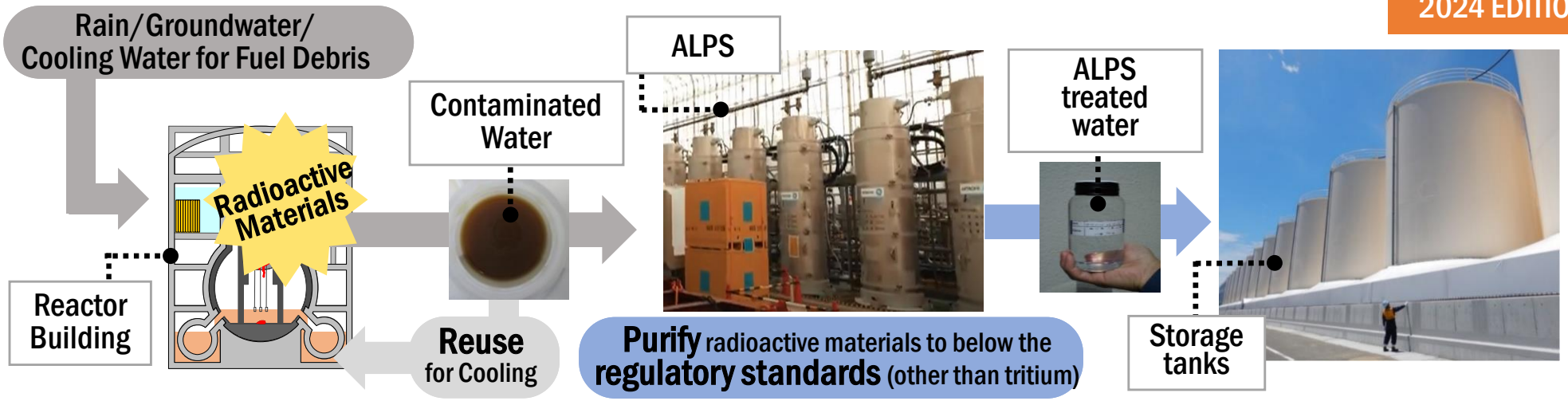
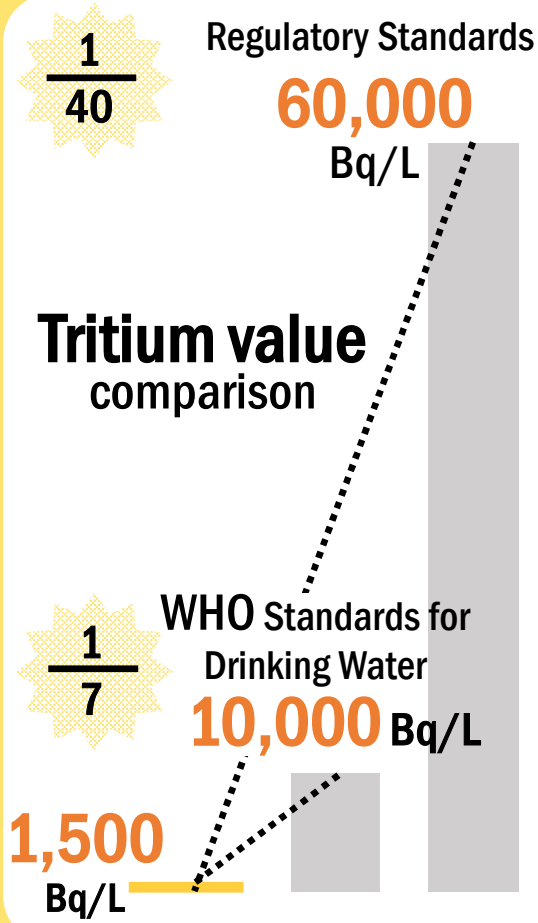
2024 EDITION

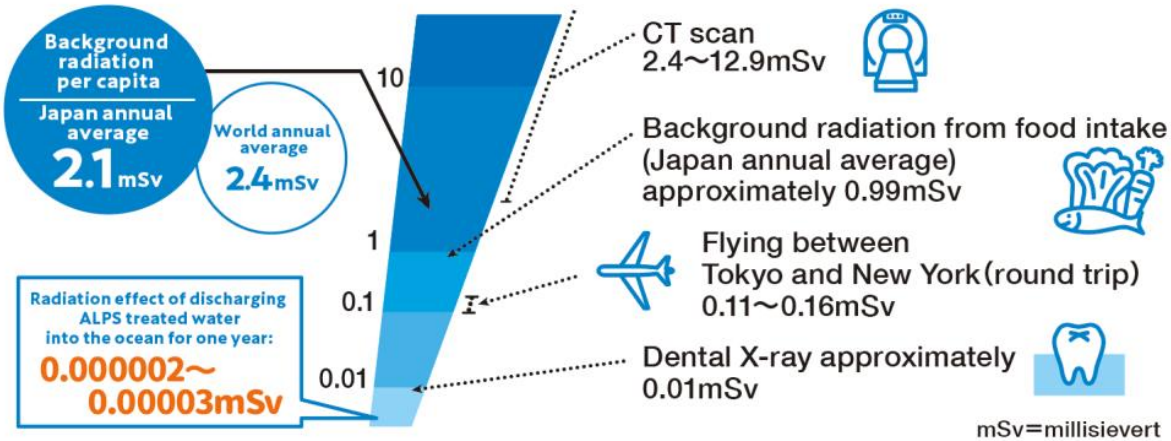


What is ALPS treated water?

- In the "Basic Policy" of April 2021, it was decided to start the discharge into the sea in about two years after purifying radioactive materials other than tritium to below the regulatory standards through ALPS treatment (subject to necessary approval of the NRA).
- Before the discharge, (1) purify nuclides other than tritium by ALPS treatment, and (2) reduce the concentration of tritium to 1,500 Bq/L, which is far below the regulatory standards (60,000 Bq/L), through dilution (more than 100 times) with seawater (less than 1/100 of the regulatory standard for materials other than tritium).
- Monitoring of the status before and after discharge (assessment and review by the IAEA and third-country laboratories in addition to TEPCO).



Impacts of ALPS treated water on the human body, etc.



Source: Radiological Impact Assessment Report Regarding the Discharge of ALPS Treated Water into the Sea (design stage・Revised edition) by TEPCO

- The results of the assessment of the impact of ALPS treated water on humans are approx. 1/1,000,000 to 1/70,000 of the impact from natural radiation (Japanese average: 2.1 mSv per year).
- The results of the impact on plants and animals (flatfish and brown seaweed) are approx. 1/3,000,000 to 1/1,000,000 to of the reference value (1～10mGy/day) proposed by the International Commission on Radiological Protection (ICRP), and on crabs are approx. 1/30,000,000 to 1/10,000,000 of the reference value.

What is Tritium?

Tap water
～1Bq/L

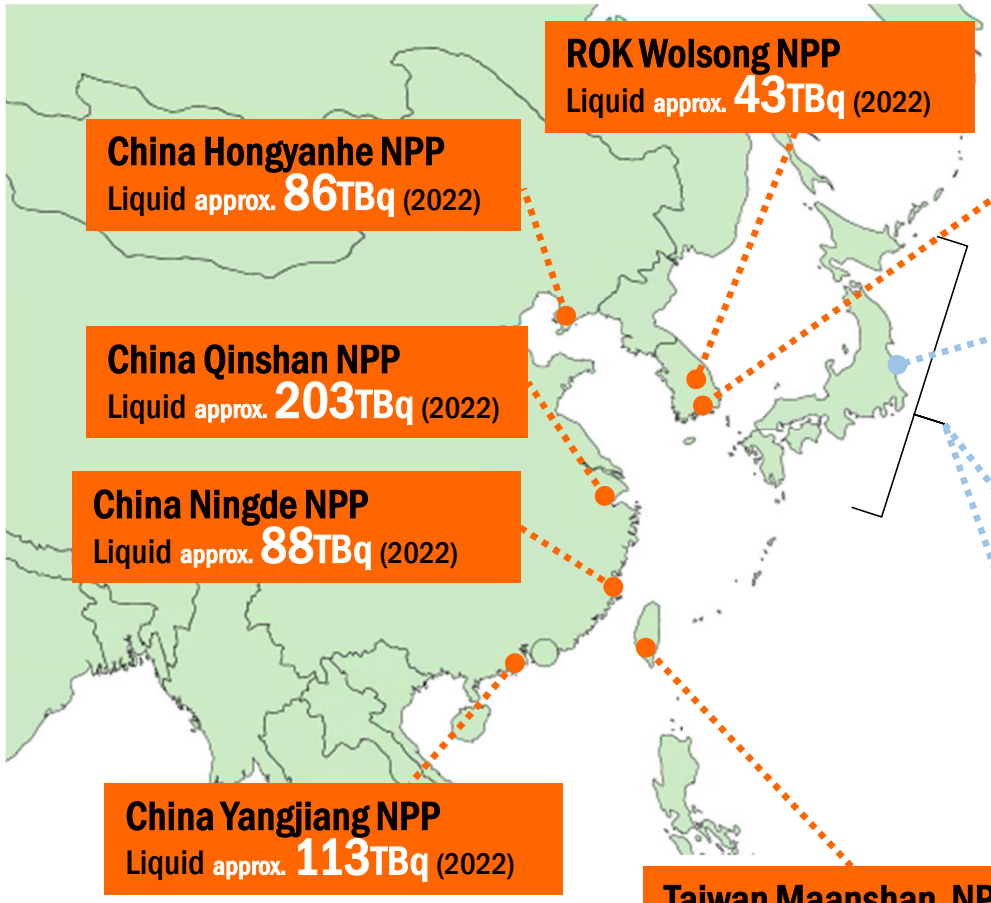
Rainwater(Japan)
220TBq/year

Human Body
Several dozen Bq

- Relatives to Hydrogen. Widely present in rainwater, seawater, tap water, human body and nature.
- Tritium is similar in nature to hydrogen, making it very difficult to remove tritium alone.
- It emits very weak radiation, but only to the extent that a sheet of paper can prevent it. Even if it enters the body, it is not accumulated and is excreted with water.
- The level of the total amount of tritium at the time of discharge is below 22 trillion Bq per year (the pre-accident control target), which is lower than the amount discharged from many nuclear power plants and other facilities in Japan and abroad.

Annual Tritium Discharged in Neighboring Countries and Regions

Tritium is discharged into the sea and rivers as liquid effluents and into the atmosphere through ventilation, etc. at nuclear power plants and other facilities in Japan and abroad, in compliance with the laws and regulations of each country and region.



ROK Wolsong NPP
Liquid approx. 43TBq (2022)

ROK Kori NPP
Liquid approx. 47TBq (2022)

China Hongyanhe NPP
Liquid approx. 86TBq (2022)

Fukushima Daiichi NPS
Stated in the basic policy
Liquid below 22TBq (per year)

China Qinshan NPP
Liquid approx. 203TBq (2022)

China Ningde NPP
Liquid approx. 88TBq (2022)

Average of BWR*s in Japan
Liquid approx. 0.03 – 1.9TBq
(Ave. 2008-2010)

Average of PWR*s in Japan
Liquid approx. 18-83TBq (Ave. 2008-2010)

China Yangjiang NPP
Liquid approx. 113TBq (2022)

Taiwan Maanshan NPP
Liquid approx. 35TBq (2022)

Source : JNES, NRA Japan, KHNP website, China Nuclear Energy Association, Taiwan Power Company website

*BWR: Boiling Water Reactor
PWR: Pressurized Water Reactor

Accidental and Normal Reactors

- The presence of radioactive materials is not a problem in itself, but rather the level at which they do not impact the human body or the environment (i.e., below regulatory standards).
- Regulatory standards are determined by the sum of the radiation impacts of nuclides contained in a reactor, regardless of whether it is an accidental reactor or a normal reactor. (Judged by the total value converted to the impact on humans, not by the type or number of nuclides.)

- ☑ Purify nuclides including those specific to the accident reactor.
- ☑ Confirm that the total radiation impact of nuclides other than tritium is purified below the regulatory standard.
- ☑ Further diluted more than 100 times and discharged.

Developing an Understanding of the International Community

Political Dialogue

February 7,2023, Mr. KISHIDA, Prime Minister of Japan, held a meeting with the delegation of the Pacific Islands Forum (PIF).

Diplomatic Mission and Bilateral Briefings

May 12, 2023, a briefing session to the Government of ROK was held in a hybrid format (in Seoul and online).

Domestic and Foreign Press Briefings

- Briefings to press in Tokyo
- Briefings to press in the following region; Southeast Asia, Oceania, Central and South America etc.
- Individual explanations and answers to written questions
- Conducting press tours to Fukushima

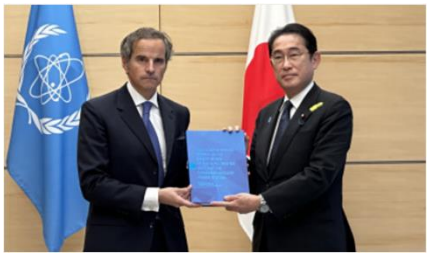
Reviews by IAEA

July 5, 2023, Mr. Rafael Mariano Grossi, Director General of the IAEA visited TEPCO's Fukushima Daiichi Nuclear Power Station

IAEA Comprehensive Report

Apr 2021
Basic Policy
The Japanese government announces a basic policy on the disposal of ALPS treated water.

Jul 2021
TOR
TOR on the Safety Review of ALPS treated water between Japan and the IAEA was signed



Jul4 2023
Comprehensive Report
The IAEA Comprehensive Report, which summarizes a series of activities conducted by the IAEA and presents its conclusions, was presented to Prime Minister Kishida by IAEA Director General Grossi.

IAEA Mission to Japan (Review)

The start of the discharge

Oct 2023
IAEA Mission to Japan
(Review after the discharge)

The IAEA conducted a total of five missions (review) to Japan over a two-year period and published a total of six reports.

Apr 2024 ...

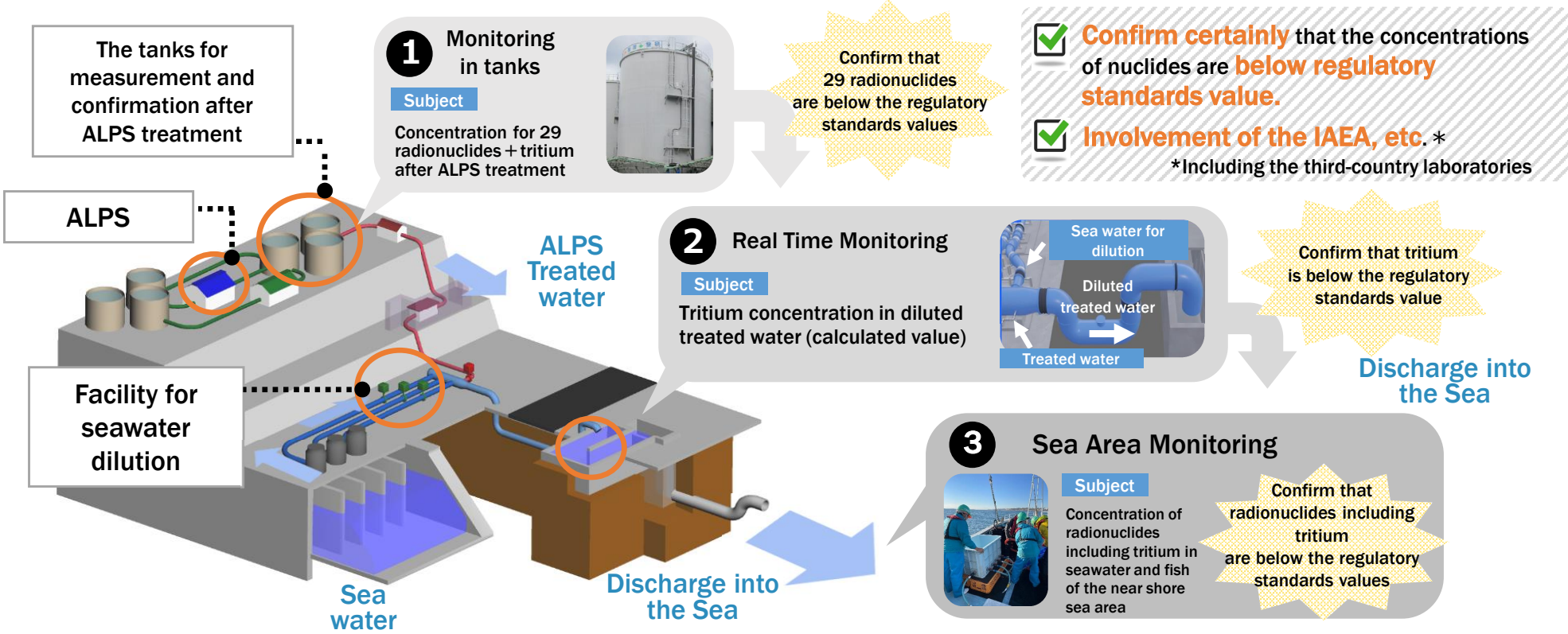
Points in the Comprehensive Report

- The IAEA has concluded that the approach to the discharge of ALPS treated water into the sea, and the associated activities by TEPCO, NRA, and the Government of Japan, are consistent with relevant international safety standards.
- The IAEA has concluded that the discharge of ALPS treated water will have a negligible radiological impact on people and the environment. The IAEA is committed to engaging with Japan before, during, and after the treated water discharge occur.
- Additional review and monitoring activities are envisaged that will continue and which will provide additional transparency and reassurance to the international community.

The Start of the Discharge into the Sea

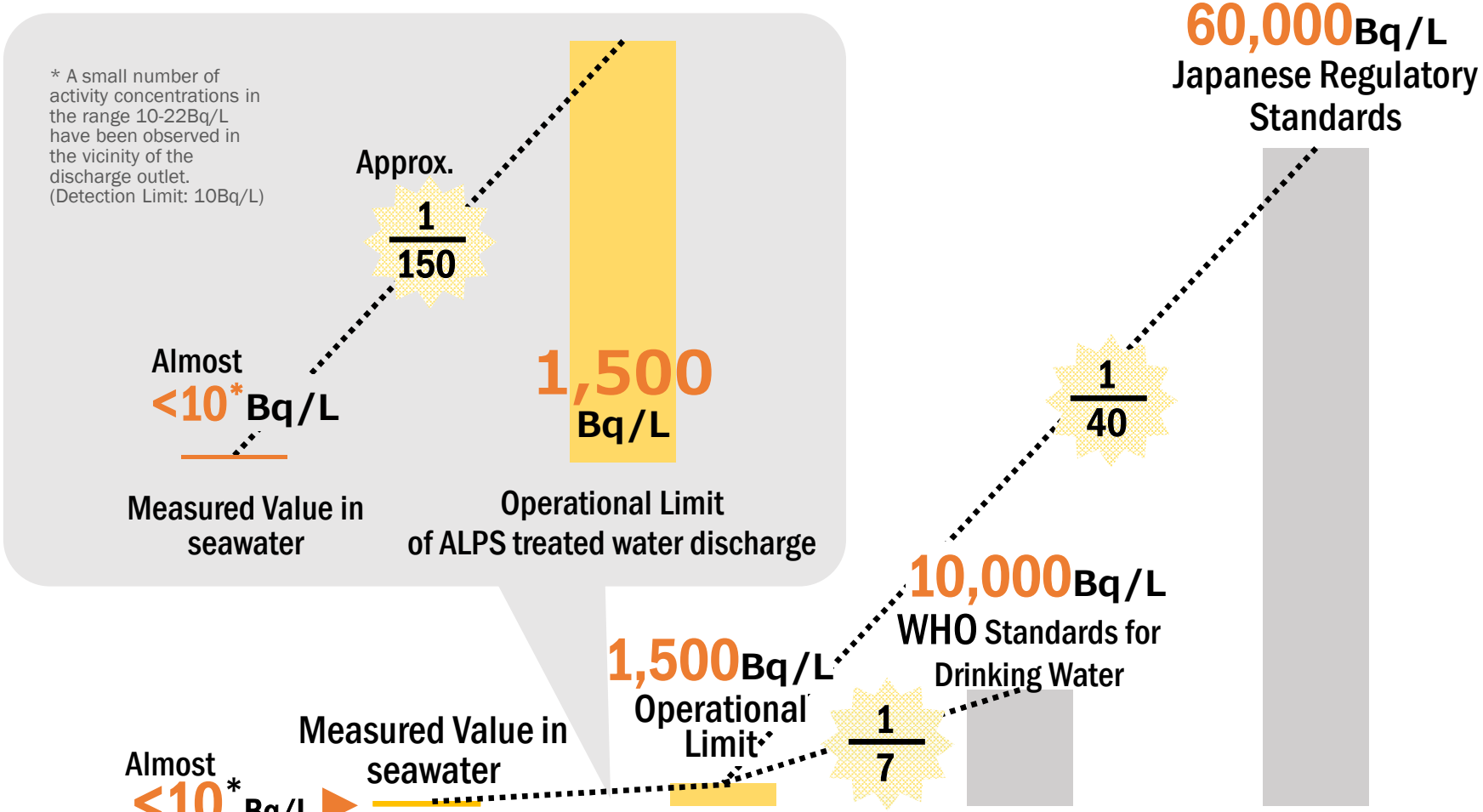
- The first discharge into the sea started on August 24, 2023. A total of four discharges have been completed in FY2023.
- Multi-layered monitoring has been conducted with the involvement of the IAEA. Through the necessary processes (ALPS treatment and seawater dilution), the concentrations of all radionuclides including tritium were below the regulatory standard values, and the discharges were safely carried out. In October, 2023, during the first IAEA review mission after the start of the discharge, the IAEA said that the discharge of treated water into the sea is progressing as planned and without any technical concerns.
- A total of seven discharges plan to be carried out in FY2024.

Multi-layered Monitoring



Actual Measured Value after Discharge started
- Tritium value comparison -

☑ The tritium concentration in seawater after discharge started is **far below the operational limit**, which is set far below the regulatory standards.



More Info (ORBS by TEPCO)