(The fifth question in the letter dated 11<sup>th</sup> October)

 Maximum permissible levels of certain radioactive substances in fish and seafood established by Japanese legislation

(Answers)

- With regards to your fifth question in the letter dated 11<sup>th</sup> October, please refer to <u>Attachment 1</u>, "Current Situation and Protective Measures for Radionuclides in Foods" with the following answers.
- In accordance with the Food Sanitation Act, the Japanese maximum level (JML) of radio-cesium in general foods, including fish and seafood, is 100 Bq/kg. (For your reference, that of drinking water, milk, and infant foods is 10 Bq/kg, 50 Bq/kg, and 50 Bq/kg, respectively).

cf. page 4 of Attachment 1

JMLs are established considering those radionuclides whose physical halflives are relatively long (over one year) and whose long term effects should be taken into account, in order to address the long-term impact of the Fukushima Daiichi Nuclear Power Plant accident.

cf. page 8 of Attachment 1

Targets to be regulated are all the radionuclides, presumed to be emitted by the Fukushima Daiichi Nuclear Power Plant accident based on the evaluation of the Nuclear and Industrial Safety Agency, and whose physical half-lives are over 1 year, that is to say, they are Cesium 134 (Cs-134), Cesium 137 (Cs-137), Strontium-90 (Sr-90), Ruthenium-106 (Ru-106), Plutonium (Pu).

cf. page 8 of Attachment 1

As the target radionuclides other than Cs-134 and Cs-137 require a longer time for measurement, the JMLs for radio-cesium are established for an effective dose of radionuclides (including Sr-90, Pu, and Ru-106) not to exceed 1mSv/year taking into account the migration ratio of each radionuclide.

cf. page 9 of Attachment 1

O The contribution ratio of radio-cesium was calculated for each food category, such as cereals and dairy products, taking into account the characteristics of each food with regard to the transfer of radionuclides.

cf. pages of 9 to 11 of Attachment 1

- O The rationale for not setting maximum levels for tritium, etc. in food products such as seafoods in relation to the discharge of ALPS treated water into the sea is as follows.
- As explained by the Ministry of Economy, Trade and Industry at the video conference held on 10<sup>th</sup> October, the IAEA has concluded in its comprehensive report, based on its comprehensive assessment, that the discharge of the ALPS treated water will have a negligible radiological impact on people and the environment. Since there are no safety issues either for seafoods or for the people who eat them, no maximum limits for tritium, etc. are established.

(The sixth question in the letter dated 11<sup>th</sup> October)

 Results of monitoring and protocols of laboratory studies of fish and seafood exported from Japan to the Russian Federation in 2022 and 2023, for cesium and strontium.

(Answers)

- With regards to your sixth question in the letter dated 11<sup>th</sup> October, answers are as follows.
- The safety of foods produced, manufactured, and processed in Japan, including for exports, is ensured based on Japanese legislations such as the Food Sanitation Act.
- In case a government of destination country requests additional measures on foods to be imported from Japan, the government of Japan (GOJ) ensures a system to export foods that comply with the import conditions of a destination country by, after bilateral technical discussions, adding relevant requirements on foods to be exported to that country.
- We understand that the Russian side is interested in radiological safety indicators of fish and fish products exported to your country from Japan. In addition to the domestic regulations enforced by relevant Japanese legislations, Russia requires to attach laboratory analysis certificates on radionuclides for food originating six prefectures (Fukushima, Tochigi, Gunma, Ibaraki, Chiba and Tokyo) issued by Japanese government certifying that the foods comply with Russia's level of radiation (in terms of radio-cesium concentration) set for each food category. Please note that Russia does not require Japan such certificates for seafoods.
- Based on the "Concepts of Inspection Planning and the Establishment and Cancellation of Items and Areas to which Restriction on Distribution and/or Consumption of Foods concerned Applies" (hereinafter referred to as "the Guideline") developed by the Nuclear Emergency Response Headquarters of GOJ, relevant prefectural governments annually revise their own monitoring plans.

- O Please refer to <u>Attachment 2</u> for details of the Guideline.
- In the Guideline, GOJ indicates to the local governments the items subject to inspection and the frequency of inspection. Based on the Guideline, in conducting monitoring, local governments give priority to the items with higher probability that higher level of radio-cesium might be detected. The Guideline is revised annually, reflecting the past test results, targeting the items with higher cesium concentration.
- As explained above, monitoring of cesium in food in Japan is well established to ensure that variability of activity levels and critical regions are taken into account properly based on actual values which have been accumulated in the past records.
- O The Food Sanitation Act mandates that the same lot with items exceeding the stringent JMLs is recalled and disposed of, and their shipment is suspended.
- If there are exceeding cases of a particular item over an area, Japan suspends shipment of the item from the area. Japan's regulatory framework thus prevents the food exceeding the JMLs from entering the food chain and being exported.
- With regards to the control system of radionuclides in foods, please refer to page 2 and 3 of <u>Attachment 3</u>, "Request and justification for lifting the import measures on Japanese food regarding radionuclides ".
- O For the results of the monitoring on radio-cesium in seafood in 2022 fiscal year (April 2022 to March 2023) and those in April to August 2023, please refer to page 5 and 6 of <u>Attachment 3</u> and <u>Attachment 4</u>, respectively.
- O For your reference, the results of the monitoring on radio-cesium in foods in September 2023 based on the Guideline are scheduled to be published on the Ministry of Health, Labour and Welfare (MHLW)'s website in early next November. Once published, we will provide the data without delay.

#### Protocols of laboratory study for radio-cesium

(Answers)

- Radio-cesium is measured according to the method described in the "Radioactivity Measurement Series No. 7 Gamma-ray Spectrometry Using Germanium Semiconductor Detectors" published by the Ministry of Education, Culture, Sports, Science and Technology, or internationally accredited methods.
- Depending on the specifications of the device, devices other than the gamma-ray spectrometers using germanium semiconductor detectors are also used.
- For specific measurement protocol, please refer to <u>Attachment 5</u> "Testing Methods for Radioactive Substances in Food".

Information on measurement data on Sr-90

(Answers)

- As explained by the Ministry of Economy, Trade and Industry at the video conference held on 10th October, the water in the tank before discharge is monitored to ensure that the concentrations of radionuclides\* including Cesium and Sr-90 satisfy the regulatory standards.
- (\*NOTE: excluding than tritium, but tritium is significantly diluted by sea water before discharge so as to be below the regulatory standards.)
- In addition, in order to continuously ascertain that no significant impacts occur, radionuclides such as Cesium and strontium in the seawater are monitored by TEPCO and relevant government agencies at several locations before, during and after discharge in accordance with "Comprehensive Radiation Monitoring Plan".

- As mentioned in the answer to your fifth questions in the letter dated 11<sup>th</sup> October and during the video conference on 10<sup>th</sup> October, the JMLs for radio-cesium are established for an effective dose of radionuclides (including Sr-90, Pu, and Ru-106, having physical half-lives of more than a year) not to exceed 1mSv/year, and monitoring on nuclides in food is carried out using JMLs for radio-cesium. Therefore, we do not have results of monitoring on Sr-90 based on "the Guideline".
- However, this does not mean that Japan has no actual measurement data on Sr-90 in food. Just for your information, we would like to share the following data (Reference 1 and 2).

#### [Reference 1]

- O MHLW surveyed the dietary intake of Sr-90 and the estimated annual committed effective dose of Sr-90 during each study was valued sufficiently lower than the intervention exemption level, 1 mSv/year, in foods in Japan. There was no noticeable difference between the range of estimated daily intake of strontium-90 in the study conducted after the Fukushima Daiichi Nuclear Power Plant accident compared with daily intake measured before the accident.
- O Based on the results of the latest survey (September to October in 2022), the maximum estimated annual committed effective dose of Sr-90 was 0.00029 mSv/year. Please refer to <u>Attachment 6</u> "Estimation of Dietary Intake of Strontium-90 in Japan after the Fukushima Daiichi Nuclear Power Plant (FDNPP) Accident market basket study, 2013–2022".
- The results of the survey conducted this year will be published in September or October 2024.

#### **[Reference 2]**

 You can find results of measurements on Sr-90 in aquatic products using the Environmental Radiation Database.

#### **Environmental Radiation Database**

https://www.kankyo-hoshano.go.jp/en/data-en/database-en/

([Note] The website Environmental Radioactivity and Radiation in Japan publishes information on environmental radioactivity and radiation. You can browse information such as the results of environmental radioactivity surveys conducted by the Secretariat of the Nuclear Regulation Authority with the cooperation of the relevant ministries and prefectural governments.)

O Please refer to <u>Attachment 7</u> for the results of measurements on Sr-90 in aquatic products in Japan published in the database. As you can clearly see, radioactivity concentration of Sr-90 is very low.

#### • Regarding safety indicators other than radioactive substances

(Answers)

 Please refer to the provisional translation of the related provisions of safety standards for fish and seafood based on the Food Sanitation Act (<u>Attachment 8</u>), which we briefly outlined during the video conference.