Information (15:00), October 26, 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 September

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 September at Fukushima Daiichi Nuclear Power Station (NPS).

1. Summary of decommissioning and contaminated water management

In September the summary of monthly progress on decommissioning and contaminated water management of Fukushima Daiichi NPS was issued shown in Appendix 1. For more information, please see the following URL: https://www.meti.go.jp/english/earthquake/nuclear/decommissioning/pdf/mp202309.pdf

2. Sub-drain and Groundwater Drain Systems

In September purified groundwater pumped from the sub-drain and groundwater drain systems was discharged on the dates shown in Appendix 2. 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 September 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 3).

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 4). 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.

3. Groundwater Bypassing

In September, the pumped bypassing groundwater was discharged on the dates shown in Appendix 5. 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 September 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 6).

Moreover, TEPCO publishes analysis results on seawater sampled during the discharge operation at the nearest seawater sampling post from the discharge point (see Appendix 7). 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

Outline of Decommissioning, Contaminated Water and Treated Water Management

September 28, 2023
Secretariat of the Team for Countermeasures for Decommissioning, Contaminated Water and Treated Water

Main decommissioning work and steps

Fuel removal from the spent fuel pool was completed in December 2014 at Unit 4 and on February 28, 2021 at Unit 3.
Work continues sequentially toward the start of fuel removal from Units 1 and 2 and debris (Note 1) retrieval from Units 1-3.

(Note 1) Fuel assemblies having melted through in the accident.

<Milestones in the Mid- and Long-Term Roadmap>

Units 1-6	Completion of fuel removal	Within 2031
Unit 1	Start of fuel removal	FY2027 - FY2028
Unit 2	Start of fuel removal	FY2024 - FY2026

Fuel Removal from SFP: Units 1 and 2 — Rubble removal etc. → Installation of fuel removal equipment → Fuel removal → Units 3 and 4 — Storage/Transportation

First unit	Start of fuel debris retrieval
Unit 2	Within 2021 * Due to the spread of COVID-19, we have revised the plan to start from the second half of fiscal 2023 to improve safety and reliability.

Fuel Debris Retrieval: Units 1 and 3 / Unit 2 — Understanding the situation inside the PCV/Consideration of retrieval methods → Fuel debris retrieval → Storage/Transportation

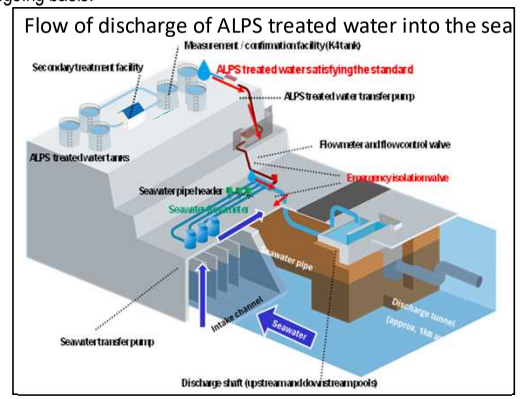
Dismantling Facilities: Scenario development & technology consideration → Design and manufacturing of devices/equipment → Dismantling

Measures for treated water

Apendix 1

Handling of ALPS treated water

Regarding the discharge of ALPS treated water into the sea, TEPCO must comply with regulatory and other safety standards to safeguard the public, the surrounding environment and agricultural, forestry and fishery products. To minimize adverse impacts on reputation, monitoring will be further enhanced and objectivity and transparency ensured by engaging with third-party experts and having safety checked by the IAEA. Moreover, accurate information will be disseminated with full transparency on an ongoing basis.



Contaminated water management - triple-pronged efforts -

(1) Efforts to promote contaminated water management based on the three basic policies

① "Remove" the source of water contamination ② "Redirect" fresh water from contaminated areas
③ "Retain" contaminated water from leakage

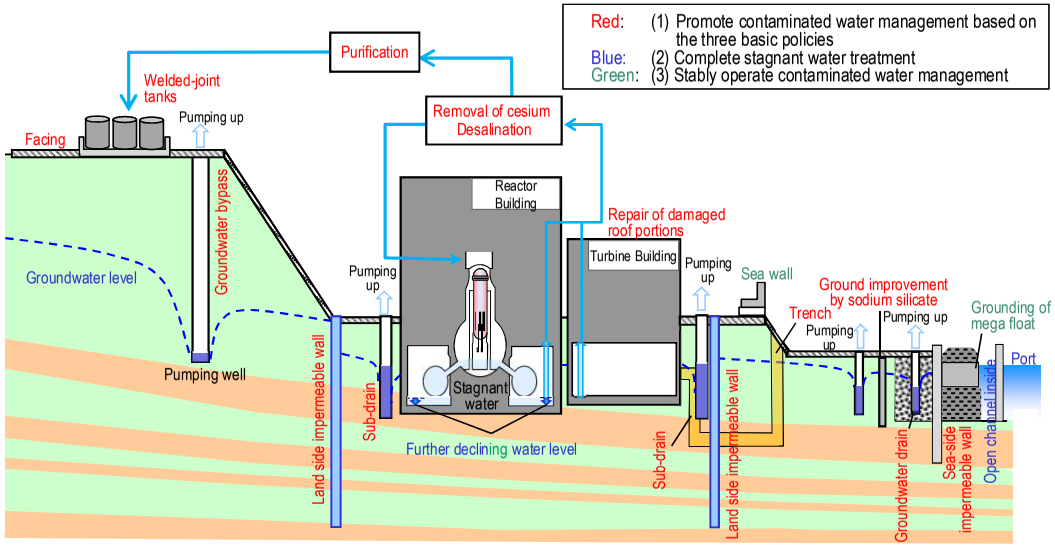
- Strontium-reduced water from other equipment is being re-treated in the Advanced Liquid Processing System (ALPS: multi-nuclide removal equipment) and stored in welded-joint tanks.
- Multi-layered contaminated water management measures, including land side impermeable walls and sub-drains, has stabilized the groundwater at a low level and the increased contaminated water generated during rainfall is being suppressed by repairing damaged portions of building roofs facing onsite Through these measures, the generation of contaminated water was reduced from approx. 540 m^3/day (in May 2014) to approx. 130 m^3/day (in FY2021).
- Measures continue to further suppress the generation of contaminated water to 100 m^3/day or less within 2025.

(2) Efforts to complete stagnant water treatment

- To reduce the stagnant water levels in buildings as planned, work to install additional stagnant water transfer equipment is underway.
- In 2020, treatment of stagnant water in buildings was completed, except for the Unit 1-3 Reactor Buildings, Process Main Building and High-Temperature Incinerator Building.
- While conducting the dust impact assessment, measures to reduce the stagnant water level were implemented. In March 2023, the target water level in each building was achieved. For the Units 1-3 Reactor Buildings, "reducing stagnant water in the Reactor Buildings to about half the amount at the end of 2020 during the period FY2022-2024" was achieved.
- For zeolite sandbags on the basement floors of the Process Main Building and High-Temperature Incinerator Building, measures to reduce the radiation dose are being examined with stabilization in mind.

(3) Efforts to stably operate contaminated water management

- Various measures were carried out to prepare for tsunamis. As countermeasures for heavy rain, sandbags are being installed to suppress direct inflow into buildings while work to close openings in buildings and install sea walls to enhance drainage channels and other measures are being implemented as planned.



Progress status

◆ The temperatures of the Reactor and the Primary Containment Vessel of Units 1-3 have been maintained stable.
There was no significant change in the concentration of radioactive materials newly released from Reactor Buildings into the air. It was concluded that the comprehensive cold shutdown condition had been maintained.

Status of discharge of ALPS treated water into the sea

From August 24, 2023, discharge of ALPS treated water from Tank Group B of the measurement / confirmation facility into the sea commenced.

Regarding tritium in seawater, the results of the daily quick analysis conducted by TEPCO showed that the discharge satisfied the requirement and was conducted safely as planned. On September 11, the 1st discharge into the sea was completed. (Discharge amount 7,788 m^3)

Subsequently, an external visual inspection of entire ALPS treated water dilution / discharge facility and other check was performed to confirm no abnormality.

In addition, based on the analytical results of Tank Group C of the measurement / confirmation facility, for which the 2nd discharge was scheduled, it was confirmed by TEPCO and external organization that the discharge requirement had been satisfied.

Toward the 2nd discharge, preparation proceeds with safety as the top priority.

< Measurement status for the first discharge of ALPS treated water >
(* Detailed information described on the right on Page 5 >

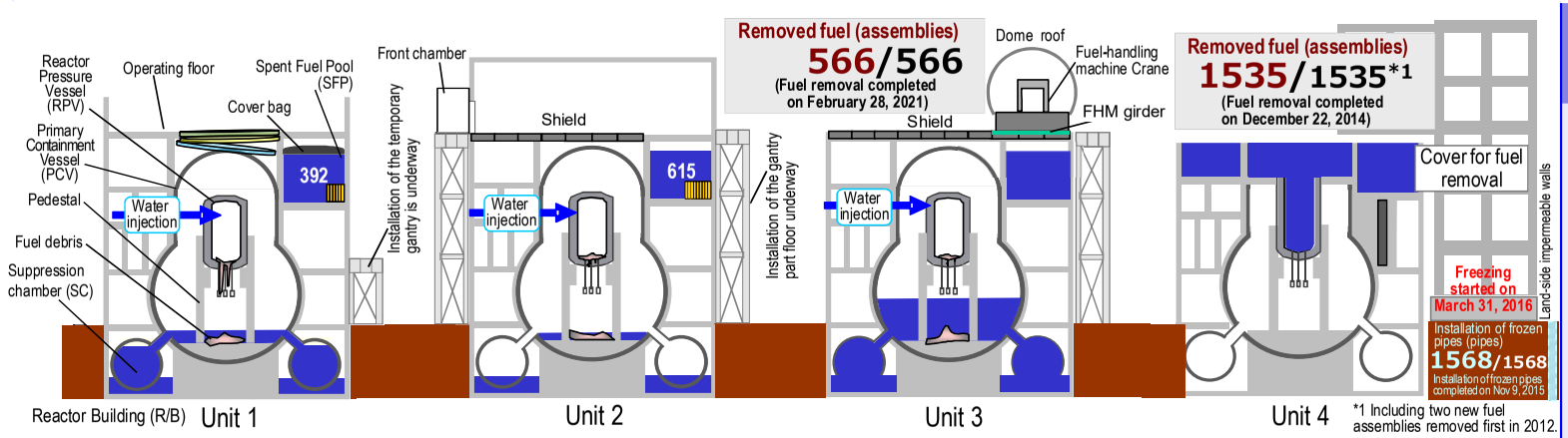
Attributes of the treated water from Tank Group B	・Concentration of the 29 types of radionuclides within the measurement / evaluation scope and regulatory requirements (sum of the ratios of concentration: 0.28)) ・Concentration of tritium: 140,000 Bq/L
Downstream of discharge shaft and seawater pipe header	・Below 1,500 Bq/L, the value stipulated by the national government in the "Basic Policy on handling of ALPS treated water," and therefore there was no problem.
Seawater monitoring results conducted at ten points within 3km of the power station (TEPCO)	・It was confirmed that the analytical value was below the discharge suspension level (700 Bq/L) and investigation level (350 Bq/L) and therefore there was no problem.
Results of quick measurement by each organization (as of September 26)	Ministry of the Environment: The analytical results of seawater, sampled at 11 sampling points off the coast of Fukushima Prefecture showed that it would have no adverse impact on human health and the environment. Fisheries Agency: A quick analysis of tritium in flounder showed that they were below the lower detection limit. Fukushima Prefecture: The tritium concentrations in seawater measured at nine sampling points off the coast of Fukushima Prefecture were verified as having no adverse impact on human health and the environment.

Unit 1 Status of measures to strengthen the PCV confinement function

During past internal investigations of the Unit 1 Primary Containment Vessel (PCV), damage to the pedestal was confirmed. TEPCO considers it unlikely to lead to significant damage and believes that even if the Reactor Pressure Vessel (PRV) were to lean or sink, there would be no significant risk of radiation exposure from radioactive dust generated in the PCV due to the leaning or sinking of the RPV .

On the other hand, in response to the assumption that dust in the PCV may increase due to abnormal occurrences attributable to earthquakes, measures to strengthen the confinement function are being examined.

For this examination, tests to change the rates of nitrogen injection into the PCV and exhaust and terminate nitrogen injection will be conducted. Moreover, an operation to terminate the nitrogen injection at the time of earthquakes with a seismic intensity of lower 6 or higher (AL earthquake) will commence.



Unit 2 Work to reduce the radiation dose of reactor instrumentation pipes toward PCV internal investigation

To reduce the radiation dose in work areas of the internal investigation of the Reactor Pressure Vessel (RPV) using existing Unit 2 instrumentation pipes of Unit 2, pipes of RPV penetrations were cleaned from August 30 to September 26.

Consequently, the air dose rate near the penetrations declined. Moreover, no clogging in pipes that may affect the RPV internal investigation was detected.

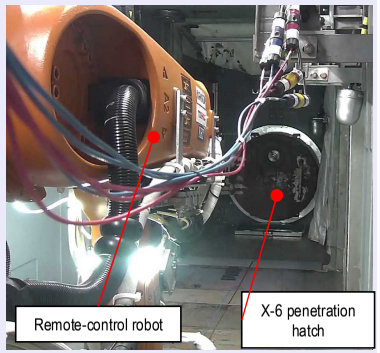
The next step will involve examining further dose reduction by shielding and other measures.

Unit 2 Progress status toward PCV internal investigation and trial retrieval

Toward trial debris retrieval, a mockup test using the robot arm and simulating the site is underway at the Naraha Town mockup facility. To reduce the risk of contact while retrieving fuel debris, work to correct the control program and other improvements are currently underway.

On site, to open the PCV X-6 penetration hatch of PCV, work to remove 24 hatch bolts is underway. As of September 27, 21 bolts had been removed.

After work to open the hatch, deposits inside the X-6 penetration will be removed. However, the exact status of the debris is not determined at present. Accordingly, based on the fixation status of hatch bolts and other factors, methods capable of retrieving the debris must be considered in readiness for cases where deposits cannot be fully removed. At the same time, methods to complement the internal investigation and trial retrieval by the robot arm are also being examined.



< Work to remove bolts >

Amount of contaminated water generated during heavy rainfall in September 2023

During the week of September 4-9, 2023, heavy rainfall of approx. 234 mm (max. 99 mm/day) was recorded. Compared with similar heavy rainfall in the past, effects to suppress the amount generated were confirmed.

Comparisons were made with the amount of contaminated water generated during heavy rainfall:
Typhoon of October 19-25, 2017 (rainfall amount 278 ㎜/week), approx. 1,220 m^3/day
Typhoon of October 10-16, 2019 (rainfall amount 272 ㎜/week), approx. 590 m^3/day
Heavy rainfall of September 4-9, 2023 (rainfall amount 234 ㎜/week), approx. 250 m^3/day, which is less than half of the amount in 2019 and approx. 1/5 of the amount in 2017.

Measures to suppress rainfall flowing into buildings, such as the pavement of areas inside the landside impermeable walls and repair damage to building roofs will continue to be implemented.

Appendix 2

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
September 26th, 2023 *Discharged on October 1st	Cs-134	ND (0.73)	ND (0.62)
	Cs-137	ND (0.70)	ND (0.62)
	Gross β	ND (2.0)	ND (0.42)
	H-3	910	960
September 25th, 2023 *Discharged on September 30th	Cs-134	ND (0.65)	ND (0.62)
	Cs-137	ND (0.60)	ND (0.57)
	Gross β	ND (2.0)	ND (0.34)
	H-3	940	970
September 24th, 2023 *Discharged on September 29th	Cs-134	ND (0.65)	ND (0.62)
	Cs-137	ND (0.59)	ND (0.51)
	Gross β	ND (2.1)	ND (0.38)
	H-3	890	940
September 23th, 2023 *Discharged on September 28th	Cs-134	ND (0.55)	ND (0.67)
	Cs-137	ND (0.64)	ND (0.72)
	Gross β	ND (0.18)	ND (0.34)
	H-3	840	910
September 22nd, 2023 *Discharged on September 27th	Cs-134	ND (0.94)	ND (0.63)
	Cs-137	ND (0.52)	ND (0.58)
	Gross β	ND (0.67)	ND (0.35)
	H-3	820	870
September 21st, 2023 *Discharged on September 26th	Cs-134	ND (0.71)	ND (0.61)
	Cs-137	ND (0.77)	ND (0.50)
	Gross β	ND (1.8)	ND (0.33)
	H-3	790	860
September 20th, 2023 *Discharged on September 25th	Cs-134	ND (0.55)	ND (0.60)
	Cs-137	ND (0.69)	ND (0.64)
	Gross β	ND (2.1)	ND (0.35)
	H-3	740	810
September 19th, 2023 *Discharged on	Cs-134	ND (0.66)	ND (0.64)
	Cs-137	ND (0.67)	ND (0.62)

September 24th	Gross β	ND (2.0)	ND (0.36)
	H-3	780	820
September 18th, 2023 *Discharged on September 23th	Cs-134	ND (0.64)	ND (0.63)
	Cs-137	ND (0.70)	ND (0.54)
	Gross β	ND (1.7)	ND (0.28)
	H-3	830	870
September 17th, 2023 *Discharged on September 22nd	Cs-134	ND (0.64)	ND (0.58)
	Cs-137	ND (0.74)	ND (0.59)
	Gross β	ND (1.9)	ND(0.34)
	H-3	780	830
September 16th, 2023 *Discharged on September 21st	Cs-134	ND (0.75)	ND (0.62)
	Cs-137	ND (0.61)	ND (0.57)
	Gross β	ND (2.0)	ND (0.33)
	H-3	760	820
September 15th, 2023 *Discharged on September 20th	Cs-134	ND (0.69)	ND (0.63)
	Cs-137	ND (0.78)	ND (0.54)
	Gross β	ND (0.67)	ND (0.33)
	H-3	630	640
September 15th, 2023 *Discharged on September 20th	Cs-134	ND (0.80)	ND (0.48)
	Cs-137	ND (0.53)	ND (0.61)
	Gross β	ND (1.7)	ND (0.34)
	H-3	590	630
September 14th, 2023 *Discharged on September 19th	Cs-134	ND (0.73)	ND (0.64)
	Cs-137	ND (0.70)	ND (0.66)
	Gross β	ND (2.0)	ND (0.33)
	H-3	570	610
September 14th, 2023 *Discharged on September 19th	Cs-134	ND (0.65)	ND (0.75)
	Cs-137	ND (0.88)	ND (0.64)
	Gross β	ND (1.8)	ND (0.33)
	H-3	500	530
September 13th, 2023 *Discharged on September 18th	Cs-134	ND (0.75)	ND (0.57)
	Cs-137	ND (0.69)	ND (0.54)
	Gross β	ND (1.9)	ND(0.32)
	H-3	540	580
September 12th, 2023 *Discharged on September 17th	Cs-134	ND (0.78)	ND (0.64)
	Cs-137	ND (0.69)	ND (0.51)
	Gross β	ND (1.7)	ND (0.31)
	H-3	560	590
September 11th, 2023 *Discharged on September 16th	Cs-134	ND (0.63)	ND (0.56)
	Cs-137	ND (0.63)	ND (0.57)
	Gross β	ND (1.8)	ND (0.29)

	H-3	560	590
September 10th, 2023 *Discharged on September 15th	Cs-134	ND (0.62)	ND (0.60)
	Cs-137	ND (0.57)	ND (0.64)
	Gross β	ND (1.8)	ND (0.33)
	H-3	590	640
September 9th, 2023 *Discharged on September 14th	Cs-134	ND (0.69)	ND (0.63)
	Cs-137	ND (0.65)	ND (0.58)
	Gross β	ND (2.0)	ND (0.33)
	H-3	690	730
September 8th, 2023 *Discharged on September 13th	Cs-134	ND (0.89)	ND (0.57)
	Cs-137	ND (0.58)	ND (0.61)
	Gross β	ND (0.56)	ND (0.32)
	H-3	640	690
September 7th, 2023 *Discharged on September 12th	Cs-134	ND (0.69)	ND (0.73)
	Cs-137	ND (0.59)	ND (0.72)
	Gross β	ND (2.0)	ND (0.32)
	H-3	660	720
September 6th, 2023 *Discharged on September 11th	Cs-134	ND (0.79)	ND (0.68)
	Cs-137	ND (0.77)	ND (0.64)
	Gross β	ND (2.1)	ND (0.31)
	H-3	740	800
September 5th, 2023 *Discharged on September 10th	Cs-134	ND(0.67)	ND(0.47)
	Cs-137	ND(0.84)	ND(0.51)
	Gross β	ND(2.1)	ND(0.35)
	H-3	880	890
September 4th, 2023 *Discharged on September 9th	Cs-134	ND (0.72)	ND (0.60)
	Cs-137	ND (0.69)	ND (0.54)
	Gross β	ND (1.8)	ND (0.28)
	H-3	860	940
September 3rd, 2023 *Discharged on September 8th	Cs-134	ND (0.69)	ND (0.72)
	Cs-137	ND (0.61)	ND (0.54)
	Gross β	ND (2.2)	ND(0.33)
	H-3	800	880
September 2nd, 2023 *Discharged on September 7h	Cs-134	ND (0.80)	ND (0.68)
	Cs-137	ND (0.76)	ND (0.59)
	Gross β	ND (1.8)	ND (0.34)
	H-3	830	880
September 1st, 2023 *Discharged on September 6h	Cs-134	ND (0.75)	ND (0.58)
	Cs-137	ND (0.56)	ND (0.48)
	Gross β	ND (0.72)	ND (0.36)
	H-3	850	900

August 31st, 2023 *Discharged on September 5th	Cs-134	ND (0.61)	ND (0.60)
	Cs-137	ND (0.79)	ND (0.58)
	Gross β	ND (2.0)	ND (0.32)
	H-3	910	960
August 30th, 2023 *Discharged on September 4h	Cs-134	ND (0.71)	ND (0.71)
	Cs-137	ND (0.54)	ND (0.67)
	Gross β	ND (1.5)	ND (0.33)
	H-3	880	940
August 29th, 2023 *Discharged on September 3rd	Cs-134	ND (0.66)	ND (0.55)
	Cs-137	ND (0.67)	ND (0.59)
	Gross β	ND (2.0)	ND (0.33)
	H-3	830	910
August 28th, 2023 *Discharged on September 2nd	Cs-134	ND (0.80)	ND (0.48)
	Cs-137	ND (0.67)	ND (0.64)
	Gross β	ND (1.9)	ND (0.36)
	H-3	910	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 3

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 1st,2023	Cs-134	ND (0.0033)	ND (0.0051)	ND (0.0065)
	Cs-137	0.0035	ND(0.0066)	ND (0.0047)
	Gross α	ND (0.28)	ND (2.2)	ND (2.1)
	Gross β	ND (0.45)	ND (0.65)	ND (0.59)
	H-3	860	820	870
	Sr-90	0.0035	ND (0.0037)	ND(0.0078)

* 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 4

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)
September 12th, 2023 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.71)
	Cs-137	ND (0.72)
	Gross β	9.4
	H-3	ND (0.33)

Appendix 5

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
September 21st, 2023 *Discharged on September 26th	Cs-134	ND (0.69)	ND (0.65)
	Cs-137	ND (0.55)	ND (0.61)
	Gross β	ND (0.59)	ND (0.34)
	H-3	47	51
September 14th, 2023 *Discharged on September 21st	Cs-134	ND (0.66)	ND (0.67)
	Cs-137	ND (0.72)	ND (0.51)
	Gross β	ND (0.62)	ND (0.34)
	H-3	47	54
September 7th, 2023 *Discharged on September 12th	Cs-134	ND (0.98)	ND (0.58)
	Cs-137	ND (0.72)	ND (0.59)
	Gross β	ND (0.70)	ND (0.32)
	H-3	53	54
August 31st, 2023 *Discharged on September 5th	Cs-134	ND (0.65)	ND (0.70)
	Cs-137	ND (0.64)	ND (0.72)
	Gross β	ND (0.65)	ND (0.31)
	H-3	56	55

- * 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

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 5th, 2023	Cs-134	ND (0.0038)	ND (0.0053)	ND (0.0063)
	Cs-137	ND (0.0029)	ND (0.0040)	ND (0.0047)
	Gross α	ND (0.37)	ND (2.2)	ND (2.1)
	Gross β	ND (0.38)	ND (0.65)	ND (0.57)
	H-3	47	480	480
	Sr-90	ND(0.0011)	ND (0.0013)	ND (0.0066)

* 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 7

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)
September 12th, 2023	Cs-134	ND (0.85)
	Cs-137	ND (0.68)
	Gross β	12
	H-3	ND (0.33)