

Information, March, 2021

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 February

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 February at Fukushima Daiichi Nuclear Power Station (NPS).

1. Sub-drain and Groundwater Drain Systems

In February, 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 February 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 February, 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 February 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 |
| February 23 rd , 2021 *Discharged on February 28 th | Cs-134 | ND (0.76) | ND (0.84) |
| | Cs-137 | ND (0.65) | ND (0.62) |
| | Gross β | ND (0.70) | ND (0.34) |
| | H-3 | 1,100 | 1,200 |
| February 13 th , 2021 *Discharged on February 18 th | Cs-134 | ND (0.72) | ND (0.79) |
| | Cs-137 | ND (0.54) | ND (0.72) |
| | Gross β | ND (1.9) | ND (0.32) |
| | H-3 | 1,000 | 1,100 |
| February 11 th , 2021 *Discharged on February 16 th | Cs-134 | ND (0.82) | ND (0.58) |
| | Cs-137 | ND (0.60) | ND (0.72) |
| | Gross β | ND (2.0) | ND (0.33) |
| | H-3 | 1,100 | 1,100 |
| February 10 th , 2021 *Discharged on February 15 th | Cs-134 | ND (0.67) | ND (0.61) |
| | Cs-137 | ND (0.65) | ND (0.57) |
| | Gross β | ND (0.63) | ND (0.30) |
| | H-3 | 1,000 | 1,100 |
| February 7 th , 2021 *Discharged on February 12 th | Cs-134 | ND (0.45) | ND (0.55) |
| | Cs-137 | ND (0.60) | ND (0.57) |
| | Gross β | ND (2.0) | ND (0.33) |
| | H-3 | 1,000 | 1,100 |
| February 5 th , 2021 *Discharged on February 10 th | Cs-134 | ND (0.76) | ND (0.46) |
| | Cs-137 | ND (0.60) | ND (0.63) |
| | Gross β | ND (1.8) | ND (0.28) |
| | H-3 | 1,000 | 1,000 |
| February 3 rd , 2021 *Discharged on February 8 th | Cs-134 | ND (0.53) | ND (0.65) |
| | Cs-137 | ND (0.60) | ND (0.51) |
| | Gross β | ND (1.5) | ND (0.32) |
| | H-3 | 980 | 1,000 |
| February 1 st , 2021 | Cs-134 | ND (0.64) | ND (0.59) |

| | | | |
|---|---------------|-----------|-----------|
| *Discharged on February 6 th | Cs-137 | ND (0.65) | ND (0.51) |
| | Gross β | ND (0.61) | ND (0.32) |
| | H-3 | 1,000 | 1,100 |
| January 30 th , 2021 *Discharged on February 4 th | Cs-134 | ND (0.60) | ND (0.62) |
| | Cs-137 | ND (0.69) | ND (0.72) |
| | Gross β | ND (1.7) | ND (0.32) |
| | H-3 | 1,100 | 1,200 |
| January 28 th , 2021 *Discharged on February 2 nd | Cs-134 | ND (0.76) | ND (0.61) |
| | Cs-137 | ND (0.73) | ND (0.61) |
| | Gross β | ND (2.0) | ND (0.34) |
| | H-3 | 1,000 | 1,100 |
| January 27 th , 2021 *Discharged on February 1 st | Cs-134 | ND (0.63) | ND (0.70) |
| | Cs-137 | ND (0.54) | ND (0.63) |
| | Gross β | ND (1.9) | ND (0.35) |
| | H-3 | 1,100 | 1,100 |

- * * 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 |
| January 2 nd , 2021 | Cs-134 | ND (0.0028) | ND (0.0047) | ND (0.0070) |
| | Cs-137 | 0.0051 | 0.0066 | ND (0.0051) |
| | Gross α | ND (0.57) | ND (3.4) | ND (1.9) |
| | Gross β | ND (0.47) | ND (0.65) | ND (0.55) |
| | H-3 | 1,200 | 1,100 | 1,200 |
| | Sr-90 | 0.0031 | 0.0037 | 0.0082 |

* 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) |
|---|-------------------|---|
| January 28 th , 2021 *Sampled before discharge of purified groundwater. | Cs-134 | ND (0.60) |
| | Cs-137 | ND (0.69) |
| | Gross β | 13 |
| | 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 | 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 |
| February 19 th , 2021 *Discharged on February 29 th | Cs-134 | ND (0.68) | ND (0.72) |
| | Cs-137 | ND (0.65) | ND (0.56) |
| | Gross β | ND (0.69) | ND (0.61) |
| | H-3 | 100 | 100 |
| February 4 th , 2021 *Discharged on February 12 th | Cs-134 | ND (0.69) | ND (0.48) |
| | Cs-137 | ND (0.65) | ND (0.51) |
| | Gross β | ND (0.66) | ND (0.71) |
| | H-3 | 110 | 120 |
| January 26 th , 2021 *Discharged on February 5 th | Cs-134 | ND (0.78) | ND (0.51) |
| | Cs-137 | ND (0.47) | ND (0.53) |
| | Gross β | ND (0.66) | ND (0.56) |
| | H-3 | 95 | 97 |

- * * 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 |
| January 4 th , 2021 | Cs-134 | ND (0.0028) | ND (0.0041) | ND (0.0063) |
| | Cs-137 | ND (0.0022) | ND (0.0044) | ND (0.0046) |
| | Gross α | ND (0.65) | ND (3.4) | ND (1.9) |
| | Gross β | ND (0.49) | ND (0.59) | ND (0.63) |
| | H-3 | 91 | 89 | 91 |
| | Sr-90 | 0.0011 | ND (0.0014) | 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) |
|--|-------------------|---|
| December 3 rd , 2020 | Cs-134 | ND (0.72) |
| | Cs-137 | ND (0.72) |
| | Gross β | 11 |
| | 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 | 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.