fukushima-np/f1/smp/index-e.html>



Concentration Limit Specified by the Rule: Concentration Limit Specified by the Rule for the Installation, Operation, etc. of Commercial Nuclear Power Reactors (the concentration limit in the water outside the surrounding monitored areas is provided in section 6 of Appendix 2)

As of 12:00 a.m. on March 23, 2017: ND for Cesium134 and Cesium137, ND-9.7 Bq/L for Grossβ