＜Reference＞

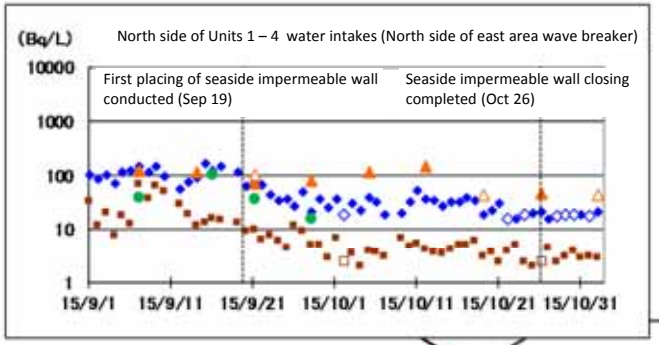
Fukushima Daiichi Nuclear Power Station
Current status of seawater monitoring before and after Seaside impermeable wall closing

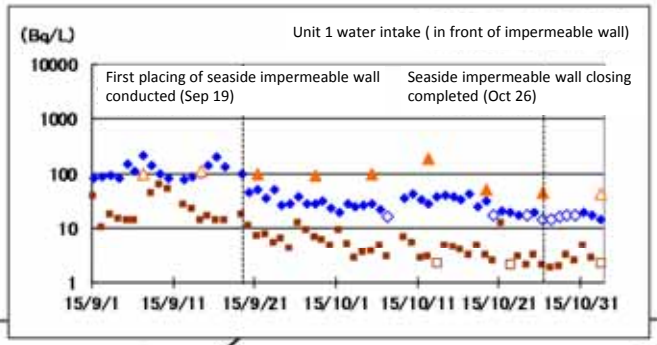
Tokyo Electric Power Company

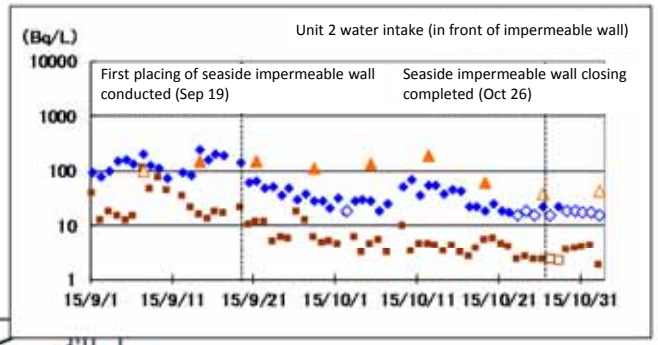
November 5, 2015

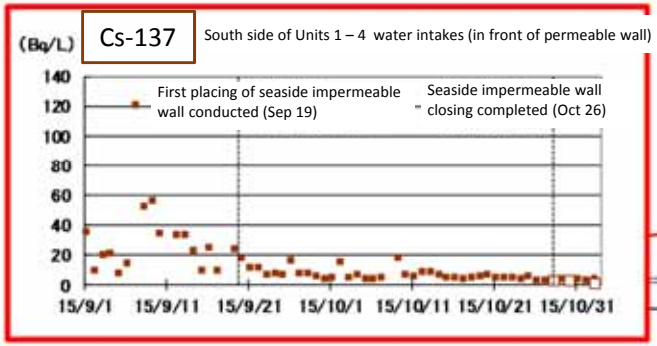
Changes over time of radioactive material concentrations in seawater inside the port（in open ditches of Units 1 – 4 water intakes）

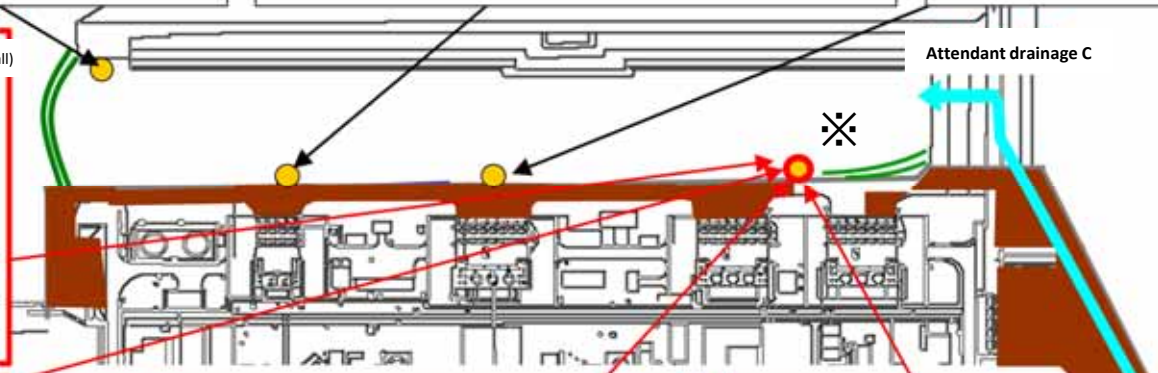
[Regulatory Limits] Cs-137:90Bq/L,Sr-90:30Bq/L, H-3:60000Bq/L

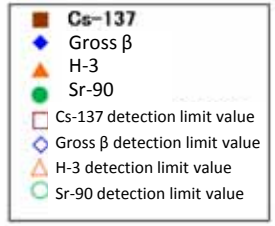


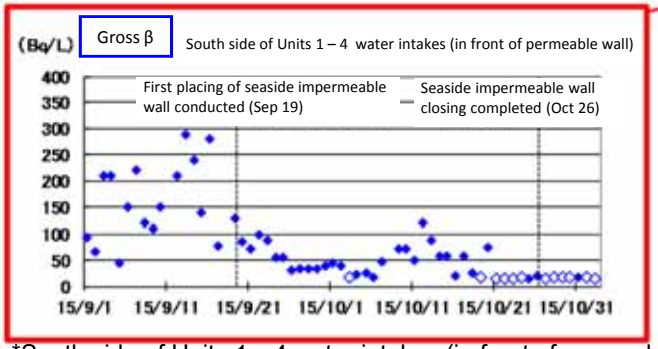


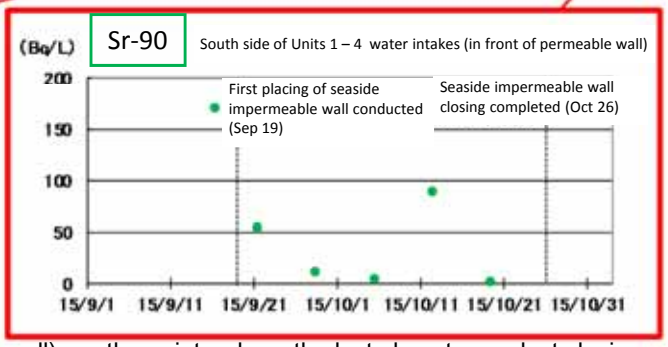


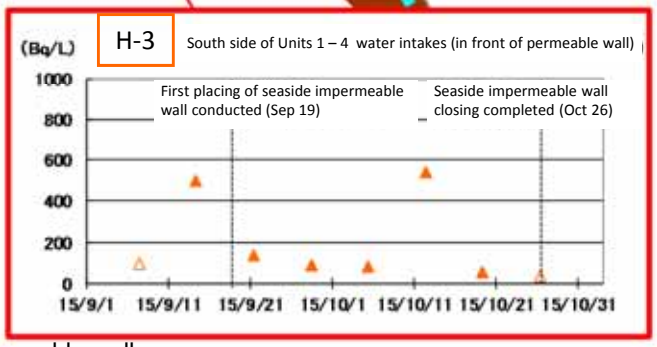












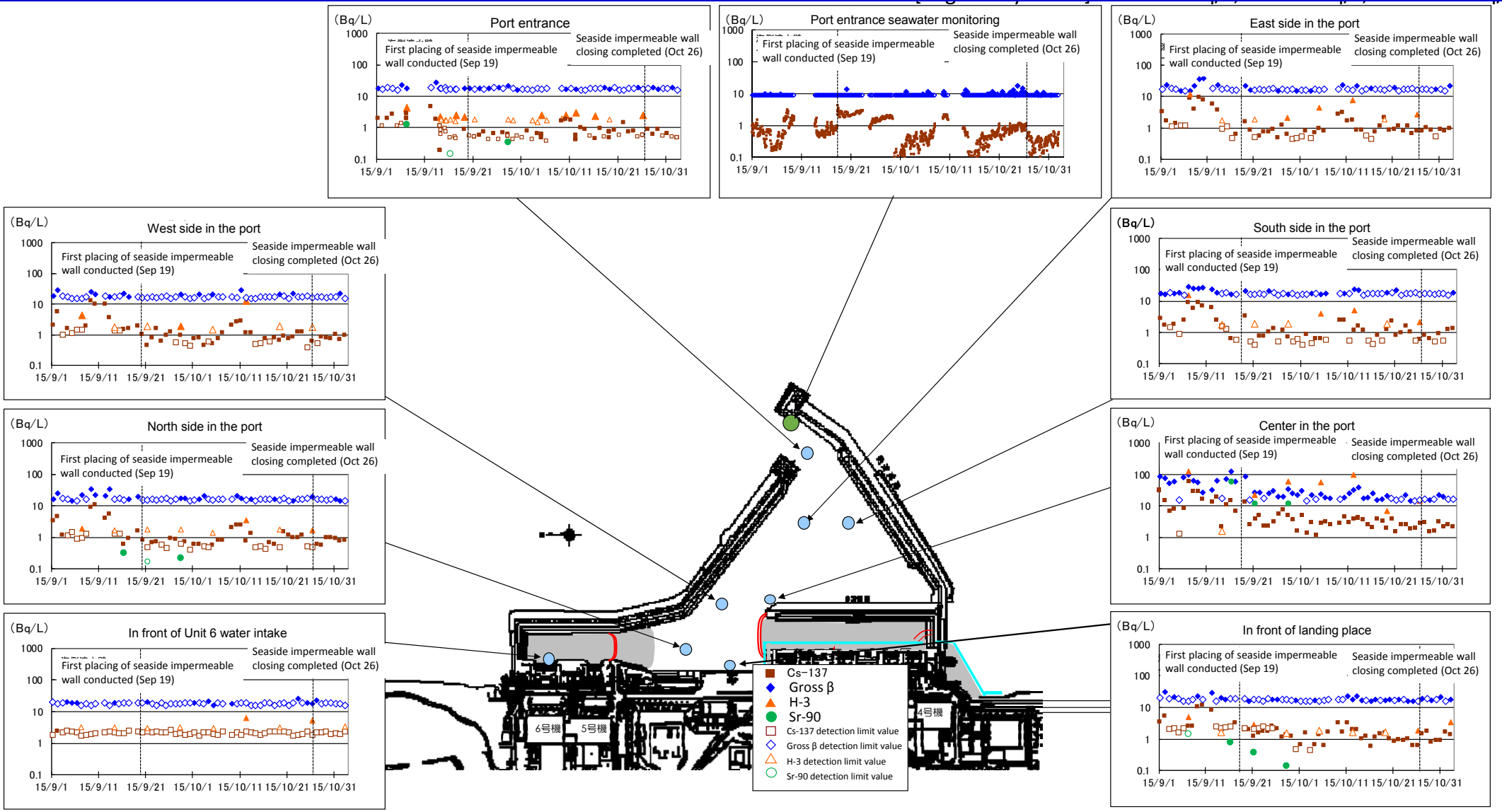
*South side of Units 1 – 4 water intakes (in front of permeable wall) are the points where the last place to conduct closing permeable wall.
Seawater sampling points are the most affected places by groundwater until the closure completion.

Cs-137（Cesium 137） Sr-90（Strontium 90） H-3（Tritium）

Changes over time of radioactive material concentrations in seawater inside the port (outside open ditches of Units 1 – 4 water intakes)

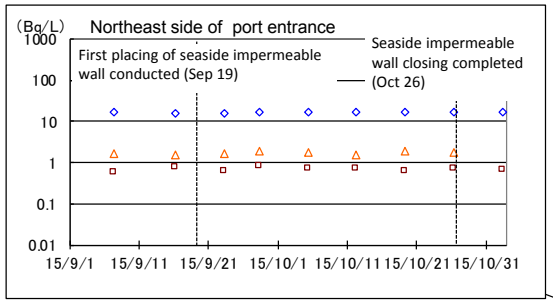
Cs-137(Cesium 137)　Sr-90(Strontium 90)　H-3(Tritium)

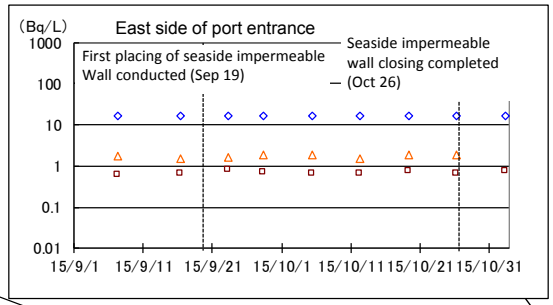
[Regulatory Limits] Cs-137:90Bq/L,Sr-90:30Bq/L, H-3:60000Bq/L

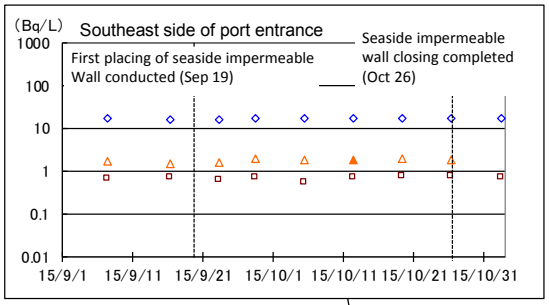


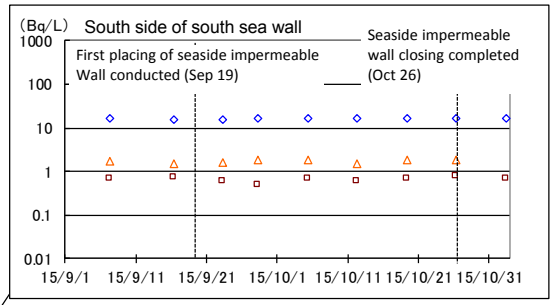
Changes over time of radioactive concentrations in seawater（Outside the port）

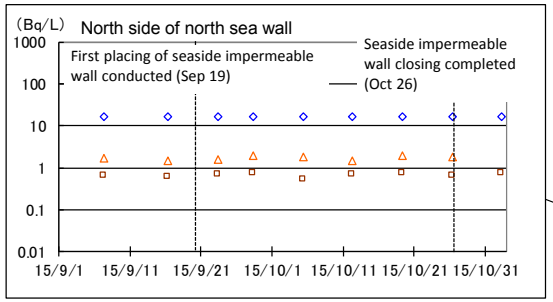
[Regulatory Limits] Cs-137:90Bq/L,Sr-90:30Bq/L, H-3:60000Bq/L

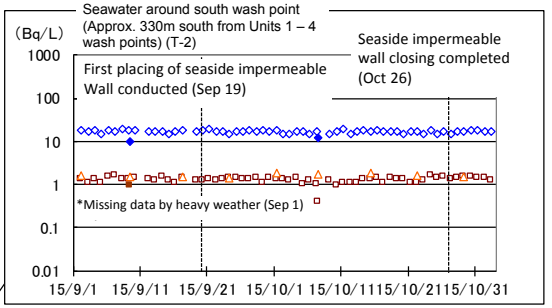


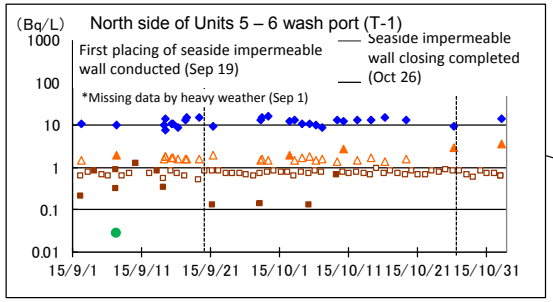


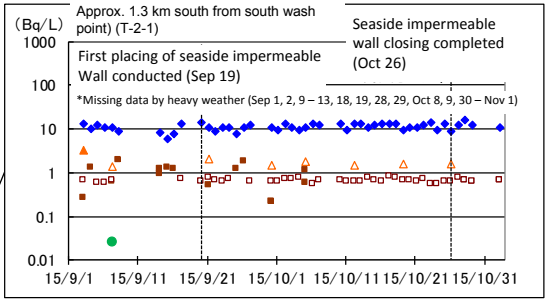


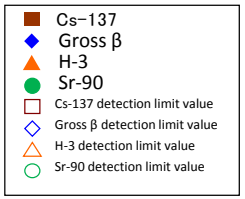


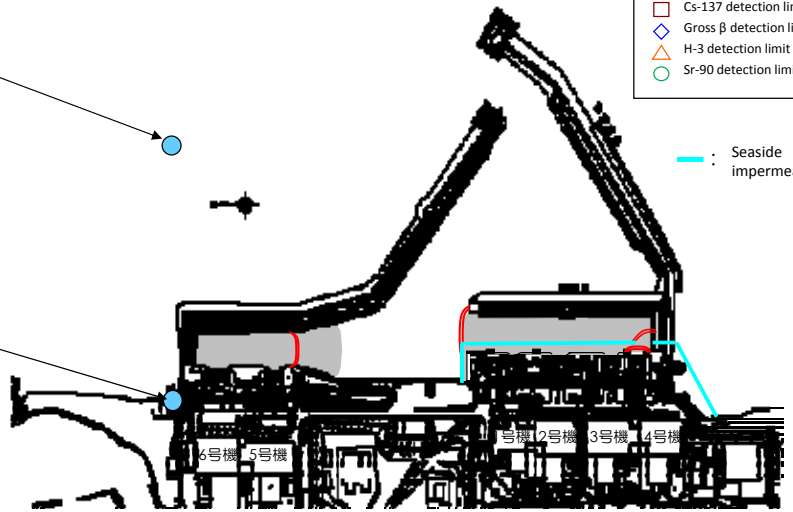






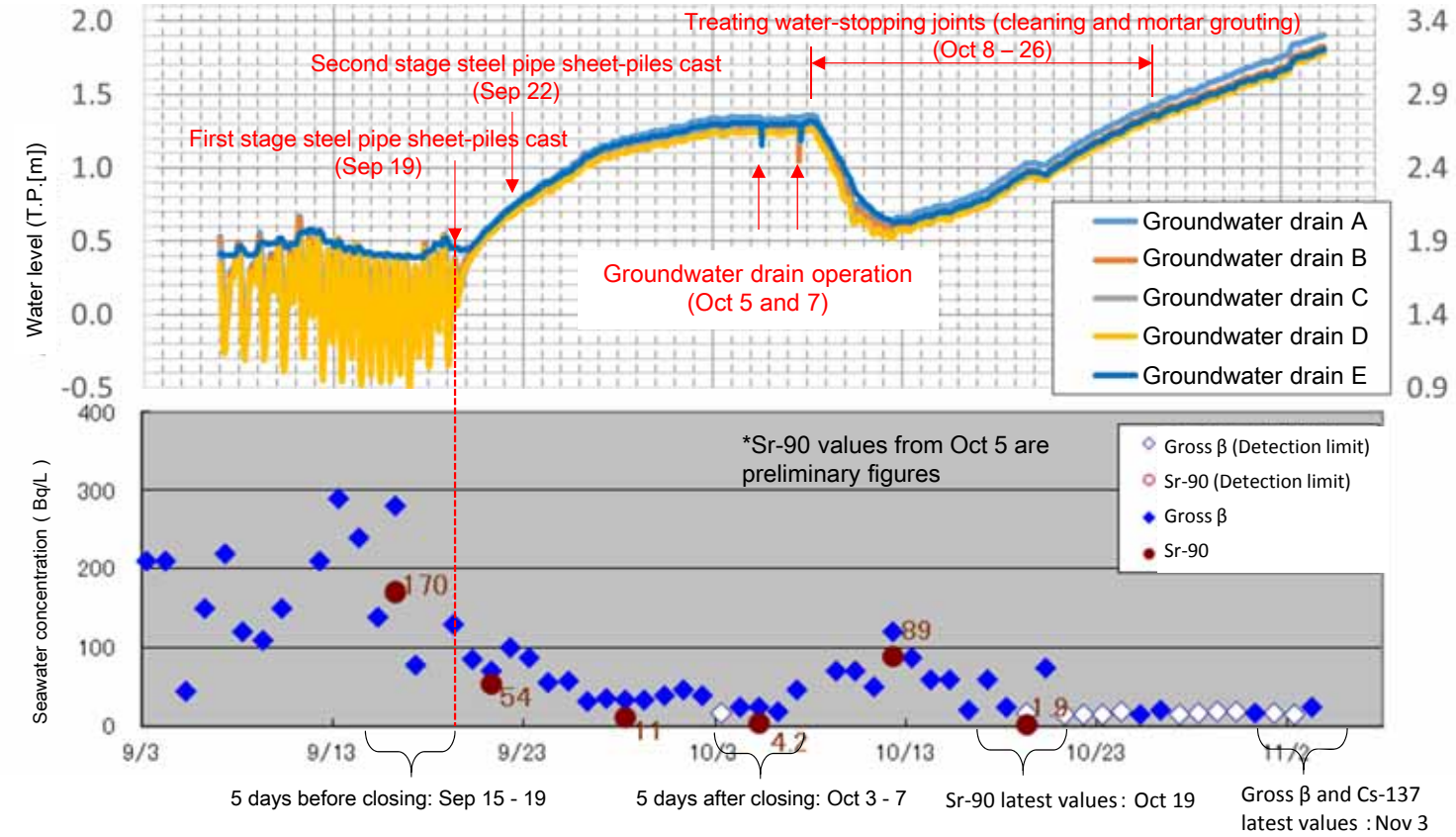






Cs-137（Cesium 137） Sr-90（Strontium 90） H-3（Tritium）

Changes in groundwater drain water level and radioactive material concentrations in seawater inside the port



Graph charts: Changes in groundwater drain water levels and radioactive material concentrations in seawater in open ditches of Units 1 – 4 water intake

(in front of the south-side impermeable wall)

Chart: Average value of radioactive material concentrations of all measurement points in and outside open ditches of Units 1 – 4 water intakes

(Bq/L)

		Average value Of 5 days before closing	Average values of 5 days after closing*1	Average values of latest measurements*2
Gross β	In open ditches	150	26	32
	Outside open ditches	27	16	20
Sr-90	In open ditches	140	4.2	1.9
	Outside open ditches	16	-	3.2
Cs-137	In open ditches	16	3.8	10
	Outside open ditches	2.7	1.1	2.2
H-3	In open ditches	185	110	41
	Outside open ditches	1.9	9.4	4.1

*1 5 days after closing are selected when groundwater drain water level was steady or when it did not rain.

*2 Measuring Gross β and Cs-137 was conducted on Nov 3, measuring Sr-90 in open ditches was conducted on Oct 19, measuring Sr-90 outside open ditches was conducted on Sep 28 and measuring H-3 was conducted on Oct 26.

- Water level of groundwater drain was confirmed as increased after casting steel pipe sheet-piles. Also temporary decreases were confirmed after cleaning joints (Oct 8, 9 and 19) but mortar grouting to the joints has been continually increasing the water.
- Gross β concentrations in seawater inside the port showed that they also tend to decrease with groundwater drain water levels. Similar results with Strontium 90 concentrations showed decreasing tendencies.

Summary

■As for the radioactive concentration levels in seawater inside the port area, where the changes in the concentration levels after closing the seaside impermeable wall can be relatively easily detected, as a result of comparison of value between the five days before (September 15-19) and after (October 3-7) the completion of the first stage casting, we have found that the average concentration levels of Cesium-137, Gross β and Strontium-90 had decreased in the water inside and outside the open ditches of Units 1-4 water intakes

■Since the radioactive concentration levels inside the port area are decreasing, it is presumed that the levels outside of the port, as well, have been decreasing. The radioactivity levels in the water outside the port area are mostly undetectable with regards to the regulatory limits.

■As for the radioactive concentration levels in the sea, as a result of closing the seaside impermeable wall decreases have been noticeably shown. Since the concentration levels could be affected by rainfall in the future, TEPCO believes that it is necessary to collect the data on the concentration levels for a long period of time and evaluate them. We will continue to monitor the concentration levels.