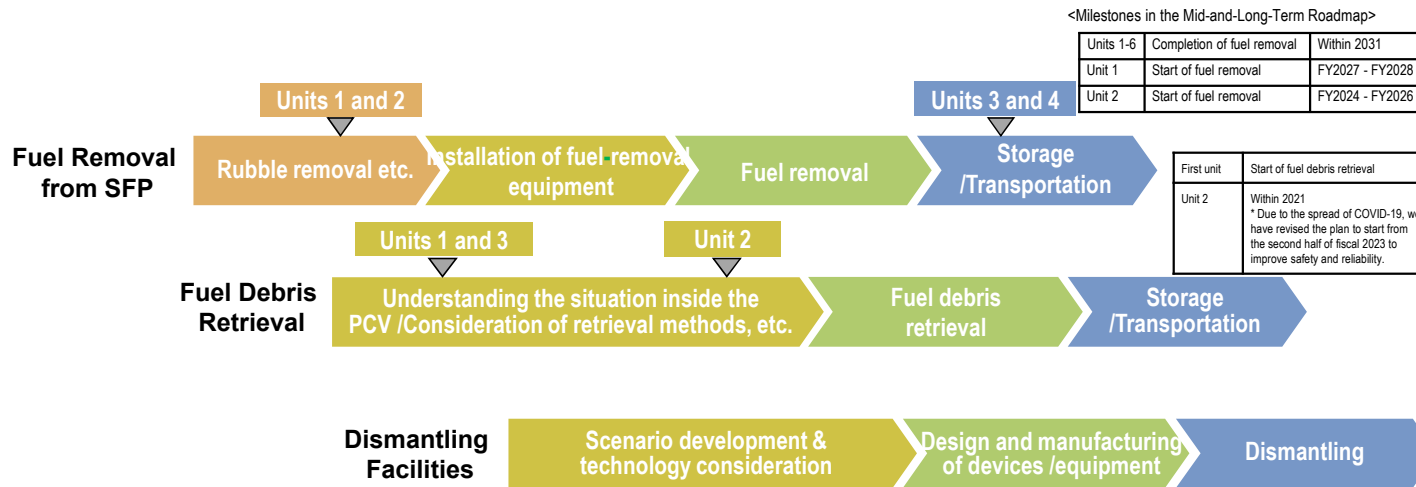


## Main decommissioning work and steps

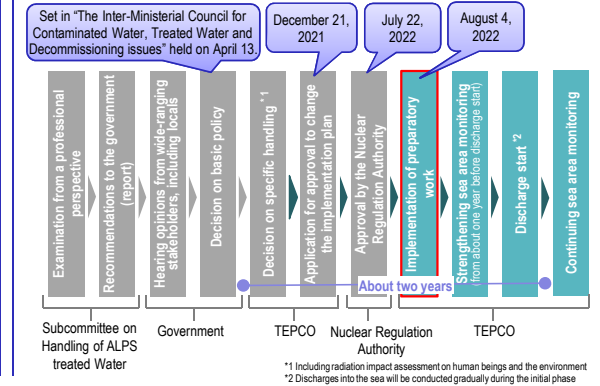
Fuel removal from the spent fuel pool was completed in December 2014 at Unit 4 and on February 28, 2021 at Unit 3.  
 Work continues sequentially toward the start of fuel removal from Units 1 and 2 and debris (Note 1) retrieval from Units 1-3.  
 (Note 1) Fuel assemblies having melted through in the accident.



## Measures for treated water

### Handling of ALPS treated water

Regarding the discharge of ALPS treated water into the sea, TEPCO must comply with regulatory and other safety standards to safeguard the public, the surrounding environment and agricultural, forestry and fishery products. To minimize adverse impacts on reputation, monitoring will be further enhanced and objectivity and transparency ensured by engaging with third-party experts and having safety checked by the IAEA. Moreover, accurate information will be disseminated with full transparency on an ongoing basis.



## Contaminated water management - triple-pronged efforts -

### (1) Efforts to promote contaminated water management based on the three basic policies

- ① "Remove" the source of water contamination
- ② "Redirect" fresh water from contaminated areas
- ③ "Retain" contaminated water from leakage

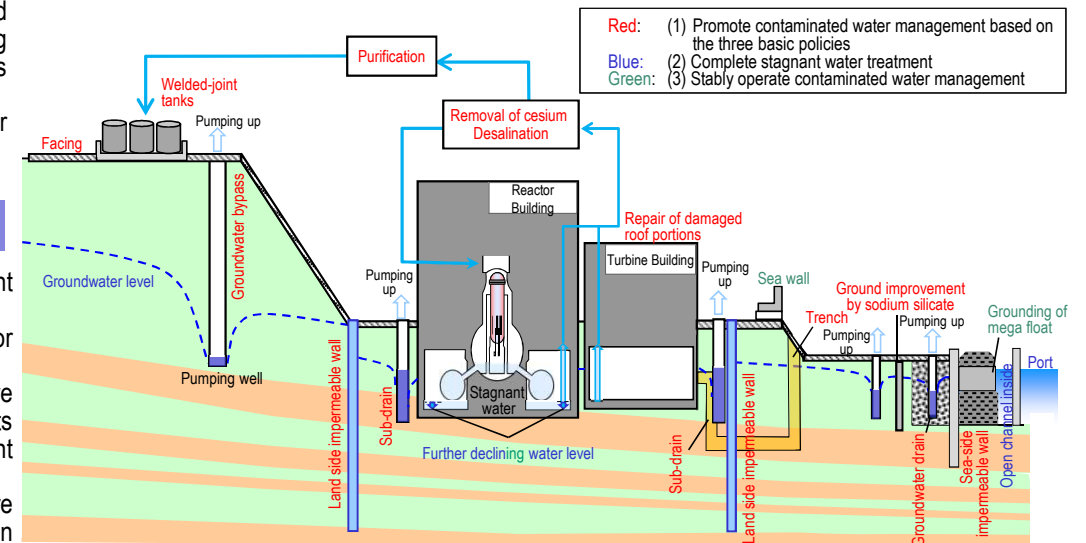
- Strontium-reduced water from other equipment is being re-treated in the Advanced Liquid Processing System (ALPS: multi-nuclide removal equipment) and stored in welded-joint tanks.
- Multi-layered contaminated water management measures, including land-side impermeable walls and sub-drains, have stabilized the groundwater at a low level and the increased contaminated water generated during rainfall is being suppressed by repairing damaged portions of building roofs facing onsite, etc. Through these measures, the generation of contaminated water was reduced from approx. 540 m<sup>3</sup>/day (in May 2014) to approx. 130 m<sup>3</sup>/day (in FY2021).
- Measures continue to further suppress the generation of contaminated water to 100 m<sup>3</sup>/day or less within 2025.

### (2) Efforts to complete stagnant water treatment

- To reduce the stagnant water levels in buildings as planned, work to install additional stagnant water transfer equipment is underway.
- In 2020, treatment of stagnant water in buildings was completed, except for the Unit 1-3 Reactor Buildings, Process Main Building and High-Temperature Incinerator Building.
- While conducting the dust impact assessment, measures to reduce the stagnant water level were implemented. In March 2023, the target water level in each building was achieved. For the Units 1-3 Reactor Buildings, "reducing stagnant water in the Reactor Buildings to about half the amount at the end of 2020 during the period FY2022-2024" was achieved.
- For zeolite sandbags on the basement floors of the Process Main Building and High-Temperature Incinerator Building, measures to reduce the radiation dose are being examined with stabilization in mind.

### (3) Efforts to stably operate contaminated water management

- Various measures are underway to prepare for tsunamis. For heavy rain, sandbags are being installed to suppress direct inflow into buildings while work to close openings in buildings and install sea walls to enhance drainage channels and other measures is being implemented as planned.



## Progress status

- ◆ The temperatures of the Reactor and the Primary Containment Vessel of Units 1-3 have been maintained stable. There was no significant change in the concentration of radioactive materials newly released from Reactor Buildings into the air. It was concluded that the comprehensive cold shutdown condition had been maintained.

### Receipt of the implementation plan approval concerning selection and organization change of nuclides subject to measurement and evaluation when discharging ALPS treated water to the sea

To reflect the organization for operation, maintenance and others of the ALPS treated water dilution and discharge facilities, nuclides subject to measurement and evaluation which are conducted to confirm satisfaction of the discharge criteria, the results of the radiation impact assessment based on the review of nuclides subject to measurement and evaluation, and others, TEPCO submitted the application for approval to change the implementation plan concerning the handling of ALPS treated water to the Nuclear Regulation Authority (NRA) in November 2022 and received the approval from NRA on May 10, 2023. TEPCO will continue to proceed with installation of the ALPS treated water dilution and discharge facilities and related facilities with safety first as well as sincerely responding to the review of the International Atomic Energy Agency (IAEA), and others to ensure objectivity, transparency and reliability.

### Progress status of the rearing test of marine organisms

Measurement results of tritium concentration were acquired for gulfweed reared in diluted ALPS treated water to less than 1500 Bq/L in May 2023 and flounder reared in diluted ALPS treated water to approx. 30 Bq/L from November 2022. The results revealed that, as previously, insight and measurement results of flounder and abalones (tritium concentration of less than 1500 Bq/L), tritium concentration inside the body did not exceed the growing environment and after being transferred to normal seawater, the concentration declined.

It was assumed that the concentration of organically bonded tritium (OBT) of flounder reached equilibrium as in the past insight, but the concentration will continue to be monitored.

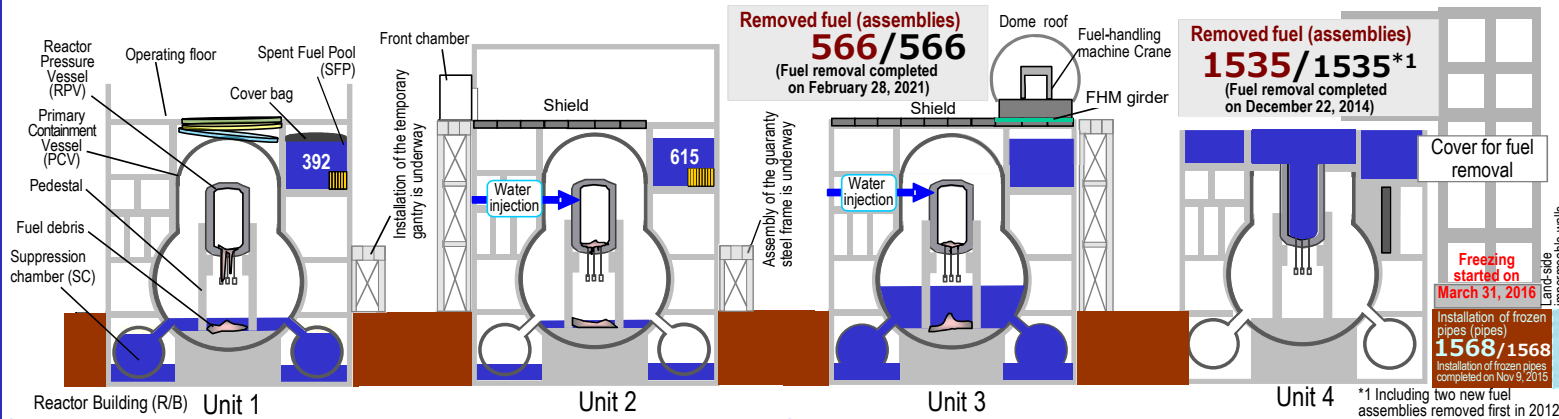
Live video of marine organisms rearing test  
<https://www.youtube.com/channel/UCLEn8NHX2WfMv6ZYfAJA>



### Indicators of the sea-area monitoring

Indicators to determine “discharge stop” as facility operation are set as “unusual level” for cases where the surrounding sea area monitoring detects insufficient spreading of discharged water (unusual tritium concentration) and others. The tritium concentration near the discharge outlet (within 3km of the power station) is set to 700 Bq/L and the outside of “near the discharge outlet” (within 10km square of the power station front) is set to 30 Bq/L.

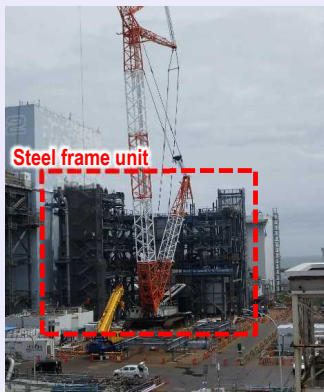
When a value exceeding about a half of the indicator (unusual level) is detected, the facilities, operation status and operation procedures will be checked immediately to confirm no problem, as well as resampling seawater and according to the results, more frequent monitoring will be conducted.



### Unit 2 Status of work toward fuel removal

Inside the building, decontamination to reduce the dose rate on the operating floor is underway. From April 28, suction decontamination started.

Outside the building, the steel frame assembled outside the site was transferred to the inside and assembly of the gantry steel frame for fuel removal is underway on the south side of the Reactor Building. As of May 25, installation of 19 of 45 steel frame units was completed.



< Assembly of steel frame units (as of May 16) >

### Unit 1 Results of the deposit 3-D mapping of the PCV internal investigation

During the period March 4-8, 2023, the underwater robot ROV-B was injected at the bottom of the Unit 1 Primary Containment Vessel (PCV) to conduct deposit 3-D mapping outside the pedestal.

When comparing the results of this deposit 3-D mapping and the deposit thickness measurement by ROV-C in June 2022, a correlation was identified between both data of deposit heights from the PCV bottom.

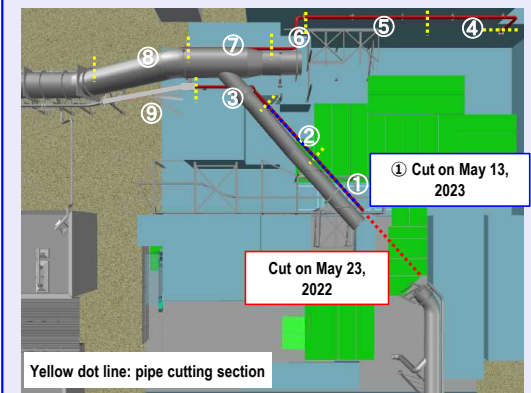
In the deposit thickness measurement by ROV-C, the heights of some deposit were evaluated. In this investigation, data of 34 points was acquired, which provides a wider-range of continuous data offering an insight into deposit height. Implementation of more detailed deposit investigation will be examined.

### Units 1/2 Progress of pipe cutting for Standby Gas Treatment System

For pipes of the Units 1/2 Standby Gas Treatment System (SGTS), one section was cut in May 2022. Removal is also planned for sections interfering with the installation of the Unit 1 Reactor Building cover and others.

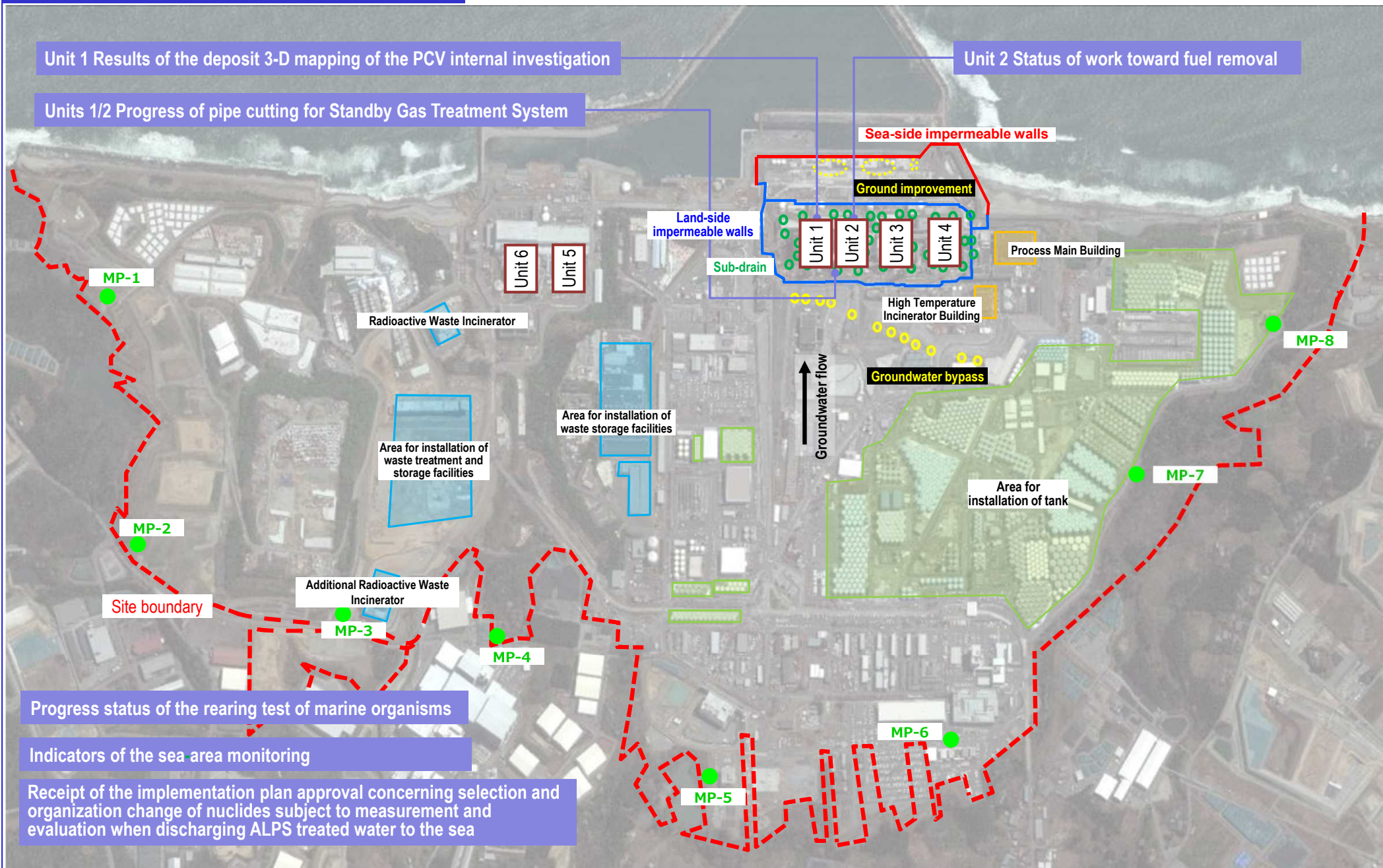
After completing the response to the problem of the pipe support cutting equipment and confirming the cutting performance using mockup pipes inside the power station, cutting of one of nine sections scheduled was completed on May 13, 2023.

Work continues carefully with safety first.



< Plan to cut SGTS pipes >

# Major initiatives – Locations on site



Provided by Japan Space Imaging Corp., photo taken on April 8, 2021  
 Product (C) [2020] DigitalGlobe, Inc., a Maxar company









- The number of workers from within Fukushima Prefecture decreased slightly and those outside decreased. The local employment ratio (cooperating company workers and TEPCO HD employees) as of April 2023 remained constant at around 70%.
- The average exposure doses of workers were approx. 2.60, 2.51 and 2.15 mSv/person-year during FY2020, 2021 and 2022, respectively (The legal exposure dose limits are 100 and 50 mSv/person-year respectively over five years, the TEPCO HD management target is 20 mSv/person-year).
- For most workers, the exposure dose was sufficiently within the limit and allowed them to continue engaging in radiation work.

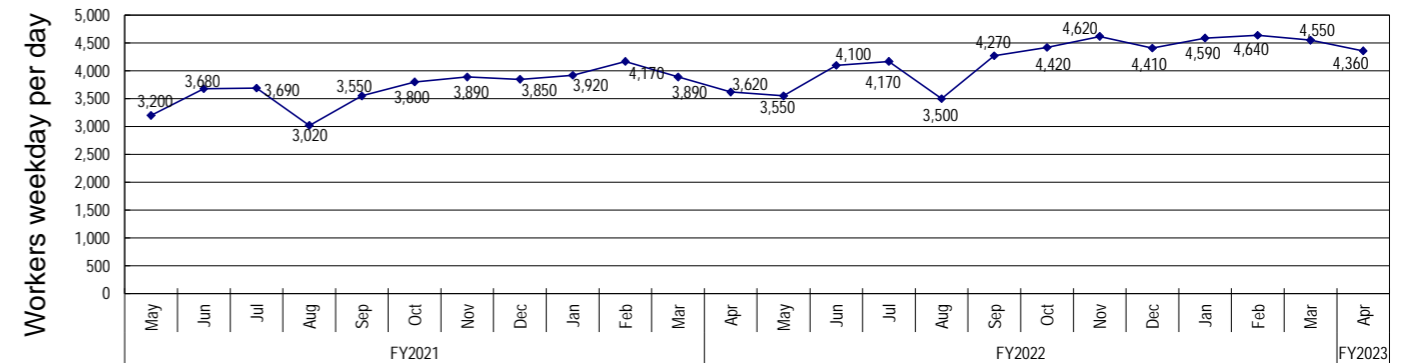


Figure 6: Changes in the average number of workers weekday per day for each month of the most recent 2 years (actual values)

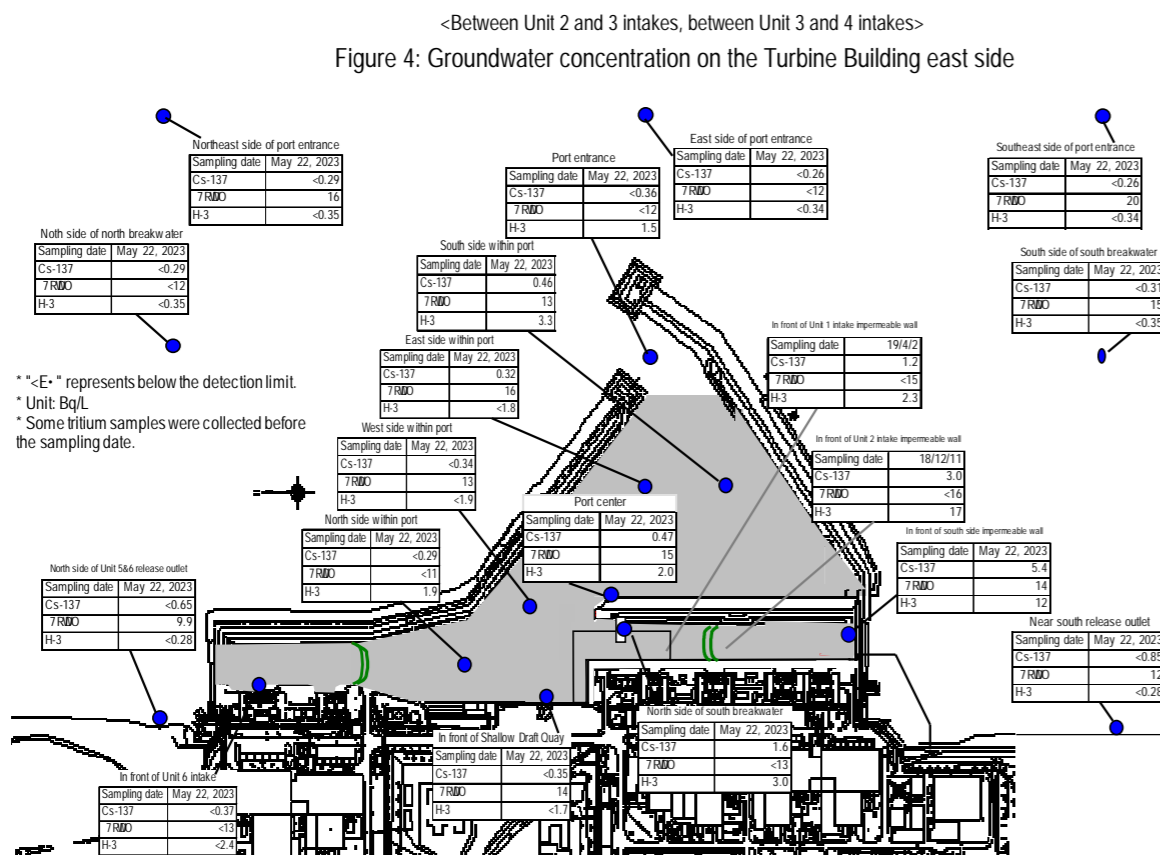


Figure 5: Seawater concentration around the port

**Outlook of the number of staff required and efforts to improve the labor environment and conditions**

Adequate number of staff will be secured in the long-term while firmly implementing radiation control of workers. The work environment and labor conditions will be continuously improved by responding to the needs on the site.

➤ Staff management

- The monthly average total of personnel registered for at least one day per month to work on site during the past quarter from January to March 2023 was approx. 9,600 (cooperating company workers and TEPCO HD employees), which exceeded the monthly average workforce (approx. 7,700). Accordingly, sufficient personnel were registered to work on site.
- It was confirmed with the prime contractors that the estimated manpower necessary for the work in June 2023 (approx. 4,000 workers per day: cooperating company workers and TEPCO HD employees) would be secured at present. The average numbers of workers per day for each month (actual values) for the most recent 2 years were maintained, with approx. 3,000 to 4,600.

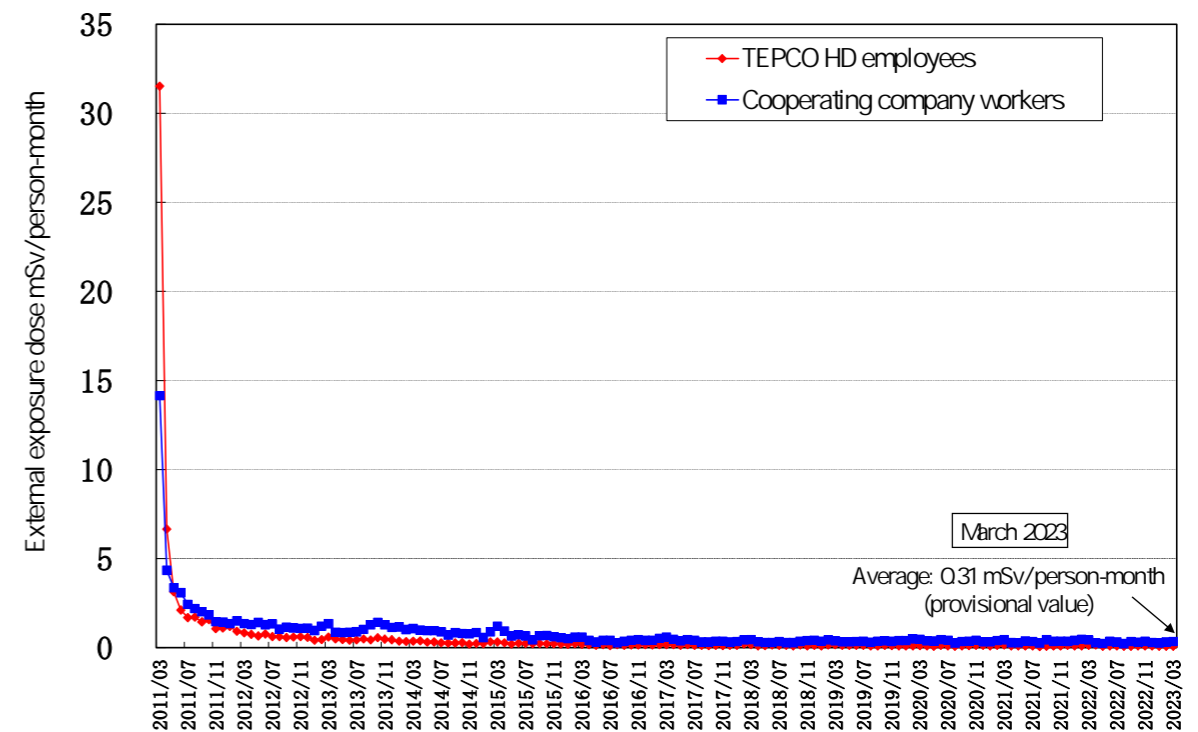


Figure 7: Changes in monthly average exposure dose of individual worker (monthly exposure dose since March 2011)

➤ Review of countermeasures to suppress the spread of COVID-19 infections

- At the Fukushima Daiichi Nuclear Power Station, in accordance with the TEPCO HD policy, each of the countermeasures to suppress the spread of infections will be abolished in principle from May 8, 2023. However, from the perspective of BCP (business continuity plan), part of the countermeasures to suppress the spread of infections within the workplace will continue for the time being, including the wearing of masks in crowded and closed areas, a gradual review of operations for commuting and on-site buses and avoidance of contact with duty staff.
- Based on social trends, as well as the infection status within the workplace and other conditions, the entire abolishment of the countermeasures, including for duty staff after May 8 and by around the end of June, was considered.



- Basic countermeasures (visiting medical institutions when feeling unwell, ventilation, avoidance of the “Three Cs,” frequent handwashing, etc.) will continue to be implemented appropriately by each worker and TEPCO will proceed with decommissioning while prioritizing safety.

➤ Status of influenza and norovirus cases (conclusion of infection and expansion-preventive measures)

- As there have been no further cases of influenza infections since March 2023, the measures to prevent infection and expansion were concluded at the end of April 2023. During this season (2022-2023), there were 25 influenza infections and four norovirus infections, while the totals for the entire previous season (2021-2022) showed no influenza infection and seven norovirus infections, respectively.

Note: The above data is based on reports from TEPCO HD and cooperating companies, which include diagnoses at medical clinics outside the site. The subjects of this report were cooperating company workers and TEPCO HD employees in Fukushima Daiichi and Daini Nuclear Power Stations.

- The number increased by 25 for influenza cases and decreased by three for norovirus cases compared to the previous season.
- Regarding influenza, although the concurrent pandemic with COVID-19 was concerned before the season, it did not occur as before the COVID-19 pandemic. It was considered that effects of the infection prevention measures continued. Regarding norovirus, the number of infection cases remained low and there was no outbreak, nor any case of food poisoning. These results demonstrate the effectiveness of measures to prevent infection and expansion.

➤ Status of heat stroke cases

- In FY2023, measures to further prevent heat stroke commenced from April to cope with the hottest season.
- In FY2023, no workers suffered heat stroke due to work up until May 22 (in FY2022, no worker up until the end of May). Continued measures will be taken to prevent heat stroke.