Information (16:30), April 3, 2018

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 March

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 March at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In March, 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 March 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 was 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 March, 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 March 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 were 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 had 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
March 25th, 2018 *Discharged on March 30th	Cs-134	ND (0.59)	ND (0.62)
	Cs-137	ND (0.63)	ND (0.60)
	Gross β	ND (2.5)	ND(0.29)
	H-3	810	860
March 24th, 2018 *Discharged on March 29th	Cs-134	ND (0.68)	ND (0.48)
	Cs-137	ND (0.63)	ND (0.66)
	Gross β	ND (2.4)	ND(0.31)
	H-3	760	800
March 22nd, 2018 *Discharged on March 27th	Cs-134	ND (0.51)	ND (0.77)
	Cs-137	ND (0.63)	ND (0.74)
	Gross β	ND (2.2)	ND(0.33)
	H-3	810	880
March 21st, 2018 *Discharged on March 26th	Cs-134	ND (0.64)	ND (0.65)
	Cs-137	ND (0.68)	ND (0.66)
	Gross β	ND (2.3)	ND(0.32)
	H-3	910	1,000
March 20th, 2018 *Discharged on March 25th	Cs-134	ND (0.62)	ND (0.61)
	Cs-137	ND (0.53)	ND (0.54)
	Gross β	ND (0.72)	ND(0.29)
	H-3	940	1,000
March 19th, 2018 *Discharged on March 24th	Cs-134	ND (0.54)	ND (0.61)
	Cs-137	ND (0.63)	ND (0.51)
	Gross β	ND (2.2)	ND(0.32)
	H-3	770	810
March 18th, 2018 *Discharged on March 23rd	Cs-134	ND (0.56)	ND (0.61)
	Cs-137	ND (0.68)	ND (0.63)
	Gross β	ND (2.1)	ND(0.30)
	H-3	820	870
March 17th, 2018 *Discharged on	Cs-134	ND (0.52)	ND (0.57)
	Cs-137	ND (0.63)	ND (0.68)

March 22nd	Gross β	ND (2.0)	ND(0.30)
	H-3	820	870
March 16th, 2018 *Discharged on March 21st	Cs-134	ND (0.44)	ND (0.57)
	Cs-137	ND (0.58)	ND (0.57)
	Gross β	ND (2.4)	ND(0.28)
	H-3	690	730
March 14th, 2018 *Discharged on March 19th	Cs-134	ND (0.55)	ND (0.53)
	Cs-137	ND (0.75)	ND (0.63)
	Gross β	ND (2.2)	ND(0.33)
	H-3	660	710
March 13th, 2018 *Discharged on March 18th	Cs-134	ND (0.58)	ND (0.71)
	Cs-137	ND (0.68)	ND (0.57)
	Gross β	ND (2.4)	ND(0.32)
	H-3	750	710
March 12th, 2018 *Discharged on March 17th	Cs-134	ND (0.62)	ND (0.55)
	Cs-137	ND (0.46)	ND (0.63)
	Gross β	ND(0.72)	ND(0.33)
	H-3	740	800
March 11th, 2018 *Discharged on March 16th	Cs-134	ND (0.79)	ND (0.69)
	Cs-137	ND (0.53)	ND (0.77)
	Gross β	ND (2.2)	ND(0.30)
	H-3	770	820
March 10th, 2018 *Discharged on March 15th	Cs-134	ND (0.55)	ND (0.62)
	Cs-137	ND (0.53)	ND (0.63)
	Gross β	ND (2.4)	ND(0.34)
	H-3	900	950
March 9th, 2018 *Discharged on March 14th	Cs-134	ND (0.67)	ND (0.61)
	Cs-137	ND (0.71)	ND (0.72)
	Gross β	ND (2.5)	ND(0.33)
	H-3	920	990
March 8th, 2018 *Discharged on March 13th	Cs-134	ND (0.57)	ND (0.62)
	Cs-137	ND (0.58)	ND (0.63)
	Gross β	ND (2.2)	ND(0.33)
	H-3	840	910
March 7th, 2018 *Discharged on March 12th	Cs-134	ND (0.66)	ND (0.54)
	Cs-137	ND (0.63)	ND (0.54)
	Gross β	ND (2.6)	ND(0.32)
	H-3	900	940
March 6th, 2018 *Discharged on March 11th	Cs-134	ND (0.62)	ND (0.59)
	Cs-137	ND (0.68)	ND (0.70)
	Gross β	ND (2.4)	ND(0.36)
	H-3	880	930
March 5th, 2018	Cs-134	ND (0.62)	ND (0.64)

*Discharged on March 10th	Cs-137	ND (0.63)	ND (0.68)
	Gross β	ND (2.6)	ND(0.38)
	H-3	850	900
March 4th, 2018 *Discharged on March 9th	Cs-134	ND (0.62)	ND (0.70)
	Cs-137	ND (0.53)	ND (0.60)
	Gross β	ND (0.68)	ND(0.32)
	H-3	740	790
February 27th, 2018 *Discharged on March 4th	Cs-134	ND (0.71)	ND (0.68)
	Cs-137	ND (0.53)	ND (0.60)
	Gross β	ND (2.2)	0.45
	H-3	720	770
February 26th, 2018 *Discharged on March 3rd	Cs-134	ND (0.52)	ND (0.59)
	Cs-137	ND (0.75)	ND (0.58)
	Gross β	ND (0.72)	ND(0.31)
	H-3	710	760
February 25th, 2018 *Discharged on March 2nd	Cs-134	ND (0.68)	ND (0.53)
	Cs-137	ND (0.68)	ND (0.58)
	Gross β	ND (2.1)	ND(0.31)
	H-3	760	790

- * 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
February 1st,2018	Cs-134	0.0077	0.0066	0.010
	Cs-137	0.067	0.068	0.074
	Gross α	ND (0.34)	ND (3.1)	ND (1.8)
	Gross β	ND (0.47)	ND (0.72)	ND (0.59)
	H-3	780	710	740
	Sr-90	0.0019	ND (0.0013)	ND(0.0060)

* 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)
March 15th, 2018 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.70)
	Cs-137	ND (0.55)
	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
March 22nd, 2018 *Discharged on March 29th	Cs-134	ND (0.74)	ND (0.62)
	Cs-137	ND (0.58)	ND (0.50)
	Gross β	ND (0.73)	ND(0.59)
	H-3	110	120
March 15th, 2018 *Discharged on March 22nd	Cs-134	ND (0.68)	ND (0.54)
	Cs-137	ND (0.53)	ND (0.41)
	Gross β	ND (0.64)	ND (0.58)
	H-3	100	120
March 8th, 2018 *Discharged on March 15th	Cs-134	ND (0.44)	ND (0.52)
	Cs-137	ND (0.58)	ND (0.50)
	Gross β	ND (0.71)	ND (0.53)
	H-3	110	120
March 1st, 2018 *Discharged on March 8th	Cs-134	ND (0.46)	ND (0.54)
	Cs-137	ND (0.58)	ND (0.44)
	Gross β	ND (0.64)	ND (0.57)
	H-3	110	110

- * 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
February 1st, 2017	Cs-134	ND (0.0032)	ND (0.0042)	ND (0.0065)
	Cs-137	ND(0.0025)	ND(0.0040)	ND(0.0047)
	Gross α	ND (0.61)	ND (3.1)	ND (1.8)
	Gross β	ND (0.46)	ND (0.78)	ND (0.55)
	H-3	120	110	110
	Sr-90	ND(0.0015)	ND (0.0015)	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)
March 15th, 2018	Cs-134	ND (0.68)
	Cs-137	ND (0.68)
	Gross β	12
	H-3	2.3

(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.