

Information (18:50), December 1, 2015

To All Missions (Embassies, Consular posts and International Organizations in Japan)

Report on the discharge record and the sea water monitoring results at Fukushima Daiichi NPS during November

The Ministry of Foreign Affairs wishes to provide all Missions with a report on the discharge record and the sea water monitoring results with regard to the discharge of groundwater pumped up from the subdrain and groundwater drain systems during November as well as groundwater pumped up for bypassing in November at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In November, purified groundwater pumped up from the subdrain and groundwater drain systems was discharged on the dates shown in Sheet 1 and 2. Each time in advance of the discharge, an analysis on the quality of the purified groundwater to be discharged is conducted by TEPCO and the result is announced.

All the results have confirmed that the radiation level of sampled water have been substantially below the operational targets set by TEPCO (these operational targets are set at very low level compared to the legal discharge limits).

In addition, TEPCO and JAEA (on the request of the Government of Japan) regularly conduct a more detailed analysis on the purified groundwater. The results of JAEA's latest analysis confirmed that TEPCO's analysis was accurate and verified that the radiation level of sampled groundwater is substantially below the operational target (see Sheet 3).

Moreover, TEPCO publishes the result of analysis on seawater sampled during the operation at the nearest seawater sampling post from the discharge point (see Sheet 4). The result shows that the radiation level of seawater remains low enough compared to the density limit specified by the Reactor Regulation and no significant change in the radioactivity has been observed.

2. Groundwater Bypassing

In November, groundwater pumped up for by-passing was discharged on the dates shown in Sheet 5. Each time in advance of the discharge, an analysis on the quality of the groundwater to be discharged is conducted by TEPCO and the result is announced.

All the results have confirmed that the radiation level of sampled water have been substantially below the operational targets set by TEPCO (these operational targets are set at very low level compared to the legal discharge limits).

The results of the analysis were also confirmed by Japan Chemical Analysis Center.

In addition, TEPCO and JAEA (on the request of the Government of Japan) regularly conduct a more detailed analysis on the groundwater. The results of JAEA's latest analysis confirmed that TEPCO's analysis was accurate and verified that the radiation level of sampled groundwater is substantially below the operational target (see Sheet 6).

Moreover, TEPCO publishes its analysis on seawater sampled during the operation at the nearest seawater sampling post from the discharge point (see Sheet 7). The result shows that the radiation level in seawater remains low enough compared to the density limit specified by the Reactor Regulation and no significant change in the radioactivity has been observed.

This process is the same as the one announced in the Information last month. Results of the analysis are shown as follows:

(For further information, please contact TEPCO (Tel: 03-6373-1111) or refer to the TEPCO's website:

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

Contact: International Nuclear Energy Cooperation Division,
Ministry of Foreign Affairs, Tel 03-5501-8227

Results of analysis on the quality of the purified groundwater having been pumped up from the subdrain and groundwater drain systems at Fukushima Daiichi NPS (made available by TEPCO prior to discharge)

(Unit: Bq/L)

Date of sampling *Date of discharge	Detected nuclides	Analytical body	
		TEPCO	Mitsubishi Nuclear Fuel Co., Ltd.
November 18 th , 2015 *Discharged on November 28 th	Cs-134	ND (0.62)	ND (0.48)
	Cs-137	ND (0.68)	ND (0.49)
	Gross β	ND (0.75)	ND (0.51)
	H-3	240	300
November 16 th , 2015 *Discharged on November 26 th	Cs-134	ND (0.70)	ND (0.51)
	Cs-137	ND (0.73)	ND (0.54)
	Gross β	ND (2.0)	ND (0.50)
	H-3	210	260
November 14 th , 2015 *Discharged on November 24 th	Cs-134	ND (0.79)	ND (0.54)
	Cs-137	ND (0.82)	ND (0.57)
	Gross β	ND (2.1)	ND (0.50)
	H-3	220	280
November 12 th , 2015 *Discharged on November 21 st	Cs-134	ND (0.81)	ND (0.38)
	Cs-137	ND (0.64)	ND (0.52)
	Gross β	ND (2.2)	ND (0.49)
	H-3	240	320
November 10 th , 2015 *Discharged on November 20 th	Cs-134	ND (0.71)	ND (0.50)
	Cs-137	ND (0.61)	ND (0.54)
	Gross β	ND (0.74)	ND (0.49)
	H-3	210	290
November 9 th , 2015 *Discharged on November 15 th	Cs-134	ND (0.82)	ND (0.44)
	Cs-137	ND (0.75)	ND (0.51)
	Gross β	ND (2.2)	ND (0.49)
	H-3	210	270
November 8 th , 2015 *Discharged on November 19 th	Cs-134	ND (0.73)	ND (0.46)
	Cs-137	ND (0.76)	ND (0.42)
	Gross β	ND (2.2)	ND (0.50)
	H-3	210	270

(Unit: Bq/L)

November 4 th , 2015 *Discharged on November 14 th	Cs-134	ND (0.78)	ND (0.40)
	Cs-137	ND (0.65)	ND (0.52)
	Gross β	ND (2.1)	ND (0.48)
	H-3	170	240
November 2 th , 2015 *Discharged on November 13 th	Cs-134	ND (0.65)	ND (0.35)
	Cs-137	ND (0.73)	ND (0.42)
	Gross β	ND (0.79)	ND (0.50)
	H-3	200	270
October 31 st , 2015 *Discharged on November 12 th	Cs-134	ND (0.83)	ND (0.49)
	Cs-137	ND (0.53)	ND (0.57)
	Gross β	ND (2.0)	ND (0.50)
	H-3	200	260
October 30 th , 2015 *Discharged on November 8 th	Cs-134	ND (0.75)	ND (0.51)
	Cs-137	ND (0.59)	ND (0.59)
	Gross β	ND (0.76)	ND (0.51)
	H-3	210	280
October 28 th , 2015 *Discharged on November 6 th	Cs-134	ND (0.71)	ND (0.46)
	Cs-137	ND (0.62)	ND (0.63)
	Gross β	ND (2.1)	ND (0.49)
	H-3	180	260
October 27 th , 2015 *Discharged on November 7 th	Cs-134	ND (0.71)	ND (0.48)
	Cs-137	ND (0.68)	ND (0.56)
	Gross β	ND (2.1)	ND (0.51)
	H-3	220	300
October 25 th , 2015 *Discharged on November 3 rd	Cs-134	ND (0.71)	ND (0.51)
	Cs-137	ND (0.53)	ND (0.56)
	Gross β	ND (1.9)	ND (0.50)
	H-3	220	310

- * ND represents a value below the detection limit; values in () represent the detection limit.
- * In order to ensure the results, Mitsubishi Nuclear Fuel, a third-party organization, has also conducted an analysis and verified the radiation level of the sampled water.

Result of detailed analysis conducted by TEPCO, JAEA and Japan Chemical Analysis Center (In order to confirm the validity of analysis, the Government of Japan also requests JAEA to conduct the analysis, while TEPCO requests Japan Chemical Analysis Center by itself.)

(Unit: Bq/L)

Date of sampling	Detected nuclides	Analytical body		
		JAEA	TEPCO	Japan Chemical Analysis Center
October 1 st ,2015	Cs-134	0.017	0.015	0.021
	Cs-137	0.082	0.062	0.078
	Gross α	ND (0.48)	ND (2.6)	ND (3.4)
	Gross β	ND (0.45)	ND (0.70)	ND (0.58)
	H-3	230	210	220
	Sr-90	0.0019	ND (0.0012)	ND (0.0052)

Results of analysis on the seawater sampled near the discharge point (North side of Units 5 and 6 discharge channel)

(Unit: Bq/L)

Date of sampling	Detected nuclides	Sampling point (South discharge channel)
November 6 th , 2015 *During discharge	Cs-134	ND (0.88)
	Cs-137	ND (0.72)
	Gross β	15
	H-3	ND (1.4)

(Reference)

(Unit: Bq/L)

Radionuclides	Operational targets	Legal discharge limit (Density limit by the Reactor Regulation)	WHO Guidelines for Drinking Water Quality
Cs-134	1	60	10
Cs-137	1	90	10
Gross α	—	—	—
Gross β	3 (1) ※	—	—
H-3	1,500	60,000	10,000
Sr-90	—	30	10

※ The operational target of Gross β is 1 Bq/L in the survey which is conducted once every ten days.

Results of analysis on the water quality of the groundwater having been pumped up for by-passing at Fukushima Daiichi NPS (made available by TEPCO prior to discharge)

(Unit: Bq/L)

Date of sampling *Date of discharge	Detected nuclides	Analytical body	
		TEPCO	Japan Chemical Analysis Center
November 12 th , 2015 *Discharged on November 25 th	Cs-134	ND (0.62)	ND (0.57)
	Cs-137	ND (0.68)	ND (0.62)
	Gross β	ND (0.80)	ND (0.52)
	H-3	160	160
November 5 th , 2015 *Discharged on November 18 th	Cs-134	ND (0.73)	ND (0.80)
	Cs-137	ND (0.64)	ND (0.50)
	Gross β	ND (0.80)	ND (0.59)
	H-3	150	160
October 29 th , 2015 *Discharged on November 11 th	Cs-134	ND (0.81)	ND (0.70)
	Cs-137	ND (0.67)	ND (0.50)
	Gross β	ND (0.90)	ND (0.54)
	H-3	150	160
October 22 th , 2015 *Discharged on October 4 th	Cs-134	ND (0.63)	ND (0.50)
	Cs-137	ND (0.67)	ND (0.58)
	Gross β	ND (0.78)	ND (0.54)
	H-3	160	160

- * ND represents a value below the detection limit; values in () represent the detection limit
- * In order to ensure the results, Japan Chemical Analysis Center, a third-party organization, has also conducted an analysis and verified the radiation level of the sampled water.

Result of detailed analysis conducted by TEPCO, JAEA and Japan Chemical Analysis Center (In order to confirm the validity of analysis, the Government of Japan also requests JAEA to conduct the analysis, while TEPCO requests Japan Chemical Analysis Center by itself.)

(Unit: Bq/L)

Date of sampling	Detected nuclides	Analytical body		
		JAEA	TEPCO	Japan Chemical Analysis Center
October 1 st , 2015	Cs-134	ND (0.0049)	ND (0.0065)	ND (0.0055)
	Cs-137	0.0047	ND (0.0055)	ND (0.0044)
	Gross α	ND (0.41)	ND (2.5)	ND (3.2)
	Gross β	ND (0.45)	ND (0.89)	ND (0.59)
	H-3	190	180	180
	Sr-90	0.0015	ND (0.0015)	ND (0.0052)

Results of analysis on the seawater sampled near the discharge point (Around South Discharge Channel)

(Unit: Bq/L)

Date of sampling	Detected nuclides	Sampling point (South discharge channel)
November 4 th , 2015 *During discharge	Cs-134	ND (0.77)
	Cs-137	ND (0.63)
	Gross β	15
	H-3	ND (1.5)

(Reference)

(Unit: Bq/L)

Radionuclides	Operational targets	Legal discharge limit (Density limit by the Reactor Regulation)	WHO Guidelines for Drinking Water Quality
Cs-134	1	60	10
Cs-137	1	90	10
Gross α	—	—	—
Gross β	5 (1) ※	—	—
H-3	1,500	60,000	10,000
Sr-90	—	30	10

※ The operational target of Gross β is 1 Bq/L in the survey which is conducted once every ten days.