

Information (17:00), September 5, 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 August

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 August at Fukushima Daiichi Nuclear Power Station (NPS).

1. Subdrain and Groundwater Drain Systems

In August, 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 August 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 August, 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 August 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

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
August 23 th , 2018 *Discharged on August 28 th	Cs-134	ND (0.68)	ND (0.55)
	Cs-137	ND (0.68)	ND (0.66)
	Gross β	ND (2.1)	ND (0.39)
	H-3	900	960
August 22 th , 2018 *Discharged on August 27 th	Cs-134	ND (0.74)	ND (0.62)
	Cs-137	ND (0.75)	ND (0.54)
	Gross β	ND (2.2)	0.42
	H-3	900	970
August 21 th , 2018 *Discharged on August 26 th	Cs-134	ND (0.62)	ND (0.44)
	Cs-137	ND (0.53)	ND (0.63)
	Gross β	ND (2.4)	ND (0.37)
	H-3	850	920
August 20 nd , 2018 *Discharged on August 25 th	Cs-134	ND (0.65)	ND (0.53)
	Cs-137	ND (0.78)	ND (0.68)
	Gross β	ND (2.6)	0.49
	H-3	850	910
August 19 st , 2018 *Discharged on August 24 th	Cs-134	ND (0.47)	ND (0.62)
	Cs-137	ND (0.53)	ND (0.57)
	Gross β	ND (0.71)	0.44
	H-3	870	930
August 18 th , 2018 *Discharged on August 23 th	Cs-134	ND (0.69)	ND (0.64)
	Cs-137	ND (0.68)	ND (0.75)
	Gross β	ND (2.7)	ND(0.38)
	H-3	920	970
August 17 th , 2018 *Discharged on August 22 th	Cs-134	ND (0.67)	ND (0.71)
	Cs-137	ND (0.58)	ND (0.68)
	Gross β	ND (2.3)	ND (0.42)
	H-3	830	890

August 16 th , 2018 *Discharged on August 21 st	Cs-134	ND (0.56)	ND (0.75)
	Cs-137	ND (0.58)	ND (0.60)
	Gross β	ND (2.3)	0.45
	H-3	700	760
August 14 th , 2018 *Discharged on August 19 th	Cs-134	ND (0.71)	ND (0.66)
	Cs-137	ND (0.71)	ND (0.60)
	Gross β	ND (2.3)	ND (0.38)
	H-3	720	770
August 13 th , 2018 *Discharged on August 18 th	Cs-134	ND (0.65)	ND (0.77)
	Cs-137	ND (0.71)	ND (0.64)
	Gross β	ND (2.0)	ND(0.36)
	H-3	630	680
August 12 th , 2018 *Discharged on August 17 th	Cs-134	ND (0.79)	ND (0.66)
	Cs-137	ND (0.71)	ND (0.64)
	Gross β	ND (2.2)	ND (0.34)
	H-3	630	670
August 11 th , 2018 *Discharged on August 16 th	Cs-134	ND (0.68)	ND (0.62)
	Cs-137	ND (0.58)	ND (0.63)
	Gross β	ND (2.2)	ND(0.34)
	H-3	770	830
August 10 th , 2018 *Discharged on August 15 th	Cs-134	ND (0.59)	ND (0.64)
	Cs-137	ND (0.58)	ND (0.51)
	Gross β	ND(0.69)	0.43
	H-3	900	950
August 9 th , 2018 *Discharged on August 14 th	Cs-134	ND (0.63)	ND (0.51)
	Cs-137	ND (0.68)	ND (0.72)
	Gross β	ND (2.5)	ND (0.38)
	H-3	850	900
August 8 th , 2018 *Discharged on August 13 th	Cs-134	ND (0.76)	ND (0.64)
	Cs-137	ND (0.46)	ND (0.54)
	Gross β	ND (2.3)	ND (0.39)
	H-3	770	840
August 7 th , 2018 *Discharged on August 12 th	Cs-134	ND (0.63)	ND (0.77)
	Cs-137	ND (0.68)	ND (0.55)
	Gross β	ND (2.1)	ND (0.37)
	H-3	770	820
August 6 th , 2018 *Discharged on August 11 th	Cs-134	ND (0.63)	ND (0.55)
	Cs-137	ND (0.63)	ND (0.60)
	Gross β	ND (2.2)	ND(0.39)
	H-3	760	830
August 5 th , 2018 *Discharged on August 10 th	Cs-134	ND (0.65)	ND (0.59)
	Cs-137	ND (0.75)	ND (0.58)
	Gross β	ND (2.1)	0.59

	H-3	850	910
August 4 th , 2018 *Discharged on August 9 th	Cs-134	ND (0.49)	ND (0.52)
	Cs-137	ND (0.53)	ND (0.57)
	Gross β	ND (2.5)	ND (0.41)
	H-3	830	870
August 3 rd , 2018 *Discharged on August 8 th	Cs-134	ND (0.60)	ND (0.49)
	Cs-137	ND (0.46)	ND (0.54)
	Gross β	ND (2.2)	ND(0.38)
	H-3	830	860
August 1 st , 2018 *Discharged on August 6 th	Cs-134	ND (0.56)	ND (0.58)
	Cs-137	ND (0.68)	ND (0.54)
	Gross β	ND (0.64)	0.54
	H-3	790	860
July 31 st , 2018 *Discharged on August 5 th	Cs-134	ND (0.60)	ND (0.61)
	Cs-137	ND (0.53)	ND (0.60)
	Gross β	ND (2.1)	ND(0.37)
	H-3	770	730
July 30 th , 2018 *Discharged on August 4 th	Cs-134	ND (0.59)	ND (0.62)
	Cs-137	ND (0.63)	ND (0.54)
	Gross β	ND (2.2)	ND (0.40)
	H-3	830	910
July 29 th , 2018 *Discharged on August 3 rd	Cs-134	ND (0.52)	ND (0.53)
	Cs-137	ND (0.58)	ND (0.54)
	Gross β	ND (2.2)	ND(0.40)
	H-3	900	970
July 28 th , 2018 *Discharged on August 2 nd	Cs-134	ND (0.62)	ND (0.47)
	Cs-137	ND (0.46)	ND (0.68)
	Gross β	ND (2.6)	ND(0.42)
	H-3	840	910
July 27 th , 2018 *Discharged on August 1 nd	Cs-134	ND (0.55)	ND (0.57)
	Cs-137	ND (0.46)	ND (0.57)
	Gross β	ND (0.79)	0.50
	H-3	900	980

- * * 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
July 1 st ,2018	Cs-134	0.0035	0.0048	ND(0.0058)
	Cs-137	0.032	0.034	0.037
	Gross α	ND (0.67)	ND (3.1)	ND (2.1)
	Gross β	ND (0.46)	ND (0.75)	ND (0.50)
	H-3	1,000	920	970
	Sr-90	0.0015	ND (0.0015)	ND(0.0052)

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

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)
August 10 th , 2018 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.70)
	Cs-137	ND (0.53)
	Gross β	9.9
	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.

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
August 16 st , 2018 *Discharged on August 23 th	Cs-134	ND (0.62)	ND (0.69)
	Cs-137	ND (0.46)	ND (0.68)
	Gross β	ND (0.77)	ND(0.35)
	H-3	110	120
August 9 th , 2018 *Discharged on August 17 st	Cs-134	ND (0.74)	ND (0.92)
	Cs-137	ND (0.68)	ND (0.60)
	Gross β	ND (0.60)	ND (0.35)
	H-3	110	130
August 2 th , 2018 *Discharged on August 9 th	Cs-134	ND (0.66)	ND (0.52)
	Cs-137	ND (0.58)	ND (0.41)
	Gross β	ND (0.73)	ND (0.57)
	H-3	110	110
July 26 st , 2018 *Discharged on August 2 th	Cs-134	ND (0.60)	ND (0.38)
	Cs-137	ND (0.68)	ND (0.54)
	Gross β	ND (0.72)	ND (0.58)
	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.

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
July 5 rd , 2018	Cs-134	ND (0.0030)	ND (0.0052)	ND (0.0064)
	Cs-137	ND (0.0022)	ND(0.0039)	ND(0.0046)
	Gross α	ND (0.57)	ND (3.4)	ND (2.1)
	Gross β	ND (0.46)	ND (0.74)	ND (0.54)
	H-3	130	120	130
	Sr-90	ND(0.0012)	ND (0.0015)	ND (0.0052)

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

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)
June 7 th , 2018	Cs-134	ND (0.80)
	Cs-137	ND (0.76)
	Gross β	13
	H-3	ND (1.6)

(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.