Information (15:45), January 6, 2016

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 December 2015

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 December 2015 as well as groundwater pumped up for bypassing in December 2015 at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In December 2015, 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 December 2015, 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.
December 20th, 2015 *Discharged on December 31st	Cs-134	ND (0.56)	ND (0.52)
	Cs-137	ND (0.63)	ND (0.50)
	Gross β	ND (2.0)	ND (0.52)
	H-3	250	320
December 19th, 2015 *Discharged on December 29th	Cs-134	ND (0.68)	ND (0.54)
	Cs-137	ND (0.58)	ND (0.58)
	Gross β	ND (0.64)	ND (0.50)
	H-3	240	330
December 16th, 2015 *Discharged on December 26th	Cs-134	ND (0.66)	ND (0.48)
	Cs-137	ND (0.76)	ND (0.52)
	Gross β	ND (2.1)	ND (0.51)
	H-3	210	300
December 14th, 2015 *Discharged on December 24th	Cs-134	ND (0.60)	ND (0.46)
	Cs-137	ND (0.63)	ND (0.56)
	Gross β	ND (2.1)	ND (0.50)
	H-3	200	270
December 12th, 2015 *Discharged on December 21st	Cs-134	ND (0.79)	ND (0.38)
	Cs-137	ND (0.68)	ND (0.54)
	Gross β	ND (2.2)	ND (0.50)
	H-3	170	260
December 11th, 2015 *Discharged on December 20th	Cs-134	ND (0.49)	ND (0.46)
	Cs-137	ND (0.58)	ND (0.47)
	Gross β	ND (2.1)	ND (0.49)
	H-3	180	250
December 10th, 2015 *Discharged on December 19th	Cs-134	ND (0.61)	ND (0.53)
	Cs-137	ND (0.53)	ND (0.61)
	Gross β	ND (20.71	ND (0.53)
	H-3	190	260
December 6th, 2015 *Discharged on December 15th	Cs-134	ND (0.60)	ND (0.43)
	Cs-137	ND (0.60)	ND (0.56)
	Gross β	ND (2.1)	ND (0.49)
	H-3	200	280

(Unit: Bq/L)

December 4th, 2015 *Discharged on December 13th	Cs-134	ND (0.76)	ND (0.46)
	Cs-137	ND (0.68)	ND (0.52)
	Gross β	ND (2.0)	ND (0.50)
	H-3	210	270
December 2nd, 2015 *Discharged on December 12th	Cs-134	ND (0.66)	ND (0.54)
	Cs-137	ND (0.58)	ND (0.52)
	Gross β	ND (0.76)	ND (0.49)
	H-3	240	310
November 30th, 2015 *Discharged on December 10th	Cs-134	ND (0.56)	ND (0.43)
	Cs-137	ND (0.68)	ND (0.49)
	Gross β	ND (2.2)	ND (0.52)
	H-3	240	330
November 28th, 2015 *Discharged on December 8th	Cs-134	ND (0.72)	ND (0.41)
	Cs-137	ND (0.70)	ND (0.45)
	Gross β	ND (2.0)	ND (0.50)
	H-3	230	290
November 26th, 2015 *Discharged on December 5th	Cs-134	ND (0.87)	ND (0.41)
	Cs-137	ND (0.53)	ND (0.51)
	Gross β	ND (0.70)	ND (0.48)
	H-3	260	330
November 24th, 2015 *Discharged on December 4th	Cs-134	ND (0.63)	ND (0.43)
	Cs-137	ND (0.63)	ND (0.47)
	Gross β	ND (2.1)	ND (0.51)
	H-3	290	350
November 23rd, 2015 *Discharged on December 3rd	Cs-134	ND (0.79)	ND (0.51)
	Cs-137	ND (0.63)	ND (0.45)
	Gross β	ND (2.1)	ND (0.50)
	H-3	240	310
November 21st, 2015 *Discharged on December 1st	Cs-134	ND (0.73)	ND (0.41)
	Cs-137	ND (0.58)	ND (0.52)
	Gross β	ND (2.1)	ND (0.49)
	H-3	220	290

* 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
November 2nd,2015	Cs-134	ND (0.045)	0.0046	ND (0.0053)
	Cs-137	0.017	0.015	0.019
	Gross α	ND (0.43)	ND (2.5)	ND (3.8)
	Gross β	ND (0.45)	ND (0.79)	ND (0.51)
	H-3	210	200	200
	Sr-90	0.0016	ND (0.0014)	ND (0.0049)

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)
December 1st, 2015 *During discharge	Cs-134	ND (0.69)
	Cs-137	ND (0.69)
	Gross β	13
	H-3	ND (1.6)

(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
December 17th, 2015 *Discharged on December 30th	Cs-134	ND (0.71)	ND (0.75)
	Cs-137	ND (0.72)	ND (0.68)
	Gross β	ND (0.77)	ND (0.48)
	H-3	140	150
December 10th, 2015 *Discharged on December 23rd	Cs-134	ND (0.67)	ND (0.58)
	Cs-137	ND (0.59)	ND (0.83)
	Gross β	ND (0.68)	ND (0.56)
	H-3	170	180
December 3rd, 2015 *Discharged on December 16th	Cs-134	ND (0.79)	ND (0.57)
	Cs-137	ND (0.68)	ND (0.55)
	Gross β	ND (0.74)	ND (0.57)
	H-3	160	170
November 26th, 2015 *Discharged on December 9th	Cs-134	ND (0.75)	ND (0.92)
	Cs-137	ND (0.74)	ND (0.65)
	Gross β	ND (0.80)	ND (0.52)
	H-3	170	170
November 19th, 2015 *Discharged on December 2nd	Cs-134	ND (0.78)	ND (0.64)
	Cs-137	ND (0.57)	ND (0.57)
	Gross β	ND (0.85)	ND (0.51)
	H-3	140	140

* 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
November 5th, 2015	Cs-134	ND (0.0050)	ND (0.0039)	ND (0.0043)
	Cs-137	0.0035	ND (0.0039)	ND (0.0036)
	Gross α	ND (0.56)	ND (2.5)	ND (2.6)
	Gross β	ND (0.46)	ND (0.80)	ND (0.56)
	H-3	160	160	160
	Sr-90	0.0040	ND (0.0014)	ND (0.0050)

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)
December 2nd, 2015 *During discharge	Cs-134	ND (0.57)
	Cs-137	ND (0.60)
	Gross β	13
	H-3	ND (1.7)

(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.