Information, June, 2023

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

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 sub-drain and groundwater drain systems, as well as, bypassing groundwater pumped during the month of May at Fukushima Daiichi Nuclear Power Station (NPS).

1. Sub-drain and Groundwater Drain Systems

In May purified groundwater pumped from the sub-drain 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 (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 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 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 sub-drain 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
May27th, 2023 *Discharged on June 1st	Cs-134	ND (0.57)	ND (0.81)
	Cs-137	ND (0.67)	ND (0.75)
	Gross β	ND (2.0)	ND (0.36)
	H-3	880	940
May 26th, 2023 *Discharged on May 31st	Cs-134	ND (0.86)	ND (0.60)
	Cs-137	ND (0.67)	ND (0.61)
	Gross β	ND (0.63)	ND (0.44)
	H-3	890	940
May24th, 2023 *Discharged on May 29th	Cs-134	ND (0.86)	ND (0.66)
	Cs-137	ND (0.72)	ND (0.48)
	Gross β	ND (1.8)	ND (0.36)
	H-3	910	990
May23th, 2023 *Discharged on May 28th	Cs-134	ND (0.86)	ND (0.45)
	Cs-137	ND (0.60)	ND (0.72)
	Gross β	ND (1.8)	ND (0.37)
	H-3	810	890
May21st, 2023 *Discharged on May 26th	Cs-134	ND (0.87)	ND (0.53)
	Cs-137	ND (0.79)	ND (0.54)
	Gross β	ND (1.9)	ND (0.49)
	H-3	870	900
May20th, 2023 *Discharged on May 25th	Cs-134	ND (0.74)	ND (0.53)
	Cs-137	ND (0.84)	ND (0.61)
	Gross β	ND (1.9)	ND(0.37)
	H-3	880	930
May19th, 2023 *Discharged on May 24th	Cs-134	ND (0.92)	ND (0.75)
	Cs-137	ND (0.79)	ND (0.64)
	Gross β	ND (1.7)	ND (0.40)
	H-3	810	890
May17th, 2023 *Discharged on May 22nd	Cs-134	ND (0.74)	ND (0.57)
	Cs-137	ND (0.74)	ND (0.54)
	Gross β	ND (0.69)	ND (0.36)
	H-3	720	760

May16th, 2023 *Discharged on May 21st	Cs-134	ND (0.66)	ND (0.57)
	Cs-137	ND (0.67)	ND (0.58)
	Gross β	ND (1.8)	0.32
	H-3	730	790
May14th, 2023 *Discharged on May 19th	Cs-134	ND (0.98)	ND (0.82)
	Cs-137	ND (0.77)	ND (0.64)
	Gross β	ND (2.0)	ND (0.36)
	H-3	640	700
May13th, 2023 *Discharged on May 18th	Cs-134	ND (0.74)	ND (0.64)
	Cs-137	ND (0.84)	ND (0.72)
	Gross β	ND (1.8)	ND (0.36)
	H-3	530	570
May12th, 2023 *Discharged on May 17th	Cs-134	ND (0.79)	ND (0.66)
	Cs-137	ND (0.51)	ND (0.68)
	Gross β	ND (1.7)	ND (0.38)
	H-3	640	680
May10th, 2023 *Discharged on May15th	Cs-134	ND (0.79)	ND (0.49)
	Cs-137	ND (0.77)	ND (0.67)
	Gross β	ND (0.69)	0.46
	H-3	760	810
May9th, 2023 *Discharged on May14th	Cs-134	ND (0.80)	ND (0.73)
	Cs-137	ND (0.67)	ND (0.70)
	Gross β	ND (1.7)	ND (0.38)
	H-3	760	830
May7th, 2023 *Discharged on May12th	Cs-134	ND (0.77)	ND (0.62)
	Cs-137	ND (0.59)	ND (0.54)
	Gross β	ND (1.8)	ND (0.42)
	H-3	750	800
MAy6th, 2023 *Discharged on May11th	Cs-134	ND (0.66)	ND (0.48)
	Cs-137	ND (0.62)	ND (0.61)
	Gross β	ND (1.7)	0.48
	H-3	770	830
May5th, 2023 *Discharged on May 10th	Cs-134	ND(0.61)	ND(0.58)
	Cs-137	ND(0.82)	ND(0.57)
	Gross β	ND(1.7)	ND(0.33)
	H-3	840	910
May3rd, 2023 *Discharged on May 8th	Cs-134	ND (0.79)	ND (0.58)
	Cs-137	ND (0.82)	ND (0.66)
	Gross β	ND (2.0)	ND (0.35)
	H-3	830	900

May2nd, 2023 *Discharged on May 7th	Cs-134	ND (0.86)	ND (0.73)
	Cs-137	ND (0.86)	ND (0.70)
	Gross β	ND (0.63)	0.42
	H-3	820	880
April30th, 2023 *Discharged on May 5th	Cs-134	ND (0.92)	ND (0.56)
	Cs-137	ND (0.82)	ND (0.64)
	Gross β	ND (1.7)	ND (0.34)
	H-3	850	910
April29th, 2023 *Discharged on May 4th	Cs-134	ND (0.91)	ND (0.68)
	Cs-137	ND (0.76)	ND (0.61)
	Gross β	ND (1.9)	ND (0.34)
	H-3	850	920
April28th, 2023 *Discharged on May 3rd	Cs-134	ND (0.80)	ND (0.59)
	Cs-137	ND (0.67)	ND (0.64)
	Gross β	ND (0.64)	ND(0.32)
	H-3	890	940

* * 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 : 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
April1st,2023	Cs-134	ND (0.0029)	ND (0.0045)	ND (0.0064)
	Cs-137	0.0045	ND(0.0050)	ND (0.0048)
	Gross α	ND (0.37)	ND (2.0)	ND (2.6)
	Gross β	ND (0.45)	ND (0.58)	ND (0.54)
	H-3	800	780	810
	Sr-90	0.0022	0.0022	0.0055

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

(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.

※ The reference table shows the values of operational targets before discharge. Since the values after discharge contain natural radioactive materials in seawater, there will be differences between the values and the operational targets values.

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, 2023 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.66)
	Cs-137	ND (0.69)
	Gross β	13
	H-3	ND (0.31)

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	Third-party organization
May26th, 2023 *Discharged on May 31st	Cs-134	ND (0.74)	ND (0.57)
	Cs-137	ND (0.67)	ND (0.39)
	Gross β	ND (0.71)	ND (0.31)
	H-3	52	54
May19th, 2023 *Discharged on May 24th	Cs-134	ND (0.86)	ND (0.70)
	Cs-137	ND (0.74)	ND (0.72)
	Gross β	ND (0.62)	ND (0.35)
	H-3	50	54
May12th, 2023 *Discharged on May 17th	Cs-134	ND (0.61)	ND (0.64)
	Cs-137	ND (0.60)	ND (0.57)
	Gross β	ND (0.63)	ND (0.35)
	H-3	59	56
May5th, 2023 *Discharged on May 10th	Cs-134	ND (0.66)	ND (0.70)
	Cs-137	ND (0.80)	ND (0.57)
	Gross β	ND (0.65)	ND (0.35)
	H-3	55	54
April28th, 2023 *Discharged on May 3th	Cs-134	ND (0.91)	ND (0.63)
	Cs-137	ND (0.88)	ND (0.61)
	Gross β	ND (0.68)	ND (0.29)
	H-3	53	64

- * 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: Tohoku Ryokka Kankyohozen Co., Ltd

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
April7th, 2023	Cs-134	ND (0.0032)	ND (0.0052)	ND (0.0061)
	Cs-137	ND (0.0020)	ND (0.0044)	ND (0.0046)
	Gross α	ND (0.48)	ND (2.0)	ND (2.6)
	Gross β	ND (0.45)	ND (0.47)	ND (0.52)
	H-3	61	59	62
	Sr-90	ND (0.0011)	ND (0.0013)	ND (0.0054)

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

(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.

※ The reference table shows the values of operational targets before discharge. Since the values after discharge contain natural radioactive materials in seawater, there will be differences between the values and the operational targets values.

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, 2023	Cs-134	ND (0.80)
	Cs-137	ND (0.55)
	Gross β	12
	H-3	ND (0.31)