Information (9:50), December 1, 2016

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 November

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 November 2016 at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In November, 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 November 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).

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 November, 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 November 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 analysis 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
November 25th, 2016 *Discharged on November 29th	Cs-134	ND (0.75)	ND (0.78)
	Cs-137	ND (0.63)	ND (0.78)
	Gross β	ND (0.72)	ND(0.33)
	H-3	460	580
November 24th, 2016 *Discharged on November 28th	Cs-134	ND (0.54)	ND (0.86)
	Cs-137	ND (0.63)	ND (0.78)
	Gross β	ND (2.7)	ND(0.35)
	H-3	470	480
November 23th, 2016 *Discharged on November 27th	Cs-134	ND (0.79)	ND (0.76)
	Cs-137	ND (0.53)	ND (0.65)
	Gross β	ND (0.27)	0.48
	H-3	470	490
November 20th, 2016 *Discharged on November 25th	Cs-134	ND (0.60)	ND (0.73)
	Cs-137	ND (0.53)	ND (0.60)
	Gross β	ND (2.3)	ND(0.35)
	H-3	490	530
November 19th, 2016 *Discharged on November 24th	Cs-134	ND (0.67)	ND (0.68)
	Cs-137	ND (0.63)	ND (0.65)
	Gross β	ND (2.4)	0.61
	H-3	520	550
November 17th, 2016 *Discharged on November 22th	Cs-134	ND (0.52)	ND (0.89)
	Cs-137	ND (0.46)	ND (0.86)
	Gross β	ND (0.75)	0.47
	H-3	500	540
November 15th, 2016 *Discharged on November 20th	Cs-134	ND (0.79)	ND (0.82)
	Cs-137	ND (0.53)	ND (0.78)
	Gross β	ND (2.4)	0.40
	H-3	500	490
November 14th, 2016 *Discharged on November 18th	Cs-134	ND (0.47)	ND (0.81)
	Cs-137	ND (0.68)	ND (0.74)
	Gross β	ND (2.4)	0.37
	H-3	490	520

November 13th, 2016 *Discharged on November 17th	Cs-134	ND (0.52)	ND (0.73)
	Cs-137	ND (0.68)	ND (0.86)
	Gross β	ND (2.3)	ND (0.37)
	H-3	480	500
November 11th, 2016 *Discharged on November 15th	Cs-134	ND (0.56)	ND (0.59)
	Cs-137	ND (0.54)	ND (0.70)
	Gross β	ND (0.72)	(0.36)
	H-3	470	480
November 9th, 2016 *Discharged on November 13th	Cs-134	ND (0.62)	ND (0.61)
	Cs-137	ND (0.68)	ND (0.78)
	Gross β	ND (2.7)	0.46
	H-3	480	490
November 8th, 2016 *Discharged on November 12th	Cs-134	ND (0.60)	ND (0.73)
	Cs-137	ND (0.68)	ND (0.70)
	Gross β	ND (2.7)	0.40
	H-3	470	490
November 6th, 2016 *Discharged on November 10th	Cs-134	ND (0.87)	ND (0.79)
	Cs-137	ND (0.78)	ND (0.65)
	Gross β	ND (2.3)	0.38
	H-3	450	460
November 5th, 2016 *Discharged on November 9th	Cs-134	ND (0.71)	ND (0.63)
	Cs-137	ND (0.68)	ND (0.82)
	Gross β	ND (2.1)	0.40
	H-3	430	450
November 3rd, 2016 *Discharged on November 8th	Cs-134	ND (0.62)	ND (0.56)
	Cs-137	ND (0.75)	ND (0.54)
	Gross β	ND (2.8)	ND(0.39)
	H-3	470	490
November 2nd, 2016 *Discharged on November 6th	Cs-134	ND (0.54)	ND (0.79)
	Cs-137	ND (0.63)	ND (0.74)
	Gross β	ND (0.75)	ND (0.38)
	H-3	490	510
October 31st, 2016 *Discharged on November 4th	Cs-134	ND (0.66)	ND (0.60)
	Cs-137	ND (0.53)	ND (0.60)
	Gross β	ND (2.4)	0.45
	H-3	480	510
October 30th, 2016 *Discharged on November 3rd	Cs-134	ND (0.62)	ND (0.67)
	Cs-137	ND (0.53)	ND (0.70)
	Gross β	ND (2.3)	ND(0.35)
	H-3	430	460
October 28th, 2016 *Discharged on November 2nd	Cs-134	ND (0.59)	ND (0.62)
	Cs-137	ND (0.58)	ND (0.60)
	Gross β	ND (2.4)	ND (0.32)

	H-3	440	460
October 27th, 2016 *Discharged on November 1st	Cs-134	ND (0.47)	ND (0.56)
	Cs-137	ND (0.63)	ND (0.82)
	Gross β	ND (2.5)	ND (0.32)
	H-3	480	500

* * 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
October 1st,2016	Cs-134	0.0044	0.0080	0.0038
	Cs-137	0.033	0.041	0.019
	Gross α	ND (3.2)	ND (3.5)	ND (0.53)
	Gross β	ND (0.72)	ND (0.51)	ND (0.46)
	H-3	420	420	540
	Sr-90	0.0053	0.012	0.016

* 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)
November 2nd, 2016 *During discharge	Cs-134	ND (0.61)
	Cs-137	ND (0.68)
	Gross β	13
	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
November 16th, 2016 *Discharged on November 28th	Cs-134	ND (0.72)	ND (0.58)
	Cs-137	ND (0.63)	ND (0.61)
	Gross β	ND (0.75)	ND (0.59)
	H-3	130	140
November 9th, 2016 *Discharged on November 21st	Cs-134	ND (0.74)	ND (0.63)
	Cs-137	ND (0.75)	ND (0.76)
	Gross β	ND (0.79)	ND (0.48)
	H-3	150	150
November 2nd, 2016 *Discharged on November 14th	Cs-134	ND (0.60)	ND (0.85)
	Cs-137	ND (0.58)	ND (0.62)
	Gross β	ND (0.68)	ND (0.54)
	H-3	160	160
October 26th, 2016 *Discharged on November 7th	Cs-134	ND (0.62)	ND (0.68)
	Cs-137	ND (0.58)	ND (0.68)
	Gross β	ND (0.75)	ND (0.50)
	H-3	130	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
October 5th, 2016	Cs-134	ND (0.0064)	ND (0.0052)	ND (0.0034)
	Cs-137	ND (0.0045)	ND (0.0041)	0.0022
	Gross α	ND (3.4)	ND (3.2)	ND (0.58)
	Gross β	ND (0.68)	ND (0.63)	ND (0.44)
	H-3	170	170	110
	Sr-90	ND(0.00154)	ND (0.0016)	ND (0.0019)

* 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)
November 1st, 2016 *Discharged on November 3rd	Cs-134	ND (0.75)
	Cs-137	ND (0.53)
	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	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.