Information (16:00), October 2, 2017

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

Report on the discharge record and the seawater monitoring results at Fukushima Daiichi Nuclear Power Station during September 2017

The Ministry of Foreign Affairs wishes to provide all international Missions in Japan with a report on the discharge record and seawater monitoring results with regard to groundwater pumped from the subdrain and groundwater drain systems, as well as, bypassing groundwater pumped during the month of September 2017 at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In September, purified groundwater pumped from the subdrain and groundwater drain systems was discharged on the dates shown in Appendix 1. Prior to every discharge, an analysis on the quality of the purified groundwater to be discharged was conducted by Tokyo Electric Power Company (TEPCO) and the results were announced.

All the test results during the month of September have confirmed that the radiation levels of sampled water were substantially below the operational targets set by TEPCO (these operational targets are well below the density limit specified by the Reactor Regulation). The results of these analyses were also confirmed by third-party organization (Mitsubishi Nuclear Fuel Co., Ltd, Kaken Co., Ltd and Tohoku Ryokka Kankyohozen Co.).

In addition, TEPCO and Japan Atomic Energy Agency (JAEA), at the request of the Government of Japan, regularly conduct more detailed analyses on the purified groundwater. The results of JAEA's latest analyses confirmed that TEPCO's analyses were accurate and verified that the radiation levels of sampled groundwater is substantially below the operational target (see Appendix 2).

Moreover, TEPCO publishes the results of analyses conducted on seawater sampled during the discharge operation at the nearest seawater sampling post from the discharge point (see Appendix 3). The results show that the radiation levels of seawater remain lower than the density limit specified by the Reactor Regulation and significant change in the radioactivity has not been observed.

2. Groundwater Bypassing

In September, the pumped bypassing groundwater was discharged on the dates shown in Appendix 4. Prior to every discharge, an analysis on the quality of the groundwater to be discharged was conducted by TEPCO and the results were announced.

All the test results during the month of September have confirmed that the radiation levels of sampled water were substantially below the operational targets set by TEPCO (these operational targets are well below the density limit specified by the Reactor Regulation). The results of these analyses were also confirmed by Japan Chemical Analysis Center.

In addition, TEPCO and JAEA, at the request of the Government of Japan, regularly conduct more detailed analyses on the groundwater. The results of JAEA's latest analyses confirmed that TEPCO's analyses were accurate and verified that the radiation levels of the sampled groundwater are substantially below the operational target (see Appendix 5).

Moreover, TEPCO publishes analysis results on seawater sampled during the discharge operation at the nearest seawater sampling post from the discharge point (see Appendix 6). The result shows that the radiation levels in seawater remain lower than the density limit specified by the Reactor Regulation and significant change in the radioactivity has not been observed. The analysis has been conducted once a month until March 2017. Since April 2017, it is conducted four times a year because there has been no significant fluctuation in the concentration of radioactive materials in the sea water, and no influence on the surrounding environment has been confirmed.

The sampling process for analyses conducted this month is the same as the one conducted in the information disseminated last month. Results of the analyses are shown in the attached appendices:

(For further information, please contact TEPCO at (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

Appendix 1

Results of analyses on the quality of the purified groundwater pumped 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	Third-party organization
September 25th, 2017 *Discharged on September 30th	Cs-134	ND (0.52)	ND (0.56)
	Cs-137	ND (0.58)	ND (0.71)
	Gross β	ND (2.5)	ND(0.30)
	H-3	1,000	1,100
September 24th, 2017 *Discharged on September 29th	Cs-134	ND (0.68)	ND (0.55)
	Cs-137	ND (0.58)	ND (0.74)
	Gross β	ND (2.5)	ND(0.37)
	H-3	1,000	1,000
September 23rd, 2017 *Discharged on September 28th	Cs-134	ND (0.65)	ND (0.49)
	Cs-137	ND (0.68)	ND (0.50)
	Gross β	ND (2.1)	0.51
	H-3	1,000	1,100
September 22nd, 2017 *Discharged on September 27th	Cs-134	ND (0.62)	ND (0.77)
	Cs-137	ND (0.63)	ND (0.64)
	Gross β	ND (0.81)	ND(0.37)
	H-3	920	930
September 21st, 2017 *Discharged on September 26th	Cs-134	ND (0.49)	ND (0.66)
	Cs-137	ND (0.53)	ND (0.59)
	Gross β	ND (2.2)	ND(0.35)
	H-3	790	800
September 19th, 2017 *Discharged on September 24th	Cs-134	ND (0.75)	ND (0.43)
	Cs-137	ND (0.71)	ND (0.62)
	Gross β	ND (2.5)	ND(0.34)
	H-3	750	790
September 18th, 2017 *Discharged on September 23rd	Cs-134	ND (0.49)	ND (0.59)
	Cs-137	ND (0.78)	ND (0.67)
	Gross β	ND (2.2)	ND(0.33)
	H-3	860	870
September 17th, 2017 *Discharged on	Cs-134	ND (0.66)	ND (0.44)
	Cs-137	ND (0.58)	ND (0.64)

September 22nd	Gross β	ND (2.2)	ND(0.35)
	H-3	840	850
September 16th, 2017 *Discharged on September 20th	Cs-134	ND (0.68)	ND (0.68)
	Cs-137	ND (0.75)	ND (0.56)
	Gross β	ND (2.2)	ND(0.37)
	H-3	810	830
September 15th, 2017 *Discharged on September 20th	Cs-134	ND (0.49)	ND (0.72)
	Cs-137	ND (0.58)	ND (0.56)
	Gross β	ND (0.63)	ND(0.30)
	H-3	840	870
September 14th, 2017 *Discharged on September 19th	Cs-134	ND (0.74)	ND (0.65)
	Cs-137	ND (0.63)	ND (0.64)
	Gross β	ND (2.4)	ND(0.331)
	H-3	890	900
September 13th, 2017 *Discharged on September 18th	Cs-134	ND (0.74)	ND (0.78)
	Cs-137	ND (0.63)	ND (0.68)
	Gross β	ND (2.2)	ND (0.31)
	H-3	850	870
September 12th, 2017 *Discharged on September 17th	Cs-134	ND (0.47)	ND (0.67)
	Cs-137	ND (0.63)	ND (0.62)
	Gross β	ND (2.4)	ND (0.32)
	H-3	840	870
September 11th, 2017 *Discharged on September 16th	Cs-134	ND (0.58)	ND (0.72)
	Cs-137	ND (0.46)	ND (0.62)
	Gross β	ND (2.4)	ND(0.32)
	H-3	970	970
September 10th, 2017 *Discharged on September 15th	Cs-134	ND (0.83)	ND (0.53)
	Cs-137	ND (0.53)	ND (0.64)
	Gross β	ND (2.2)	ND(0.35)
	H-3	1,000	1,000
September 8th, 2017 *Discharged on September 13th	Cs-134	ND (0.68)	ND (0.82)
	Cs-137	ND (0.46)	ND (0.71)
	Gross β	ND (0.70)	ND(0.33)
	H-3	1,000	1,000
September 7th, 2017 *Discharged on September 12th	Cs-134	ND (0.54)	ND (0.45)
	Cs-137	ND (0.58)	ND (0.64)
	Gross β	ND (1.9)	ND(0.34)
	H-3	980	1,000
September 6th, 2017 *Discharged on September 11th	Cs-134	ND (0.76)	ND (0.67)
	Cs-137	ND (0.53)	ND (0.53)
	Gross β	ND (2.4)	ND(0.34)
	H-3	970	1,000
September 5th, 2017	Cs-134	ND (0.71)	ND (0.53)

*Discharged on September 10th	Cs-137	ND (0.71)	ND (0.64)
	Gross β	ND (2.2)	ND(0.36)
	H-3	970	990
September 4th, 2017 *Discharged on September 9th	Cs-134	ND (0.71)	ND (0.65)
	Cs-137	ND (0.63)	ND (0.74)
	Gross β	ND (2.1)	ND(0.33)
	H-3	930	940
September 2nd, 2017 *Discharged on September 7th	Cs-134	ND (0.67)	ND (0.64)
	Cs-137	ND (0.68)	ND (0.60)
	Gross β	ND (2.5)	ND(0.33)
	H-3	920	920
September 1st, 2017 *Discharged on September 6th	Cs-134	ND (0.56)	ND (0.71)
	Cs-137	ND (0.53)	ND (0.56)
	Gross β	ND (0.66)	ND(0.30)
	H-3	910	920
August 31th, 2017 *Discharged on September 5th	Cs-134	ND (0.79)	ND (0.51)
	Cs-137	ND (0.58)	ND (0.49)
	Gross β	ND (2.1)	ND(0.31)
	H-3	880	900
August 30th, 2017 *Discharged on September 4th	Cs-134	ND (0.49)	ND (0.51)
	Cs-137	ND (0.63)	ND (0.59)
	Gross β	ND (2.7)	ND(0.36)
	H-3	860	880
August 29th, 2017 *Discharged on September 3rd	Cs-134	ND (0.68)	ND (0.52)
	Cs-137	ND (0.63)	ND (0.62)
	Gross β	ND (2.4)	0.43
	H-3	870	880
August 28th, 2017 *Discharged on September 2nd	Cs-134	ND (0.58)	ND (0.77)
	Cs-137	ND (0.71)	ND (0.64)
	Gross β	ND (2.7)	ND(0.40)
	H-3	850	870

- * ND: represents a value below the detection limit; values in ( ) represent the detection limit.
- In order to ensure the results, third-party organizations have also conducted an analysis and verified the radiation level of the sampled water.
- Third-party organization : Mitsubishi Nuclear Fuel Co., Ltd, Kaken Co., Ltd and Tohoku Ryokka Kankyohozen Co., Ltd

Appendix 2

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

(Unit: Bq/L)

Date of sampling	Detected nuclides	Analytical body		
		JAEA	TEPCO	Japan Chemical Analysis Center
August 1st,2017	Cs-134	ND(0.0035)	ND (0.0046)	ND (0.0054)
	Cs-137	0.0041	ND(0.0041)	0.0040
	Gross α	ND (0.53)	ND (3.1)	ND (3.7)
	Gross β	ND (0.45)	ND (0.68)	ND (0.61)
	H-3	970	940	940
	Sr-90	0.0023	ND (0.0016)	ND(0.0062)

* ND: represents a value below the detection limit; values in ( ) represent the detection limit.

Appendix 3

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)
September 7th, 2017 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.67)
	Cs-137	ND (0.70)
	Gross β	14
	H-3	ND(1.8)

(Reference)

(Unit: Bq/L)

Radionuclides	Operational Targets	Density Limit specified by the Reactor Regulation	World Health Organization (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.

Appendix 4

Results of analyses on the water quality of the groundwater pumped up for bypassing 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
September 21st, 2017 *Discharged on September 28th	Cs-134	ND (0.49)	ND (0.49)
	Cs-137	ND (0.53)	ND (0.40)
	Gross β	ND (0.66)	ND (0.55)
	H-3	130	120
September 14th, 2017 *Discharged on September 22nd	Cs-134	ND (0.40)	ND (0.54)
	Cs-137	ND (0.63)	ND (0.46)
	Gross β	ND (0.70)	ND (0.61)
	H-3	120	120
September 7th, 2017 *Discharged on September 14th	Cs-134	ND (0.48)	ND (0.59)
	Cs-137	ND (0.46)	ND (0.52)
	Gross β	ND (0.74)	ND (0.59)
	H-3	110	120
August 31st, 2017 *Discharged on September 7th	Cs-134	ND (0.68)	ND (0.78)
	Cs-137	ND (0.58)	ND (0.49)
	Gross β	ND (0.64)	ND (0.54)
	H-3	130	120

- * 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.

Appendix 5

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

(Unit: Bq/L)

Date of sampling	Detected nuclides	Analytical body		
		JAEA	TEPCO	Japan Chemical Analysis Center
August 3rd, 2017	Cs-134	ND (0.0033)	ND (0.0046)	ND (0.0056)
	Cs-137	0.0025	ND(0.0041)	ND(0.0044)
	Gross α	ND (0.56)	ND (3.0)	ND (3.7)
	Gross β	ND (0.46)	ND (0.64)	ND (0.61)
	H-3	120	120	120
	Sr-90	0.0025	ND (0.0018)	ND (0.0061)

* ND: represents a value below the detection limit; values in ( ) represent the detection limit.

Appendix 6

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

(Unit: Bq/L)

Date of sampling ※conducted four times a year	Detected nuclides	Sampling point (South discharge channel)
September 7th, 2017	Cs-134	ND (0.62)
	Cs-137	ND (0.60)
	Gross β	10
	H-3	8.2

(Reference) (Unit: Bq/L)

Radionuclides	Operational Targets	Density Limit specified by the Reactor Regulation	World Health Organization (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.