Information (16:00), June 1, 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 May 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 May 2017 at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In May, 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 May 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 May, 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 May 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 sampling process for analyses conducted this month is the same as the one announced 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
May 25th, 2017 *Discharged on May 30th	Cs-134	ND (0.66)	ND (0.82)
	Cs-137	ND (0.58)	ND (0.68)
	Gross β	ND (0.72)	ND(0.33)
	H-3	890	890
May 24th, 2017 *Discharged on May 29th	Cs-134	ND (0.46)	ND (0.75)
	Cs-137	ND (0.53)	ND (0.50)
	Gross β	ND (2.3)	ND(0.32)
	H-3	890	910
May 23rd, 2017 *Discharged on May 28th	Cs-134	ND (0.52)	ND (0.75)
	Cs-137	ND (0.63)	ND (0.68)
	Gross β	ND (2.5)	ND(0.35)
	H-3	880	930
May 21st, 2017 *Discharged on May 26th	Cs-134	ND (0.74)	ND (0.77)
	Cs-137	ND (0.53)	ND (0.64)
	Gross β	ND (2.4)	ND(0.32)
	H-3	790	850
May 20th, 2017 *Discharged on May 25th	Cs-134	ND (0.58)	ND (0.89)
	Cs-137	ND (0.58)	ND (0.64)
	Gross β	ND (2.3)	ND(0.31)
	H-3	810	870
May 19th, 2017 *Discharged on May 24th	Cs-134	ND (0.58)	ND (0.89)
	Cs-137	ND (0.58)	ND (0.77)
	Gross β	ND (2.4)	ND (0.33)
	H-3	800	860
May 17th, 2017 *Discharged on May 22nd	Cs-134	ND (0.54)	ND (0.75)
	Cs-137	ND (0.71)	ND (0.60)
	Gross β	ND (2.3)	ND (0.33)
	H-3	750	800
May 16th, 2017 *Discharged on May 21st	Cs-134	ND (0.72)	ND (0.77)
	Cs-137	ND (0.63)	ND (0.50)
	Gross β	ND (0.68)	0.49
	H-3	810	870

May 14th, 2017 *Discharged on May 19th	Cs-134	ND (0.81)	ND (0.77)
	Cs-137	ND (0.53)	ND (0.50)
	Gross β	ND (2.4)	0.41
	H-3	900	950
May 13th, 2017 *Discharged on May 18th	Cs-134	ND (0.60)	ND (0.77)
	Cs-137	ND (0.71)	ND (0.55)
	Gross β	ND (2.7)	0.41
	H-3	1000	970
May 12th, 2017 *Discharged on May 17th	Cs-134	ND (0.56)	ND (0.72)
	Cs-137	ND (0.63)	ND (0.50)
	Gross β	ND (2.4)	ND (0.40)
	H-3	870	940
May 10th, 2017 *Discharged on May 15th	Cs-134	ND (0.76)	ND (0.50)
	Cs-137	ND (0.58)	ND (0.71)
	Gross β	ND (2.1)	0.38
	H-3	890	940
May 8th, 2017 *Discharged on May 13th	Cs-134	ND (0.68)	ND (0.75)
	Cs-137	ND (0.63)	ND (0.85)
	Gross β	ND (0.75)	0.42
	H-3	860	900
May 7th, 2017 *Discharged on May 12th	Cs-134	ND (0.47)	ND (0.75)
	Cs-137	ND (0.53)	ND (0.68)
	Gross β	ND (2.4)	0.47
	H-3	900	950
May 5th, 2017 *Discharged on May 10th	Cs-134	ND (0.66)	ND (0.75)
	Cs-137	ND (0.63)	ND (0.80)
	Gross β	ND (2.3)	0.43
	H-3	870	910
May 4th, 2017 *Discharged on May 9th	Cs-134	ND (0.58)	ND (0.80)
	Cs-137	ND (0.68)	ND (0.60)
	Gross β	ND (2.4)	ND (0.34)
	H-3	890	960
May 2nd, 2017 *Discharged on May 7th	Cs-134	ND (0.49)	ND (0.83)
	Cs-137	ND (0.71)	ND (0.60)
	Gross β	ND (2.1)	0.44
	H-3	870	940
May 1st, 2017 *Discharged on May 6th	Cs-134	ND (0.68)	ND (0.67)
	Cs-137	ND (0.53)	ND (0.80)
	Gross β	ND (0.68)	0.46
	H-3	910	960
April 29th, 2017 *Discharged on May 4th	Cs-134	ND (0.49)	ND (0.63)
	Cs-137	ND (0.53)	ND (0.68)
	Gross β	ND (2.7)	ND (0.26)

	H-3	830	860
April 28th, 2017 *Discharged on May 3rd	Cs-134	ND (0.62)	ND (0.65)
	Cs-137	ND (0.58)	ND (0.68)
	Gross β	ND (0.64)	ND(0.32)
	H-3	960	950

* * 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
April 1st,2017	Cs-134	0.0047	ND (0.0042)	ND (0.0065)
	Cs-137	0.033	0.029	0.043
	Gross α	ND (0.59)	ND (3.8)	ND (3.7)
	Gross β	ND (0.45)	ND (0.79)	ND (0.61)
	H-3	870	800	840
	Sr-90	0.0022	ND (0.0016)	ND(0.0067)

* 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)
April 6th, 2017 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.60)
	Cs-137	ND (0.71)
	Gross β	12
	H-3	ND(1.9)

(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
May 17th, 2017 *Discharged on May 30th	Cs-134	ND (0.68)	ND (0.77)
	Cs-137	ND (0.78)	ND (0.71)
	Gross β	ND (0.72)	ND (0.48)
	H-3	110	130
May 10th, 2017 *Discharged on May 23rd	Cs-134	ND (0.81)	ND (0.73)
	Cs-137	ND (0.63)	ND (0.66)
	Gross β	ND (0.75)	ND (0.61)
	H-3	130	130
May 3rd, 2017 *Discharged on May 16th	Cs-134	ND (0.66)	ND (0.64)
	Cs-137	ND (0.63)	ND (0.61)
	Gross β	ND (0.68)	ND (0.61)
	H-3	120	130
April 27th, 2017 *Discharged on May 9th	Cs-134	ND (0.79)	ND (0.68)
	Cs-137	ND (0.46)	ND (0.59)
	Gross β	ND (0.64)	ND (0.53)
	H-3	120	120
April 19th, 2017 *Discharged on May 2nd	Cs-134	ND (0.43)	ND (0.70)
	Cs-137	ND (0.53)	ND (0.57)
	Gross β	ND (0.79)	ND (0.56)
	H-3	120	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
April 5th, 2017	Cs-134	ND (0.0027)	ND (0.0048)	ND (0.0057)
	Cs-137	0.0027	0.0059	ND(0.0049)
	Gross α	ND (0.64)	ND (3.1)	ND (3.7)
	Gross β	ND (0.46)	ND (0.72)	ND (0.63)
	H-3	130	120	120
	Sr-90	ND(0.0017)	ND (0.0015)	ND (0.0067)

* 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	Detected nuclides	Sampling point (South discharge channel)
May 9th, 2017	Cs-134	ND (0.64)
	Cs-137	ND (0.58)
	Gross β	11
	H-3	ND(1.5)

(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.