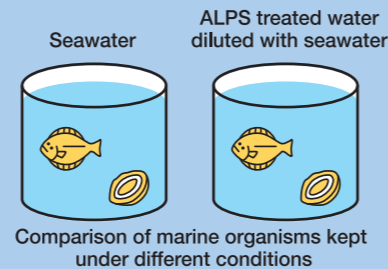


Q11 What do trials on marine life consist of?

A: The trials are an effort to visibly demonstrate the safety of ALPS treated water.

Breeding trials have been conducted with marine organisms (flatfish, abalone, etc.) in the same conditions as the ALPS treated water to be diluted and discharged, to compare the breeding conditions with those of normal seawater and to confirm that the tritium concentration in the marine organisms does not exceed the tritium concentration in the surrounding seawater. Once discharge into the sea has started, the breeding trials will be conducted by using water that has actually been discharged into the sea.



Q12 How long will the water be discharged into the sea?

A: The discharge will be completed between 2041 and 2051, when the decommissioning of the Fukushima Daiichi Nuclear Power Station will be completed.

In the implementation plan submitted by TEPCO (approved as amended on July 22, 2022), the simulation for the discharge of ALPS treated water was conducted "on the assumption that the discharge will start in 2023 and be completed in 2051".

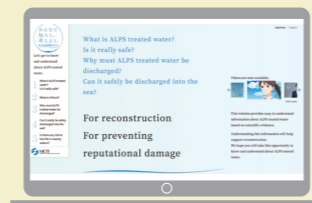
2023 spring-summer
discharge begins



2041-2051
discharge completed

For further information

●About ALPS treated water



●About the impact of the Fukushima Daiichi Nuclear Power Plant Accident on marine products and response to said issue



●About the safety of food products from Fukushima prefecture

Written in Japanese



Frequently asked questions about ALPS treated water



[Leaflet for distribution]

Q1: What is the situation with the regulatory standard value of radioactive materials in food?

Q2: What will happen if we find fish that exceed the regulatory standard value?

Q3: What kind of material is tritium?

Q4: Have radioactive materials other than tritium been removed?

Q5: Is it different from water discharged from other nuclear power facilities?

Q6: Even when diluted in seawater, isn't it still dangerous to discharge a large amount?

Q7: How will the monitoring of tritium in seawater be conducted?

Q8: How will the monitoring of tritium in marine products be conducted?

Q9: I heard it takes time to receive monitoring results for tritium levels in marine products. I am worried since I am unsure how safe the marine products are.

Q10: Where should I look to check monitoring results?

Q11: What do trials on marine life consist of?

Q12: How long will the water be discharged into the sea?

Measures taken to ensure the safety of marine products

Q1 What is the situation with the regulatory standard value of radioactive materials in food?

A: A cesium level of 100 becquerels/kg^(※1) has been set as the regulatory standard value.

The current regulatory standard value is set so that the intake of radioactive materials through foodstuffs does not exceed 1 mSv per year, as determined by the International Commission on Radiological Protection (ICRP). Specifically, the standard regulatory value was set with all age groups and the effects of radioactive materials other than cesium under consideration. As a result of the control based on these strict standards, the estimated yearly radiation dose from the intake of food is less than 0.1% of 1 mSv in all regions^(※2).

※1 The effect of one becquerel of tritium is about 1/700th of the effect of one becquerel of cesium.

※2: From the February/March 2022 Market Basket Survey, Ministry of Health, Labor and Welfare.

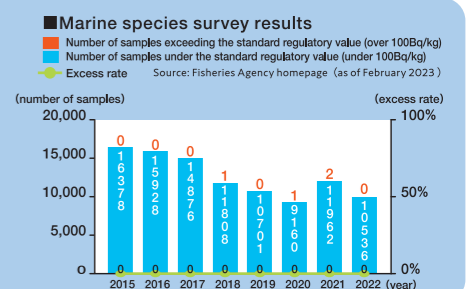
year
1 mSv
II
100 Bq/kg

Q2 What will happen if we find fish that exceed the regulatory standard value?

A: Prompt action will be taken to prevent fish exceeding the standard regulatory value from going into distribution.

When radioactive materials exceeding the standard regulatory values are detected in marine products, a request for voluntary restraint of shipments and/or instructions to restrict shipments will be promptly issued to prevent the distribution of similar marine products caught in the same area. Since 2015, there have only been four cases of marine products exceeding the standard regulatory value. (※)

※The black rockfish that was most recently found to have exceeded the standard regulatory value is highly suspected of coming from the port of TEPCO's Fukushima Daiichi Nuclear Power Station. TEPCO is implementing measures to prevent contaminated marine life from leaving its ports' boundaries.

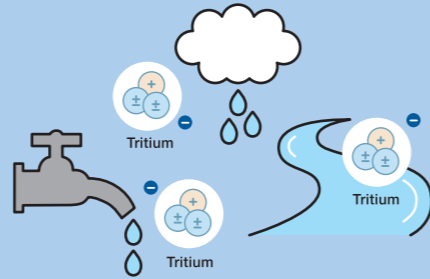


■ What is ALPS treated water?

Q3 What kind of material is tritium?

A: A member of the hydrogen family, it is a radioactive material widely present in nature.

Tritium is a member of the hydrogen family and is widely present in nature and in our bodies. Its radiation energy is so weak that it can be blocked by a sheet of paper. It also does not accumulate in the human body; it is excreted out of the body along with water. Tritium is being released into the sea from nuclear facilities around the world, but no tritium-caused effects have been found in the vicinity of those facilities.

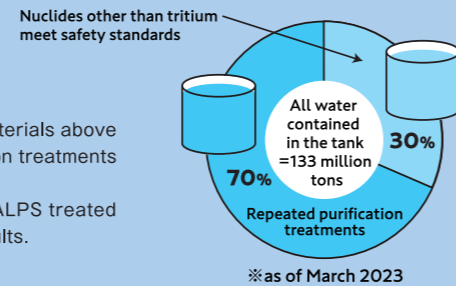


Q4 Have radioactive materials other than tritium been removed?

A: The purification process will continue until safety standards are met.

Approximately 70% of the water currently stored in the tanks contains non-tritium radioactive materials above the regulatory standard. However, these radioactive materials are removed by repeated purification treatments (secondary treatment).

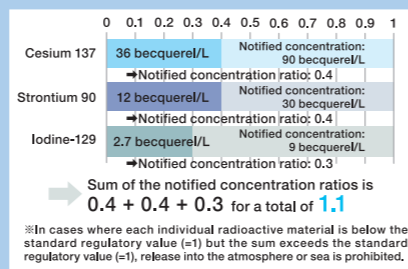
Before discharging to the sea, we shall confirm that the radioactive materials contained in the ALPS treated water meet safety standards. As an expert third party, JAEA will also analyze and confirm the results.



Q5 Is it different from water discharged from other nuclear power facilities?

A: The safety of discharging water is determined by the sum of the radiological effects of all radioactive materials contained in the water, regardless of the type of radioactive materials.

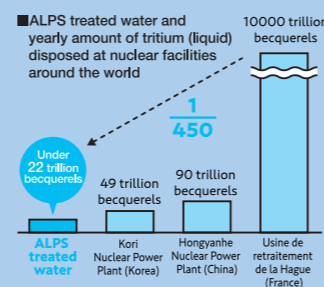
Water before purification includes radioactive materials that are not commonly found in water from ordinarily nuclear power plants. However, these materials are removed through the ALPS purifying system until the water meets national regulatory standards. Regulatory standards have been set based on established international standards. They are determined by the sum of the radiological effects of all radioactive materials contained, regardless of the type of radioactive material or whether it came from an accident damaged reactor or a conventional reactor.



Q6 Even when diluted in seawater, isn't it still dangerous to discharge a large amount?

A: The total yearly amount of tritium discharged will be kept within the range of 22 trillion becquerels per year, the same as before the accident.

The issue is not the existence of radioactive materials per se, but to keep the concentration of radioactive materials under the threshold where it affects people's health or the environment. ALPS treated water, for all radioactive materials, will meet the standard for concentration before discharge. In addition, in order to minimize reputational effects, the total yearly amount of discharged tritium will be kept under 22 trillion becquerels per year, which was the prescribed limit for discharge at the Fukushima Daiichi Nuclear Power Station prior to the accident.

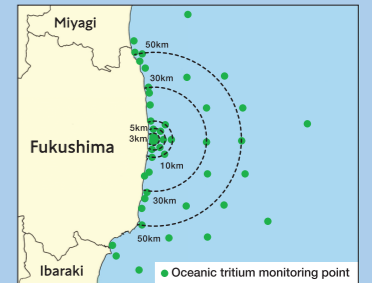


■ The effects of discharging ALPS treated water into the sea

Q7 How will the monitoring of tritium in seawater be conducted?

A: Reflecting tritium dispersion predictions, seawater quality monitoring will be concentrated within 10 km of the discharge outlet.

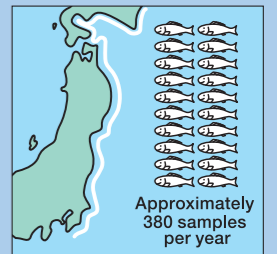
At distances exceeding 10km from the water discharge outlet, tritium concentration is predicted to be indistinguishable from levels observed before discharge. For this reason, seawater monitoring will be concentrated within 10 km of the water discharge outlet. As an extra precautionary measure, seawater monitoring will also be conducted about 30km and 50km away from the discharge port as well as in the southern part off the coast of Miyagi prefecture and the northern part off the coast of Ibaraki prefecture.



Q8 How will the monitoring of tritium in marine products be conducted?

A: In 2023, we will conduct approximately 380 yearly sample measurements.

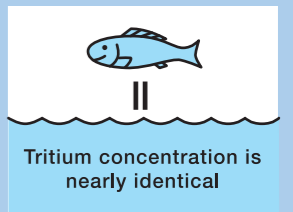
In addition to the measurements conducted since 2022 that employ methods common across the world (200 yearly sample measurements, analysis results available in 1-2 months), we will employ a speedier method of analysis starting in 2023 (180 yearly sample measurements), making the results promptly available for viewing on the Fisheries Agency's website.



Q9 I heard it takes time to receive monitoring results for tritium levels in marine products. I am worried since I am unsure how safe marine products are.

A: The tritium concentration in marine products can be partly ascertained by measuring the tritium concentration in seawater. The measurement of tritium concentration in marine products for precision analysis is a time consuming affair. However, to quell the spread of misinformation, we will conduct analysis that promptly produces results immediately after discharge.

Since the tritium concentration of marine products tend to be nearly identical to that of the seawater they inhabit, we will first measure the tritium concentration of the surrounding areas' seawater. We will compare these measurements with measurements taken before the discharge as well as the range of fluctuations in tritium concentration across Japan, confirming whether the tritium concentration is conclusively below the WHO drinking water standard (10,000 becquerel/L). Although the standard analysis period required to measure tritium concentration in marine products is about 1.5 months, we shall make measurement results for marine products available in a timely manner. Furthermore, to quell the spread of misinformation, we shall introduce a rapid analysis method that can make measurement results available in 1-2 days, made possible by setting the lower detection limit as high as about 10 Bq/L.



Q10 Where should I look to check monitoring results?

A: A website is being prepared for the viewing of monitoring results from various ministries and agencies.

Results for monitoring conducted by the various ministries and agencies will be put together and made available for viewing on a specialized website of the Ministry of the Environment in an accessible format. Furthermore, results for monitoring conducted by TEPCO will be made available for viewing on a brand new accessible website.

