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CURRENT STATUS AFTER THE NUCLEAR POWER PLANT ACCIDENT

COMMUNICATION FROM JAPAN

Revision

The following communication, received on 21 June 2023, is being circulated at the request of the Delegation of Japan.

ABSTRACT

In response to the accident at Tokyo Electric Power Co. Fukushima Daiichi Nuclear Power Station (FDNPS) in 2011, Japan has taken a comprehensive approach in securing food safety. The accumulated monitoring data demonstrates that the level of radioactivity is very low and Japanese food has been safe for the public. The Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture has evaluated that measures to monitor and respond to issues regarding radionuclide contamination of food are appropriate, that the food supply chain is controlled effectively by the relevant authorities and that the public food supply is safe. The majority of the countries and regions which provisionally introduced import measures on Japanese food has lifted them based on the scientific evidence, and the number of countries and regions which still maintain the measures are reduced to 12. Given the provided evidence, there is no need to impose additional import control measures and Japan calls on Members to remove existing measures. Regarding the controlled discharge of the ALPS (Advanced Liquid Processing System) treated water, Japan takes measures considering international law and practice, and the impact on the environment, marine biota as well as the health and safety of people, and continues to receive IAEA reviews and provide relevant information to the international community.

1 INTRODUCTION

1.1. In response to the accident at Tokyo Electric Power Co. (TEPCO) Fukushima Daiichi Nuclear Power Station (FDNPS) in March 2011, 55 countries and regions introduced import measures on food from Japan, and 43 have lifted them based on objective assessment. However, 12 countries and regions still maintain import measures, such as import bans, additional test requirements and certificates, and non-detectable level tolerance at border inspection tests.

1.2. This document updates the situation of radioactivity surrounding Japanese food, 12 years after the accident at the FDNPS. In particular, it provides an update on the risk management measures taken to secure food safety and to prevent environmental impacts from the FDNPS, and the resulting monitoring data, so that a more objective assessment of risk and review of the import measures on Japanese food, supposed to be provisionally adopted by the Members would be facilitated.

2 FOOD SAFETY CONTROL AND STATUS OF SAFETY IN JAPANESE FOOD

2.1. Japan, soon after the accident, started decontamination such as of the crop land and fruit trees, control over feed and agricultural input and introduced a risk-based food monitoring scheme. The effective dose from dietary intake has also been surveyed.

2.2. Japanese maximum permissible levels for radioactive cesium in food (JMLs)[1] were set to meet the intervention exemption level of the Codex Alimentarius Commission (Codex), 1mSv/year, a level considered as safe for the public, and in consideration of the released nuclides and with highly conservative and hypothetical assumptions on the safe side, including that 50% of foods are contaminated. Accordingly, the JML for food in general is set as 100 Bq/kg, while the corresponding Codex guideline level is 1,000 Bq/kg and even 10,000 Bq/kg can be adopted and considered as safe for food with small consumption (CXS 193-1995).

2.3. The monitoring has covered a wide variety of items including that consumed in large amounts and with elevated concentration of radionuclides in consideration of the effective dose. It is mainly performed at the production stage and applies targeted sampling. The monitoring plans have been annually revised, reflecting the past test results, focusing on the items with higher concentration. Sampling also includes wild harvests under shipment restriction. Including these results, all are well below the above Codex guideline levels considered as safe for human consumption.

2.4. In reference to the national regulatory standards, the results of major food are all within the JMLs.[2] In the Japanese financial year (JFY) 2022, 11 recall cases were detected. Such non-compliance cases were limited to those items whose harvest season is short and cultivation/keeping management is difficult. They are also rarely consumed or traded in outside local markets. The national laws mandate 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. Non-compliance with food imported from Japan has not been detected by the destination countries for around ten years.[3]

2.5. The total diet study has been conducted since September 2011 at multiple sites including Fukushima. As shown by the latest total diet study conducted February to March 2022 in 15 areas of Japan, the annual effective doses from radioactive cesium in foods were estimated 0.0005-0.008 mSv/year[4] and it is 0.1 % or less of 1 mSv/year that is the basis of setting the current JMLs, and that was extremely low. Both food monitoring and dietary exposure assessment provide consistent evidence which confirms the effectiveness of the control system in Japan and the safety of Japanese food.

2.6. The Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture stated in April 2023, "measures to monitor and respond to issues regarding radionuclide contamination of food are appropriate, that the food supply chain is controlled effectively by the relevant authorities and that the public food supply is safe".

2.7. A report "Food Safety and Radionuclides after March 2011"[5] has been published under our one-stop "Reference" website, along with the short video launched on the occasion when it marked a decade after the Great East Japan Earthquake. It summarizes the control measures taken after the accident, evidence on food safety and the comparative data in the foreign countries.

3 STATE OF THE MARINE ENVIRONMENT AROUND THE TEPCO FUKUSHIMA DAIICHI NUCLEAR POWER STATION AND PLANNED DISCHARGE OF THE ALPS TREATED WATER

3.1. Japan continuously monitors the sea area around the FDNPS and reports the updates to the IAEA. In April 2023, the IAEA provided their assessment on the monitoring results during October to December 2022 and stated, "no significant changes were observed in the monitoring results for seawater, sediment and marine biota, including fishery products", "the levels measured by Japan in the marine environment are low and relatively stable".

[1] JMLs (Bq/kg) are 50 for milk and infant food, 10 for drinking water and 100 for other food.

[2] Data sourced from the monthly data of MHLW and summarized by MAFF, "Request and justification for lifting the import measures on Japanese food regarding radionuclides" https://www.maff.go.jp/e/policies/market/reference/reference.html.

[3] The last case of non-compliance with JML in Japanese food was dried mushroom (Cs-134+Cs-137: 167 Bq/kg), detected by Hong Kong, China in August 2013.

[4] https://www.mhlw.go.jp/stf/houdou/0000205937_00019.html (in Japanese).

[5] Food Safety and Radionuclides after March 2011 https://www.maff.go.jp/e/policies/market/reference/attach/pdf/reference-35.pdf.

3.2. In April 2021, Japan announced the Basic Policy on handling of the treated water stored at the FDNPS, which selected planned discharge into the sea. Japan takes measures considering international law and practice. The water is to be repurified and diluted to meet the regulatory standards for discharge. As practiced by other nuclear power plants in the world, only the water which complies with the national standards set based on international standards is to be discharged, so that the safety of the surrounding environment is secured. Regarding the timing of the start of discharge, it is expected to be from spring to summer of this year after the completion of construction work, NRA's Pre-Service Inspections and a comprehensive report of the IAEA. The enhanced Sea Area Monitoring has been initiated in 2022, in consideration of tritium in ALPS treated water, and monitoring results can be found on the websites of relevant authorities and institutions.[6]

3.3. To ensure safety and enhance transparency, a series of IAEA reviews are to be conducted before, during and after the discharge of ALPS treated water, overseen by the Task Force consisting of the IAEA staff and internationally recognized experts from the third countries such as Argentina, Australia, Canada, China, France, the Marshall Islands, the Republic of Korea, the Russian Federation, the United Kingdom, the United States and Viet Nam. Its reviews of safety aspects of the handling of ALPS treated water at FDNPS were conducted in February and November 2022, and its reviews of regulatory aspects of that were conducted in March 2022 and January 2023, as well. The outcomes of each review were already published as a progress report by the IAEA respectively.

3.4. In addition to that, from 29 May to 2 June 2023, the IAEA visited Japan for the comprehensive review mission and it will be reflected in the comprehensive report which is expected to be issued by the IAEA in due course. The IAEA's independent review of whether the discharge of ALPS treated water into the sea is in accordance with IAEA safety standards will continue, and the Government of Japan will carefully consider the findings and observations from the IAEA's review. Furthermore, the implementation plan, which took into account the results of examination and review by Nuclear Regulation Authority (NRA) and findings and observation by the IAEA, was approved by NRA. Currently, NRA is conducting pre-service inspection on TEPCO's facilities. The discharge into the sea will not commence before the completion of construction work, NRA's Pre-Service Inspections and a publication of the IAEA's comprehensive report, etc.

3.5. Japan has been continuously providing accurate information on the current status of the FDNPS and the process for controlled discharge of the ALPS treated water to the international community such as through briefing sessions and reports for the diplomatic missions in Tokyo, and direct communication with the food safety authorities of the importing countries who accepted the offer. While continuing such efforts, Japan expects these Members which still maintain import measures on Japanese food to have risk communication with their people based on facts and science.

4 CONCLUSION

4.1. In summary, the evidence shows that Japanese food has been safe for the public for many years, and we have a very effective control system in place which guarantees the trade of safe food and that fulfils the national standard, for both domestic and international markets.

4.2. The joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture has evaluated that Japan's measures and response against radionuclide contamination in food are appropriate and that the food supply chain is controlled effectively, and that the public food supply is safe. Japan keeps the monitoring data and relevant information highly transparent and continues collaboration with the international organizations.

[6] ALPS Treated Water Marine Monitoring Information (Ministry of the Environment)
https://shorisui-monitoring.env.go.jp/en/
Results of the monitoring on radioactivity level in fishery products (Fisheries Agency)
https://www.jfa.maff.go.jp/e/inspection/index.html#a1
Monitoring information of environmental radioactivity level (Nuclear Regulation Authority)
https://radioactivity.nra.go.jp/en/
Sea Area Monitoring (TEPCO)
https://www.tepco.co.jp/en/decommission/progress/watertreatment/monitoring/index-e.html
Results of Radioactive Material Analysis in the Vicinity of the Fukushima Daiichi Nuclear Power Station (TEPCO)
https://www.tepco.co.jp/en/hd/decommission/data/analysis/index-e.html

4.3. The water management at the FDNPS is constructively controlled and there has been no detectable change in marine environment and the biota. Japan will implement the discharge of the ALPS treated water in accordance with international practice and strictly comply with regulatory standards regarding safety, under IAEA review. Thus, the discharge cannot be a reason for imposing import measures on Japanese food.

4.4. Given the evidence provided, there is no need to impose additional control measures on Japanese food and Japan calls on Members to remove their measures.

References

One stop "Reference", Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan http://www.maff.go.jp/e/policies/market/reference/reference.html

Presentations

Request and justification for lifting import measures on Japanese food regarding radionuclides, Export and International Affairs Bureau, MAFF
https://www.maff.go.jp/e/policies/market/reference/reference-32.pdf

Links - Japan

1) Ministry of Health, Labour and Welfare
   Information on the Great East Japan Earthquake – Food
   https://www.mhlw.go.jp/english/topics/2011eq/index_food.html
2) Fishery Agency, MAFF
   Results of the monitoring on radioactivity level in fishery products
   https://www.jfa.maff.go.jp/e/inspection/index.html
3) Ministry of the Environment
   a. BOOKLET to Provide Basic Information Regarding Health Effects of Radiation, Chapter 7 Environmental Monitoring
      https://www.env.go.jp/en/chemi/rhm/basic-info/index.html
   b. Radioactive Material Monitoring in the Water Environment in and around Fukushima Prefecture
      https://www.env.go.jp/en/water/rmms/surveys.html
4) Nuclear Regulation Authority
   Monitoring information of environmental radioactivity level
   https://radioactivity.nra.go.jp/en/
5) TEPCO：Tokyo Electric Power Company Holdings
   Radioactive Concentration measured by Seawater Radiation Monitor near Fukushima Daiichi Nuclear Power Station
   https://www.tepco.co.jp/en/nu/fukushima-np/f1/seawater/index-e.html

Links - International organizations

1) Codex Alimentarius (FAO/WHO)
   GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOOD AND FEED (CXS 193-1995)
   http://www.fao.org/fao-who-codexalimentarius/codex-texts/list-standards/en/
2) ICRP: International Commission on Radiological Protection
   Annals of the International Commission on Radiological Protection (ICRP), PUBLICATION 103, The 2007 Recommendations of the International Commission on Radiological Protection, pp.98-99 (Effective dose limit for the public:1mSv in a year)
   https://www.maff.go.jp/e/policies/market/reference/attach/pdf/reference-25.pdf
3) IAEA: International Atomic Energy Agency
   a. IAEA, Fukushima Daiichi Status Updates
      https://www.iaea.org/newscenter/focus/fukushima/status-update
   b. Interlaboratory Comparisons 2017–2020: Determination of Radionuclides in Sea Water, Sediment and Fish, IAEA Analytical Quality in Nuclear Applications, 2021
      https://www.maff.go.jp/e/policies/market/reference/attach/pdf/reference-27.pdf
   c. Interlaboratory comparison 2021 Determination of radionuclides in seawater, sediment

and fish
https://www.maff.go.jp/e/policies/market/reference/attach/pdf/reference-26.pdf

Links – On the controlled discharge of ALPS treated water

1) Ministry of Foreign Affairs of Japan
   Fukushima's progress on safety and reconstruction (Management of ALPS Treated Water)
   https://www.youtube.com/watch?v=ld3eIiK_GH4
2) Agency for Natural Resources and Energy, METI
   a. Mid-and-Long-Term Roadmap towards the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station Units 1-4
      https://www.meti.go.jp/english/earthquake/nuclear/decommissioning/index.html
   b. ALPS (Advanced Liquid Processing System) treated water
      https://www.meti.go.jp/english/earthquake/nuclear/decommissioning/atw.html
   c. Procedure of controlled discharge
      https://www.maff.go.jp/e/policies/market/reference/attach/pdf/reference-30.pdf
3) Ministry of the Environment
   ALPS Treated Water Marine Monitoring Information
   https://shorisui-monitoring.env.go.jp/en/
4) TEPCO
   Sea area monitoring results
   https://www.tepco.co.jp/en/decommission/progress/watertreatment/monitoring/index-e.html
5) IAEA
   Fukushima Daiichi Treated Water Discharge Advanced Liquid Processing System (ALPS)
   https://www.iaea.org/topics/response/fukushima-daiichi-nuclear-accident/fukushima-daiichi-alps-treated-water-discharge