Information(16:00), December 2, 2022

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 October

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 October at Fukushima Daiichi Nuclear Power Station (NPS).

1. Summary of decommissioning and contaminated water management

In October 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/mp202210.pdf

2. Sub-drain and Groundwater Drain Systems

In October 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 October 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 October, 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 October 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

October 27, 2022
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, etc. → Fuel debris retrieval → Storage / Transportation

Dismantling Facilities

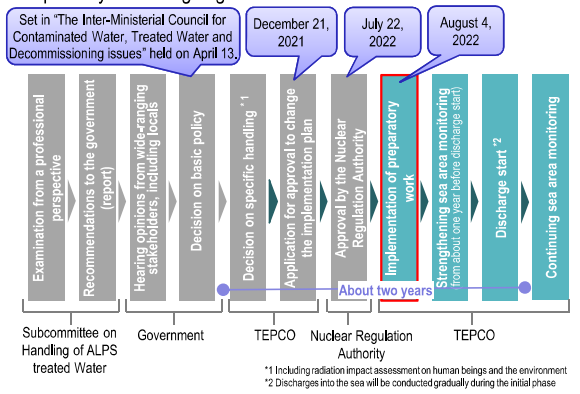
Scenario development & technology consideration → Design and manufacturing of devices / equipment → Dismantling

Measures for treated water

Appendix 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

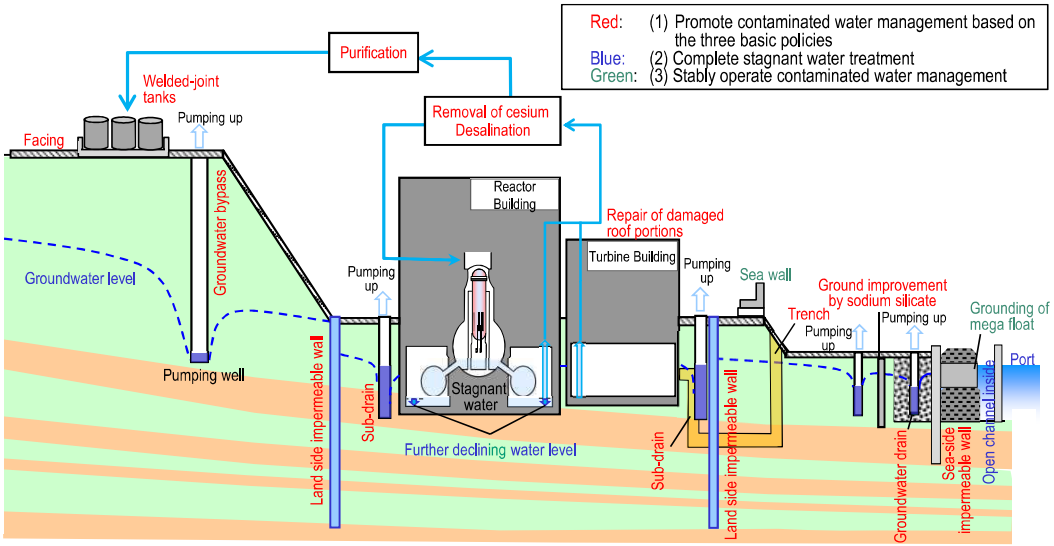
- Strontium-reduced water from other equipment is being re-treated in the Advanced Liquid Processing System (ALPS: multi-nuclide removal equipment) and stored in welded-joint tanks.
- Multi-layered contaminated water management measures, including land-side impermeable walls and sub-drains, have stabilized 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, etc. 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. At present, the floor surface exposure condition can be maintained except for the Unit 1-3 Reactor Buildings, Process Main Building and the High-Temperature Incinerator Building.
- 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. For Reactor Buildings, the amount of stagnant water there will be reduced to about half the amount at the end of 2020 during the period FY2022-2024.
- 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 are underway to prepare for tsunamis. 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 is being implemented as planned.



Progress Status and Future Challenges of the Mid-and-Long-Term Roadmap toward Decommissioning of TEPCO Holdings Fukushima Daiichi Nuclear Power Station (Outline)

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.

Organization to further reduce contaminated water generated

On October 18, the 25th Committee on Countermeasures for Contaminated Water Treatment (Chairperson: Dr. Yuzo Onishi) was held. Based on the assessment that "The effects of implementing multi-layered contaminated water management are clearly recognized. Despite fluctuation due to rainfall observed, contaminated water generated has been stably managed and accordingly efforts toward the target of suppressing contaminated water generated to 100 m^3/day or less within FY2025 have proceeded steadily," As well as proceeding with ongoing measures according to the plan, organization to further embody the direction toward further reducing the amount of contaminated water generated, such as measures for building local water stoppage, was discussed.

Regarding additional measures to further reduce contaminated water generated, organization will be conducted, including assessments of difficulty and expected effects, to implement them going forward.

Start of the rearing test of marine organisms

To actually and visually show that no adverse effects will be imposed on marine organisms, the practice of rearing flounder started from March 2022 using coastal seawater around the nuclear power station to learn how to rear marine organisms, verify the equipment design and others.

Preparation started from September 13 and the rearing test commenced from September 30.

Along with the test start, online publication of the rearing tanks using monitoring camera also started.

Cases reared in seawater with ALPS treated water added and in normal seawater are compared and the status is shown coherently and clearly.

<Rearing in seawater with ALPS treated water added>

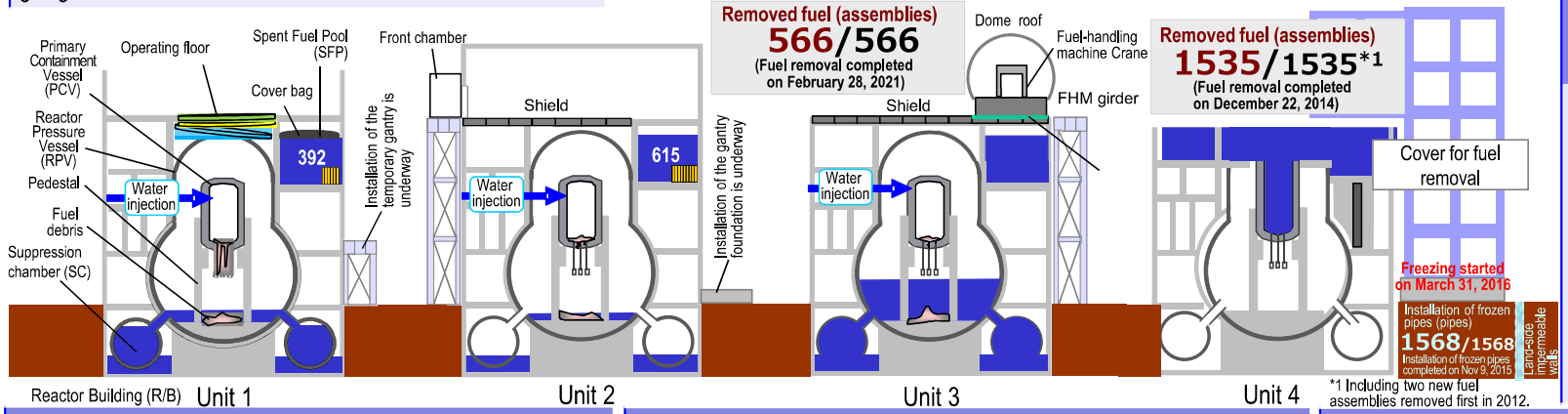
Marine organism rearing test live camera
https://www.youtube.com/channel/UCLEn8NHHX2WrMvn6ZYfAjJA

Status of sea area monitoring related to the handling of ALPS treated water

Regarding sea area monitoring related to the handling of ALPS treated water, based on the Sea Area Monitoring Plan published on March 24, 2022, sampling started from April 20.

The sea area monitoring results started to be published on a dedicated TEPCO HD website from September 29. The design will be modified to improve clearly still further.

Seawater monitoring portal site
https://www.tepco.co.jp/decommission/progress/watertreatment/monitoring/



*1 Including two new fuel assemblies removed first in 2012.

Sampling of inclusive water in the Unit 1 suppression chamber

In order to reduce the water level of the Unit 1 Primary Containment Vessel to improve its seismic resistance, there is a plan to install an intake facility utilizing the existing pipe for the Reactor Water Clean-up System (CUW).

To examine the design of the intake facility, inclusive water in the suppression chamber will be sampled from the CUW pipe, which is a candidate for the intake inlet of the intake facility, from November 2022 to January 2023. Work will proceed with safety first.

The Sr-90 concentration in ALPS outlet water exceeded the legal discharge limit

In the additional ALPS (A) operated from July 27 to August 5, the concentration of Sr-90 in outlet water temporarily increased. There was no release into the environment.

The temporary increase in concentration was considered attributable to the altered pH environment inside the adsorption vessel in association with drain and water filling in all adsorption vessels during the latest periodical inspection.

Based on the assumed cause, the scope of drain and water filling in adsorption vessels during the periodical inspection will be appropriately reviewed. Moreover, after the periodical inspection, sampling of outlet water and others will be conducted to verify the influence of drain, water filling and others and subsequently prevent any recurrence.

Effects of the countermeasures on temperature increase in the temperature measuring tube 150-7S of the land-side impermeable walls continue

In August 2021, a temperature increase was detected in the temperature measuring tube 150-7S of the land-side impermeable walls (frozen walls). However, this increase affected no water stoppage function and the temperature had already declined to the level before increase.

The increase was considered mainly attributable to concentrated groundwater flow and also rain inflow, which was warmed by outside temperatures, including roof drainage from surrounding buildings.

After implementing the countermeasures, "trial water stoppage" and "destination change of rain drainage," the temperature declined since then no further increase like the one last year had recurred. Based on this result, it is considered that the effects of the countermeasures continue.

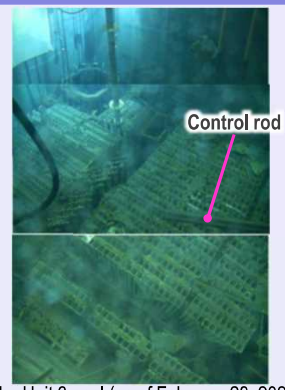
Moreover, in response to the suggested possibility of rain drainage from surrounding buildings affecting the land-side impermeable walls, countermeasures on buildings with a similar structure will also be taken.

Progress toward starting retrieval of high-dose equipment inside the Unit 3 spent fuel pool and others

There is a plan to transfer high-dose equipment such as control rods, which is stored in the Unit 3 spent fuel pool, to the existing site bankers and solid waste storage facilities to be stored.

At present, related work is underway, including installation of the work platform which will support the transfer. Following its completion, a series of work will be verified using the actual transportation cask.

Once the preparation is completed, removal of high-dose equipment will commence from the 2nd half of 2022.



<Inside the Unit 3 pool (as of February 28, 2022>

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
October 27th, 2022 *Discharged on November 1st	Cs-134	ND (0.50)	ND (0.67)
	Cs-137	ND (0.69)	ND (0.52)
	Gross β	ND (1.9)	ND (0.34)
	H-3	670	720
October 26th, 2022 *Discharged on October 31st	Cs-134	ND (0.55)	ND (0.62)
	Cs-137	ND (0.54)	ND (0.66)
	Gross β	ND (2.0)	ND (0.34)
	H-3	660	700
October 25th, 2022 *Discharged on October 30th	Cs-134	ND (0.55)	ND (0.52)
	Cs-137	ND (0.65)	ND (0.61)
	Gross β	ND (1.6)	ND (0.38)
	H-3	680	700
October 24th, 2022 *Discharged on October 29th	Cs-134	ND (0.85)	ND (0.67)
	Cs-137	ND (0.47)	ND (0.54)
	Gross β	ND (1.9)	ND (0.36)
	H-3	670	710
October 23rd, 2022 *Discharged on October 28th	Cs-134	ND (0.58)	ND (0.64)
	Cs-137	ND (0.65)	ND (0.64)
	Gross β	ND (2.0)	ND (0.33)
	H-3	650	700
October 22nd, 2022 *Discharged on October 27th	Cs-134	ND (0.53)	ND (0.49)
	Cs-137	ND (0.65)	ND (0.52)
	Gross β	ND (1.8)	ND (0.37)
	H-3	700	770
October 19th , 2022 *Discharged on October 27th	Cs-134	ND (0.61)	ND (0.62)
	Cs-137	ND (0.80)	ND (0.61)
	Gross β	ND (2.0)	ND (0.36)
	H-3	770	830
October 21st, 2022	Cs-134	ND (0.70)	ND (0.56)

*Discharged on October 26th	Cs-137	ND (0.54)	ND (0.67)
	Gross β	ND (0.69)	0.38
	H-3	710	750
October 20th, 2022 *Discharged on October 25th	Cs-134	ND (0.53)	ND (0.71)
	Cs-137	ND (0.47)	ND (0.57)
	Gross β	ND (1.4)	ND (0.35)
	H-3	800	840
October 19th, 2022 *Discharged on October 24th	Cs-134	ND (0.72)	ND (0.58)
	Cs-137	ND (0.65)	ND (0.52)
	Gross β	ND (1.8)	0.40
	H-3	680	740
October 18th, 2022 *Discharged on October 23rd	Cs-134	ND (0.57)	ND (0.72)
	Cs-137	ND (0.84)	ND (0.64)
	Gross β	ND (2.0)	ND (0.36)
	H-3	700	740
October 17th, 2022 *Discharged on September 22nd	Cs-134	ND (0.56)	ND (0.58)
	Cs-137	ND (0.60)	ND (0.49)
	Gross β	ND (1.9)	ND (0.35)
	H-3	630	680
October 16th, 2022 *Discharged on October 21st	Cs-134	ND (0.88)	ND (0.65)
	Cs-137	ND (0.60)	ND (0.61)
	Gross β	ND (2.0)	ND (0.39)
	H-3	570	620
October 15th, 2022 *Discharged on October 20th	Cs-134	ND (0.72)	ND (0.66)
	Cs-137	ND (0.54)	ND (0.61)
	Gross β	ND (1.9)	0.36
	H-3	500	540
October 14th, 2022 *Discharged on October 19th	Cs-134	ND (0.52)	ND (0.52)
	Cs-137	ND (0.60)	ND (0.69)
	Gross β	ND (0.63)	ND (0.36)
	H-3	520	540
October 13th, 2022 *Discharged on October 18th	Cs-134	ND (0.53)	ND (0.45)
	Cs-137	ND (0.54)	ND (0.64)
	Gross β	ND (1.8)	ND (0.32)
	H-3	520	570
October 12th, 2022 *Discharged on October 17th	Cs-134	ND (0.53)	ND (0.59)
	Cs-137	ND (0.69)	ND (0.79)
	Gross β	ND (1.8)	ND (0.31)
	H-3	570	640
October 11th, 2022 *Discharged on	Cs-134	ND (0.56)	ND (0.68)
	Cs-137	ND (0.73)	ND (0.81)

October 16th	Gross β	ND (1.8)	0.35
	H-3	690	740
October 10th, 2022 *Discharged on October 15th	Cs-134	ND (0.45)	ND (0.62)
	Cs-137	ND (0.80)	ND (0.63)
	Gross β	ND (1.8)	ND (0.38)
	H-3	850	880
October 9th, 2022 *Discharged on October 14th	Cs-134	ND (0.61)	ND (0.64)
	Cs-137	ND (0.80)	ND (0.61)
	Gross β	ND (2.0)	0.46
	H-3	890	930
October 8th, 2022 *Discharged on October 13th	Cs-134	ND (0.70)	ND (0.52)
	Cs-137	ND (0.60)	ND (0.58)
	Gross β	ND (1.8)	ND (0.37)
	H-3	880	940
October 7th, 2022 *Discharged on October 12th	Cs-134	ND (0.68)	ND (0.65)
	Cs-137	ND (0.60)	ND (0.72)
	Gross β	ND (1.7)	ND (0.37)
	H-3	900	960
October 6th, 2022 *Discharged on October 11th	Cs-134	ND (0.41)	ND (0.68)
	Cs-137	ND (0.54)	ND (0.50)
	Gross β	ND (0.57)	ND (0.41)
	H-3	850	910
October 5th, 2022 *Discharged on October 10th	Cs-134	ND (0.56)	ND (0.68)
	Cs-137	ND (0.69)	ND (0.63)
	Gross β	ND (1.9)	ND (0.31)
	H-3	830	900
October 4th, 2022 *Discharged on October 9th	Cs-134	ND (0.71)	ND (0.60)
	Cs-137	ND (0.77)	ND (0.45)
	Gross β	ND (1.9)	0.42
	H-3	810	870
October 3rd, 2022 *Discharged on October 8th	Cs-134	ND (0.50)	ND (0.70)
	Cs-137	ND (0.60)	ND (0.79)
	Gross β	ND (1.8)	ND (0.37)
	H-3	640	720
October 2nd, 2022 *Discharged on October 7th	Cs-134	ND (0.52)	ND (0.54)
	Cs-137	ND (0.80)	ND (0.63)
	Gross β	ND (1.9)	ND (0.39)
	H-3	620	650
October 1st, 2022 *Discharged on October 6th	Cs-134	ND (0.50)	ND (0.71)
	Cs-137	ND (0.73)	ND (0.55)
	Gross β	ND (0.59)	ND (0.33)

	H-3	570	610
September 30th, 2022 *Discharged on October 5th	Cs-134	ND (0.50)	ND (0.62)
	Cs-137	ND (0.69)	ND (0.70)
	Gross β	ND (1.9)	ND (0.31)
	H-3	540	610
September 29th, 2022 *Discharged on October 4th	Cs-134	ND (0.56)	ND (0.63)
	Cs-137	ND (0.65)	ND (0.69)
	Gross β	ND (1.7)	ND (0.33)
	H-3	520	540
September 28th, 2022 *Discharged on October 3rd	Cs-134	ND (0.63)	ND (0.68)
	Cs-137	ND (0.60)	ND (0.61)
	Gross β	ND (2.0)	ND (0.34)
	H-3	490	520

* * 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
September 1st,2022	Cs-134	ND (0.0023)	ND (0.0044)	ND (0.0060)
	Cs-137	0.0034	ND (0.0041)	ND (0.0057)
	Gross α	ND (0.47)	ND (3.1)	ND (2.3)
	Gross β	ND (0.46)	ND (0.66)	ND (0.60)
	H-3	910	910	930
	Sr-90	ND (0.0035)	ND (0.0032)	ND (0.0057)

* 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)
September5th, 2022 *Sampled before discharge of purified groundwater.	Cs-134	ND (0.72)
	Cs-137	ND (0.51)
	Gross β	9.1
	H-3	ND (0.31)

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
October 26th, 2022 *Discharged on October 31st	Cs-134	ND (0.59)	ND (0.57)
	Cs-137	ND (0.65)	ND (0.66)
	Gross β	ND (0.66)	ND (0.37)
	H-3	61	55
October 19th, 2022 *Discharged on October 24th	Cs-134	ND (0.41)	ND (0.54)
	Cs-137	ND (0.54)	ND (0.67)
	Gross β	ND (0.56)	ND (0.31)
	H-3	54	58
October 12th, 2022 *Discharged on October 17th	Cs-134	ND (0.49)	ND (0.73)
	Cs-137	ND (0.65)	ND (0.64)
	Gross β	ND (0.77)	ND (0.34)
	H-3	62	58
October 5th, 2022 *Discharged on October 10th	Cs-134	ND (0.66)	ND (0.58)
	Cs-137	ND (0.69)	ND (0.69)
	Gross β	ND (0.71)	ND (0.34)
	H-3	50	54
September 28th, 2022 *Discharged on October 3rd	Cs-134	ND (0.53)	ND (0.64)
	Cs-137	ND (0.65)	ND (0.53)
	Gross β	ND (0.66)	ND (0.31)
	H-3	64	60

- * 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 6

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
September 7th, 2022	Cs-134	ND (0.0029)	ND (0.0045)	ND (0.0070)
	Cs-137	ND (0.0021)	ND (0.0042)	ND (0.0051)
	Gross α	ND (0.64)	ND (3.0)	ND (2.3)
	Gross β	ND (0.47)	ND (0.68)	ND (0.63)
	H-3	59	58	59
	Sr-90	ND (0.0024)	ND (0.0013)	ND (0.0049)

* 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 5th, 2022	Cs-134	ND (0.68)
	Cs-137	ND (0.54)
	Gross β	9.6
	H-3	ND (0.32)