

## Contribution by Ambassador USHIO Shigeru in The Citizen (4 December 2023)

### Let Science Speak on the Safety of ALPS Treated Water in Fukushima

The claims in the article entitled ““Boycott Japan seafood”” published on 16 November is based on factually and scientifically incorrect understanding of the issues related to the water at the Fukushima Daiichi Nuclear Power Station (FDNPS).

First, let me stress that there are two different types of water at Tokyo Electric Power Company (TEPCO)’s FDNPS site, which the author fails to distinguish. One is “contaminated water”, generated at the site and yet to be treated. The other is “ALPS treated water”, which has been treated through a filtration process known as Advanced Liquid Processing System (ALPS) until the concentration of radioactive materials other than tritium is below the regulatory standards. The treated water is then diluted more than 100 times to meet the regulatory standard for tritium. After the dilution, the concentration of tritium will be 1/40 of the regulatory standard and 1/7 of the WHO drinking water standard, and the concentration of radioactive materials other than tritium will be less than 1/100 of the regulatory standard. Tritium exists in nature and can be found in rain, sea and tap water as well as the human bodies, but does not accumulate in the human bodies. The Government of Japan will never allow the discharge of the water into the sea if the water does not meet regulatory standards, which are set based on international standards.

For ensuring the safety of the discharge, comprehensive review on ALPS treated water has been conducted for years by the International Atomic Energy Agency (IAEA), an organisation authorised to establish or adopt, and provide for the application of, international safety standards in the field of nuclear energy. The IAEA Task Force, consisting of IAEA officials and international experts from 11 countries (Argentina, Australia, China, France, the Republic of Korea etc.), has frequently held meetings and visited Japan for “Safety Review” and “Regulatory Review” on the ALPS treated water. On 4 July 2023, the IAEA published its Comprehensive Report, which concluded that (i) the approach to the discharge of the ALPS treated water into the sea and associated activities are consistent with relevant international safety standards, and (ii) the radiological impact on humans and the environment is negligible. The report also stated that additional review and monitoring by the IAEA would continue after the discharge starts. Many countries have officially welcomed and supported the IAEA's scientific and impartial work as well as the report’s conclusions.

The assessment of radiological environmental impacts was carefully conducted in line with international standards and guidelines, considering ocean dispersion, the effect of bioaccumulation and long-term accumulation. The IAEA Comprehensive Report concluded that the approach taken for the assessment of the radiological impact of accumulation of radionuclides in seabed sediments

“ensures that the resulting annual doses over the period of the planned discharge are not underestimated”. In fact, the radiological impact of the discharge of ALPS treated water into the sea in annual terms is below 0.1% of the radiation received on a flight between Tokyo and New York. Moreover, it is worth noting that the discharge of treated water into the sea is a common practice in nuclear power plants globally. The amount of tritium in ALPS treated water is smaller than the amounts of tritium discharged by many nuclear power plants and facilities in other countries.

The Government of Japan and TEPCO has been conducting multi-layered monitoring, with the involvement of the IAEA. Since the discharge started on 24 August 2023, the results of monitoring by the Government of Japan and TEPCO have been made public in a timely manner on the website ([https://www.monitororbs.jp/index\\_en.html](https://www.monitororbs.jp/index_en.html)). Despite the claims by the author otherwise, the fact that the radiological impact of the discharge of ALPS treated water on the environment, human health and Japanese food products is negligible has not been challenged by any rigorous assessment of scientific data. After the start of the discharge, the IAEA also confirmed and publicly stated that the level of tritium in the discharged water is far below the operational limit. The independent review and monitoring by the IAEA will continue to ensure safety.

In October 2023, Ms Lydie Evrard, Deputy Director General of the IAEA, visited Japan to discuss a mission to review the discharge of ALPS treated water. Subsequently, the IAEA review mission visited the FDNPS site on 25 October 2023, to review the facilities. Experts from the IAEA Marine Environmental Laboratories and independent third-party laboratories from China, the Republic of Korea and Canada also visited Japan from 16 to 23 October 2023 and collected seawater and marine sediment in the vicinity of TEPCO’s FDNPS, and fishery products in Fukushima Prefecture.

Japan remains fully committed to providing information based on scientific evidence in a transparent and timely manner for people across the world and firmly opposed to dissemination of factually and scientifically inaccurate claims. Let science speak on the safety of ALPS treated water.

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