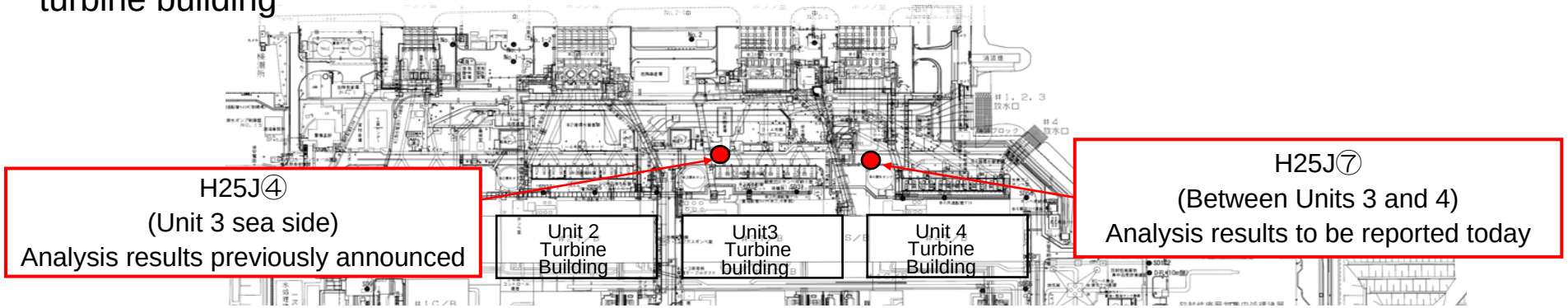
Results of the Water Analysis at the Lower Permeable Layer (between Units 3 and 4 Sea Side) on the East (Sea Side) of the Turbine Buildings

<Reference>
December 20, 2013
Tokyo Electric Power Company

○Samplings are conducted in new observation holes, for the purpose of checking the quality of water of the lower permeable layer (the second permeable layer) on the east of the turbine building.

○Sampling points for groundwater of the lower permeable layer (the alternate layer) on the sea side of the turbine building



○ Analysis results [Unit for radioactive material density: Bq/L]

ND stands for 'below the detection limit value' and the detection limit value shown in the round bracket.

	Sampling date	Cs134	Cs137	Gross β	H-3	Sr90	Sampling method
Unit 3 sea-side H25J④	H25.11.13	ND（0.4）	ND （0.5）	ND （12）	ND （120）	Under analysis (Coming in December)	Pump
Between Units 3 and 4 sea side H25J⑦	H25.12.3 *1	ND （0.4）	0.7	ND （13）	780	-	Pump
	H25.12.10 *2	2.7	6.7	89	ND（110）	Under analysis (Coming in January)	Manual handling with water sampler
		Analysis conducted, after removing participles like dust causing muddiness					
		1.6	2.8	67	—	—	

*1 On the sampling on December 3, the turbidity level did not meet the minimal required value. The sampling was continued on the condition, but radioactive materials were detected.

*2 On December 10, the sampling was conducted again with a method to lower the turbidity level, however the turbidity did not meet the minimal required level. We conducted samplings again after filtering the sampling water obtained on December 10, but radioactive materials were detected from both samplings.

Radioactive materials are detected from the samplings so far, and the estimated causes are as follows, however, we cannot specify the exact cause.

<Estimated cause for radioactive material>

- ○ The lower permeable layer is contaminated.
- ○ Radioactive materials mixed when drilling an observation holes.
- ○ Radioactive materials mixed when the upper groundwater flowed into.
- ○ Radioactive materials mixed when sampling water.

［Investigation］(Until the middle of January, 2014)

Investigation for each item will be conducted in around the middle of January because the quality of water of the lower permeable layer does not become clear.

<Items to be investigated>

1. **Analyzing the groundwater of the upper permeable layer just above the lower permeable layer**

   Checking if the mingling of the radioactive materials from the upper permeable layer could be caused.

2. **Continuing the monitoring for density for one month**

   Based on the concentration change over time, we will determine if the lower permeable layer is contaminated, or if radioactive material mixed temporarily. We will use a water sampler, in order to keep the low level of turbidity.

3. **Comparing the water levels at the upper and lower permeable layers**

   Checking if water could flow into the lower permeable layer

4. **Investigation for the water quality at the upper and lower parts of the lower permeable layer**

   Checking if there are differences between the qualities of water at the upper and lower parts, in order to determine the inflow from the upper permeable layer

5. **Analyzing the sampled water through a filter**

   Analyzing the sampled water removing dusts etc., in order to make sure of the influence of the dusts which mixed when sampling water (Analysis already completed with the sample water obtained on December 10)