Information (16:00), November 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 October 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 October 2017 at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In October, 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 October 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 October, 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 October 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
October 25th, 2017 *Discharged on October 30th	Cs-134	ND (0.56)	ND (0.58)
	Cs-137	ND (0.63)	ND (0.71)
	Gross β	ND (2.4)	ND(0.40)
	H-3	880	900
October 24th, 2017 *Discharged on October 29th	Cs-134	ND (0.65)	ND (0.67)
	Cs-137	ND (0.46)	ND (0.64)
	Gross β	ND (2.6)	0.53
	H-3	830	840
October 23rd, 2017 *Discharged on October 28th	Cs-134	ND (0.62)	ND (0.58)
	Cs-137	ND (0.68)	ND (0.56)
	Gross β	ND (0.70)	ND(0.37)
	H-3	900	930
October 22nd, 2017 *Discharged on October 27th	Cs-134	ND (0.79)	ND (0.59)
	Cs-137	ND (0.58)	ND (0.64)
	Gross β	ND (2.5)	0.49
	H-3	930	960
October 21st, 2017 *Discharged on October 26th	Cs-134	ND (0.74)	ND (0.77)
	Cs-137	ND (0.53)	ND (0.74)
	Gross β	ND (2.4)	0.53
	H-3	940	950
October 20th, 2017 *Discharged on October 25th	Cs-134	ND (0.81)	ND (0.60)
	Cs-137	ND (0.63)	ND (0.67)
	Gross β	ND (2.2)	ND(0.40)
	H-3	980	1,000
October 19th, 2017 *Discharged on October 24th	Cs-134	ND (0.44)	ND (0.70)
	Cs-137	ND (0.74)	ND (0.74)
	Gross β	ND (2.4)	0.38
	H-3	940	950
October 18th, 2017 *Discharged on	Cs-134	ND (0.77)	ND (0.65)
	Cs-137	ND (0.58)	ND (0.53)

October 23rd	Gross β	ND (2.4)	ND(0.35)
	H-3	920	940
October 16th, 2017 *Discharged on October 21st	Cs-134	ND (0.68)	ND (0.60)
	Cs-137	ND (0.82)	ND (0.53)
	Gross β	ND (0.70)	ND(0.31)
	H-3	900	910
October 15th, 2017 *Discharged on October 20th	Cs-134	ND (0.70)	ND (0.72)
	Cs-137	ND (0.69)	ND (0.68)
	Gross β	ND (2.2)	0.46
	H-3	890	900
October 14th, 2017 *Discharged on October 19th	Cs-134	ND (0.60)	ND (0.61)
	Cs-137	ND (0.63)	ND (0.69)
	Gross β	ND (2.4)	0.43
	H-3	870	870
October 13th, 2017 *Discharged on October 18th	Cs-134	ND (0.60)	ND (0.64)
	Cs-137	ND (0.63)	ND (0.58)
	Gross β	ND (2.4)	ND (0.35)
	H-3	890	900
October 12th, 2017 *Discharged on October 17th	Cs-134	ND (0.54)	ND (0.46)
	Cs-137	ND (0.58)	ND (0.62)
	Gross β	ND (1.9)	0.41
	H-3	900	900
October 11th, 2017 *Discharged on October 16th	Cs-134	ND (0.65)	ND (0.55)
	Cs-137	ND (0.63)	ND (0.71)
	Gross β	ND (2.4)	ND(0.35)
	H-3	880	900
October 10th, 2017 *Discharged on October 15th	Cs-134	ND (0.74)	ND (0.46)
	Cs-137	ND (0.63)	ND (0.59)
	Gross β	ND (2.5)	ND(0.34)
	H-3	920	950
October 9th, 2017 *Discharged on October 14th	Cs-134	ND (0.58)	ND (0.75)
	Cs-137	ND (0.58)	ND (0.77)
	Gross β	ND (0.66)	ND(0.35)
	H-3	920	950
October 7th, 2017 *Discharged on October 12th	Cs-134	ND (0.76)	ND (0.79)
	Cs-137	ND (0.46)	ND (0.64)
	Gross β	ND (2.4)	ND(0.35)
	H-3	930	940
October 6th, 2017 *Discharged on October 11th	Cs-134	ND (0.62)	ND (0.68)
	Cs-137	ND (0.53)	ND (0.53)
	Gross β	ND (2.4)	ND(0.33)
	H-3	900	910
October 5th, 2017	Cs-134	ND (0.58)	ND (0.68)

*Discharged on October 10th	Cs-137	ND (0.58)	ND (0.64)
	Gross β	ND (2.2)	ND(0.36)
	H-3	950	970
October 4th, 2017 *Discharged on October 9th	Cs-134	ND (0.74)	ND (0.61)
	Cs-137	ND (0.58)	ND (0.71)
	Gross β	ND (2.2)	ND(0.30)
	H-3	950	970
October 3rd, 2017 *Discharged on October 8th	Cs-134	ND (0.81)	ND (0.61)
	Cs-137	ND (0.46)	ND (0.59)
	Gross β	ND (2.5)	ND(0.31)
	H-3	900	910
October 2nd, 2017 *Discharged on October 7th	Cs-134	ND (0.49)	ND (0.45)
	Cs-137	ND (0.71)	ND (0.64)
	Gross β	ND (2.4)	ND(0.33)
	H-3	950	980
October 1st, 2017 *Discharged on October 6th	Cs-134	ND (0.65)	ND (0.60)
	Cs-137	ND (0.53)	ND (0.64)
	Gross β	ND (0.66)	ND(0.30)
	H-3	1,000	1,000
September 30th, 2017 *Discharged on October 5th	Cs-134	ND (0.68)	ND (0.65)
	Cs-137	ND (0.46)	ND (0.74)
	Gross β	ND (2.4)	ND(0.31)
	H-3	1,000	1,000
September 28th, 2017 *Discharged on October 3rd	Cs-134	ND (0.65)	ND (0.61)
	Cs-137	ND (0.90)	ND (0.69)
	Gross β	ND (2.5)	0.42
	H-3	960	980
September 27th, 2017 *Discharged on October 2nd	Cs-134	ND (0.40)	ND (0.61)
	Cs-137	ND (0.68)	ND (0.64)
	Gross β	ND (2.4)	0.46
	H-3	1,000	1,000

* * 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
September 1st,2017	Cs-134	ND(0.0032)	ND (0.0048)	ND (0.0065)
	Cs-137	0.0047	0.0058	ND(0.0046)
	Gross α	ND (0.52)	ND (3.1)	ND (3.9)
	Gross β	ND (0.45)	ND (0.66)	ND (0.51)
	H-3	950	900	930
	Sr-90	0.0023	ND (0.0016)	ND(0.0049)

* 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)
October 6th, 2017 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.61)
	Cs-137	ND (0.53)
	Gross β	12
	H-3	ND(1.7)

(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
October 19th, 2017 *Discharged on October 26th	Cs-134	ND (0.61)	ND (0.47)
	Cs-137	ND (0.74)	ND (0.48)
	Gross β	ND (0.70)	ND (0.64)
	H-3	130	130
October 12th, 2017 *Discharged on October 19th	Cs-134	ND (0.49)	ND (0.54)
	Cs-137	ND (0.63)	ND (0.48)
	Gross β	ND (0.66)	ND (0.61)
	H-3	130	120
October 5th, 2017 *Discharged on October 13th	Cs-134	ND (0.62)	ND (0.64)
	Cs-137	ND (0.53)	ND (0.58)
	Gross β	ND (0.70)	ND (0.58)
	H-3	140	130
September 28th, 2017 *Discharged on October 5th	Cs-134	ND (0.56)	ND (0.54)
	Cs-137	ND (0.71)	ND (0.53)
	Gross β	ND (0.74)	ND (0.46)
	H-3	140	130

- * 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
September 7th, 2017	Cs-134	ND (0.0027)	ND (0.0049)	ND (0.0049)
	Cs-137	ND(0.0023)	ND(0.0042)	ND(0.0053)
	Gross α	ND (0.49)	ND (3.1)	ND (3.9)
	Gross β	ND (0.45)	ND (0.74)	ND (0.52)
	H-3	120	120	120
	Sr-90	0.0025	ND (0.0017)	ND (0.0053)

* 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.