

# Countermeasure Implementation for the Water Leakage from the Second Cesium Absorption Apparatus (SARRY) Vent Line

< Reference >  
November 28, 2012  
Tokyo Electric Power Company

## Countermeasures implemented until November 27

(1) Evaluation of the radioactive materials released from the vent hole

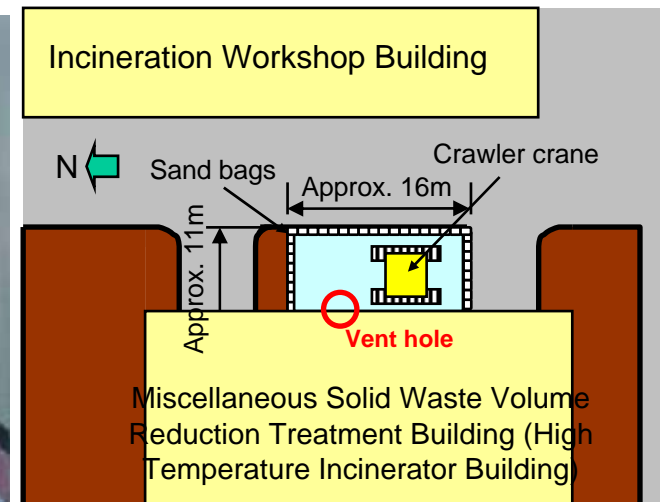
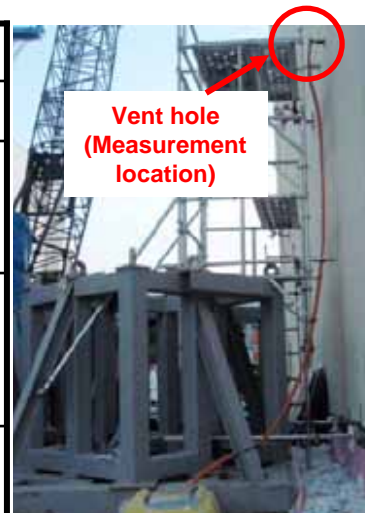
< Outline >

When the auto vent opens at the time of system suspension (before filter backwash), dust sampling was performed to evaluate the radioactive materials released from the vent hole from water leaked from (November 27).

< Measurement results >

Nuclide analysis results of the radioactive materials in the air at the vent hole

Measurement	Radioactivity density (Bq/cm <sup>3</sup> )		
	I-131	Cs-134	Cs-137
Vent hole (Detection limit)*	Below the detection limit ( < $9.1 \times 10^{-6}$ )	Below the detection limit ( < $1.1 \times 10^{-5}$ )	Below the detection limit ( < $1.5 \times 10^{-5}$ )
[Reference] B.G (Detection limit)*	Below the detection limit ( < $8.5 \times 10^{-6}$ )	Below the detection limit ( < $1.2 \times 10^{-5}$ )	Below the detection limit ( < $1.4 \times 10^{-5}$ )
[Reference] Density limit specified by the reactor regulation	$1 \times 10^{-3}$	$2 \times 10^{-3}$	$3 \times 10^{-3}$



\*The detection limit varies depending on detector and sample characteristics.

< Evaluation >

The densities of the radioactive materials in the air collected at the vent hole are below the detection limits.

Thus, the amount of radioactive materials is considered to be substantially small.

## Countermeasures implemented until November 27

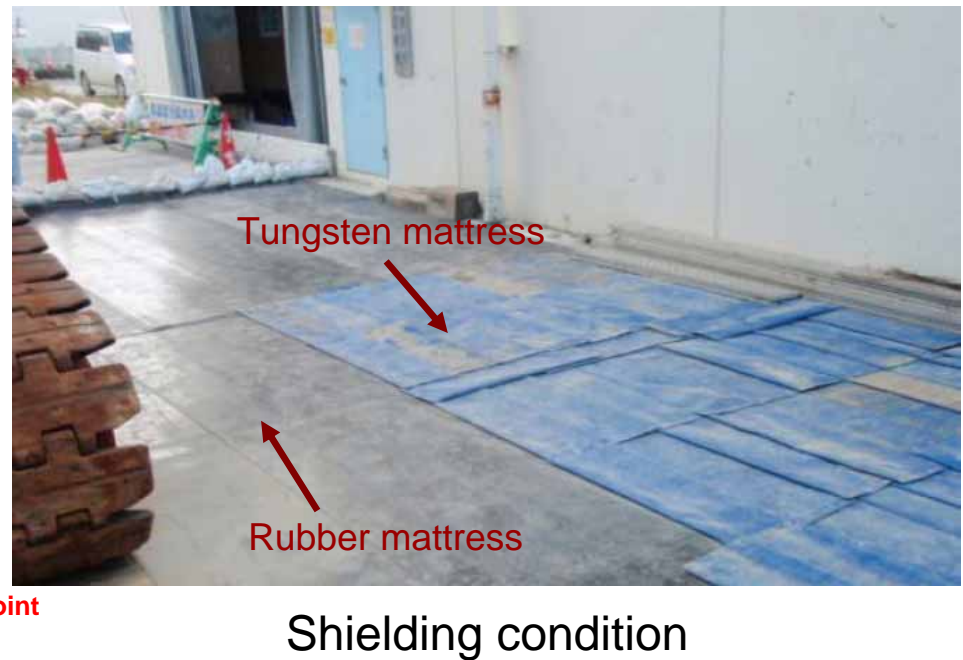
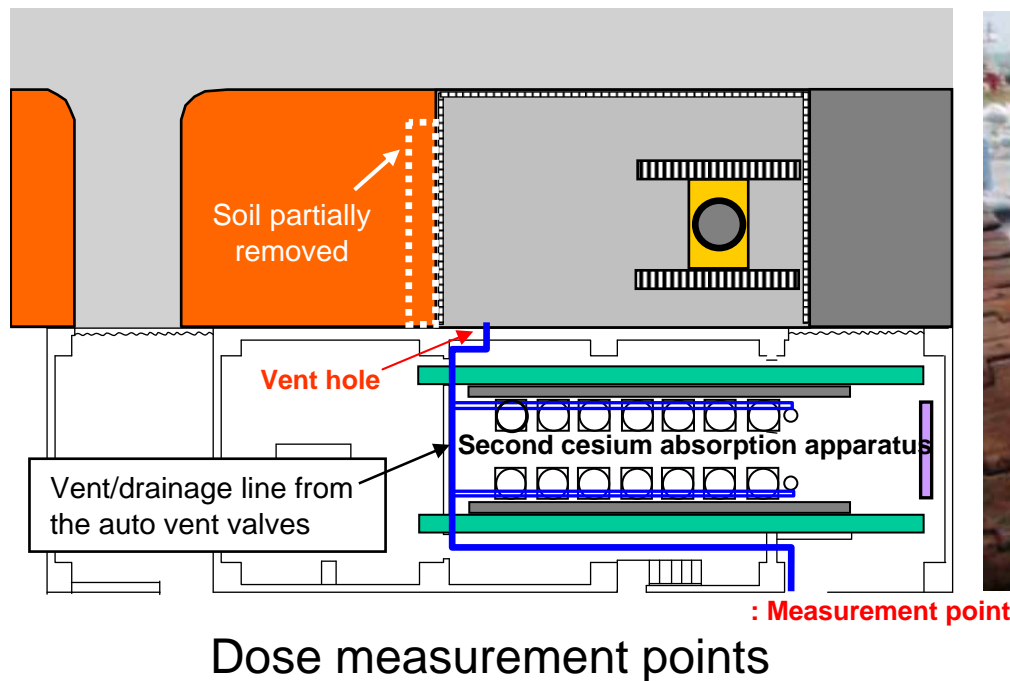
### (2) Radiation exposure mitigation measure

< Outline >

For the purpose of mitigating the radiation exposure, radiation dose measurement was done on the concrete surface and the border area (soil) and shielding has been applied in high radiation areas.

\*As the leaked water may have been absorbed into a part of the soil in the surrounding area, the soil around the concrete area has been removed before the system was restarted on November 22.

< Measure implementation >



## Countermeasures implemented until November 27

(2) Radiation exposure mitigation measure

< Countermeasure effectiveness >

Dose measurement results after shielding

< Evaluation >

After shielding, the radiation dose in the area was reduced down to the level which ensures work safety. A part of the soil in the surrounding area where the leaked water may have been absorbed into has been removed before the system was restarted on November 22.

(Reference) Dose measurement results in the surrounding environment

Dose measurement results (November 27) : 0.06mSv/h, + : 0.07mSv/h

Unit: mSv/h

Measurement point*1	Before shielding				After shielding			
	Measurement results (Surface)		Measurement results (Approx. 1m from the ground)		Measurement results (Surface)		Measurement results (Approx. 1m from the ground)	
		+		+		+		+
	0.03	0.45	0.04	0.60	0.03	0.50	0.04	0.55
	0.30	2.40	0.12	1.20	0.14	0.70	0.11	1.50
	2.50	>100	0.02	15.00	0.04	0.75	0.04	0.50
	0.20	15.00	0.04	1.30	0.02	0.90	0.02	0.10
(Reference)*2	0.12	20.00	0.09	0.40	0.13	0.40	0.09	0.45

\*1 Measurement points on the concrete surface where the dose ( + ) at approx. 1m from the ground is 0.1mSv/h or more

\*2 The soil area where the dose was especially high, which is assumed to be affected by the concrete surface. After shielding the concrete surface, the dose has decreased.

< Measures to be implemented >

The following additional measures are planned to be implemented by the end of FY 2012.

1. Radioactive material dispersion prevention (such as painting the concrete surface)
2. Leakage prevention from the vent hole