May 27, 2025 Nuclear Reform Monitoring Committee

# Fukushima Daiichi Nuclear Power Station Decommissioning Initiatives

TEPCO

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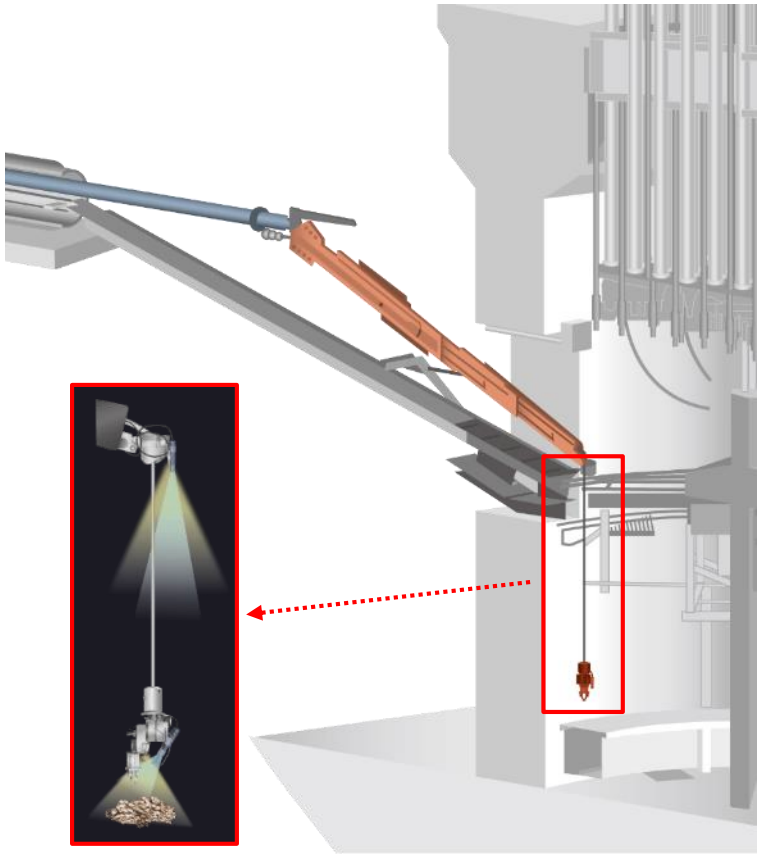
Fukushima Daiichi Decontamination & Decommissioning Engineering Company

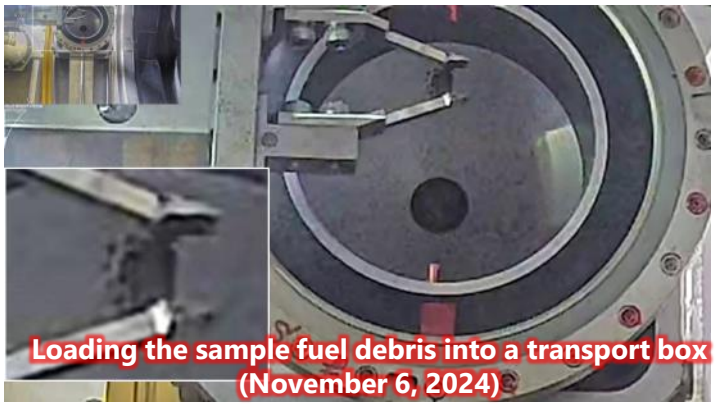
# 1. FUEL DEBRIS TRIAL RETRIEVAL

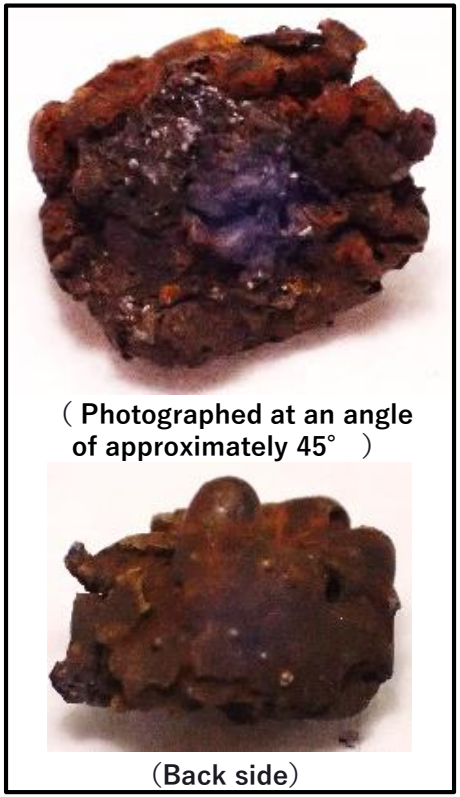
# First fuel debris trial retrieval

- Fuel debris trial retrieval from Unit 2 began in September 24. On October 30, the end jig of the telescopic device inserted into the pedestal was lowered and fuel debris was grasped.
- Thereafter, the sample fuel debris was loaded into an indoor transport container thereby marking the **completion of the first fuel debris trial retrieval on November 7**.



Grasping fuel debris with the end jig (October 30, 2024)


Loading the sample fuel debris into a transport box (November 6, 2024)

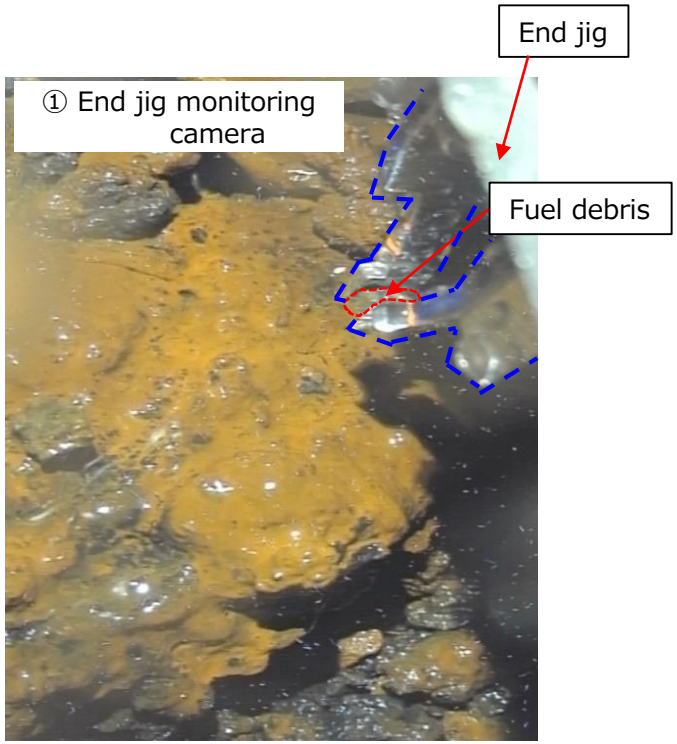

（Photographed at an angle of approximately 45° ）

（Back side）

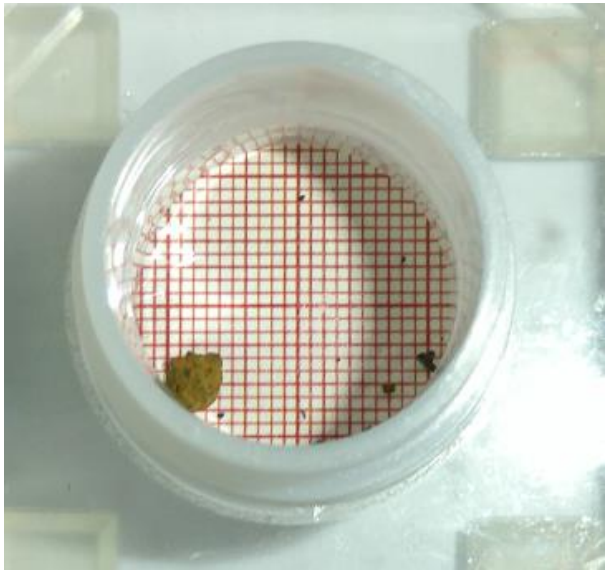
Outer appearance of fuel debris sample

# Second fuel debris trial retrieval

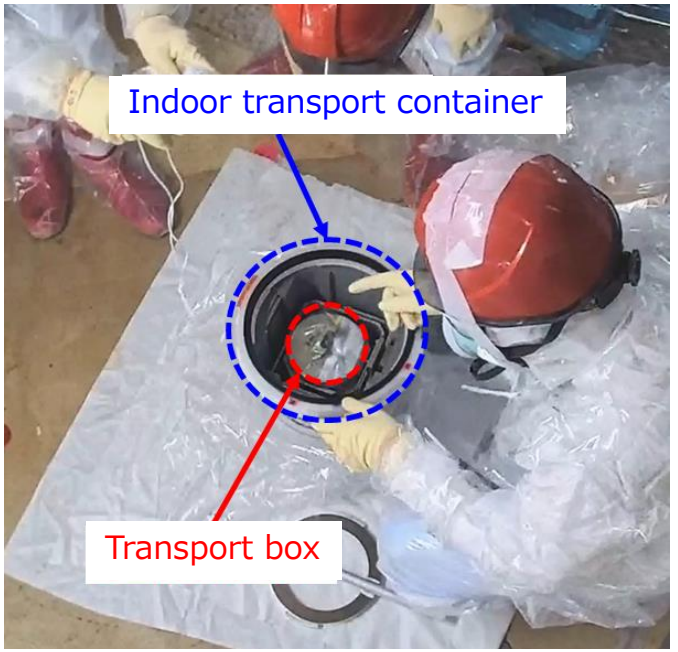
- Additional fuel debris samples are being taken in order to expand our knowledge and gain a better understanding of the various attributes and distribution of fuel debris.
- The **second fuel debris trial retrieval** was commenced on April 15, 2025, and **completed on April 23**.




Grasping fuel debris



The fuel debris in a specimen container inside a glovebox




Loading the transport box into an indoor transport container

# 2. ALPS-TREATED WATER OCEAN DISCHARGE

# ALPS-treated water ocean discharge status

- Ocean monitoring carried out by the Japanese Government, Fukushima Prefecture, and TEPCO, etc. has confirmed that the ocean discharge, which commenced on August 24, 2023, is being carried out safely.
- Facility inspections implemented during and after the discharges have confirmed that there have been no abnormalities.

**FY2023**

| Total treated water discharge volume | Total tritium discharge volume (cumulative) |
|---|---|
| 31,145m$^3$ | Approx. 4.5 trillion Bq |

**FY2024**

| Total treated water discharge volume | Total tritium discharge volume (cumulative) |
|---|---|
| 54,999m$^3$ | Approx. 12.7 trillion Bq |

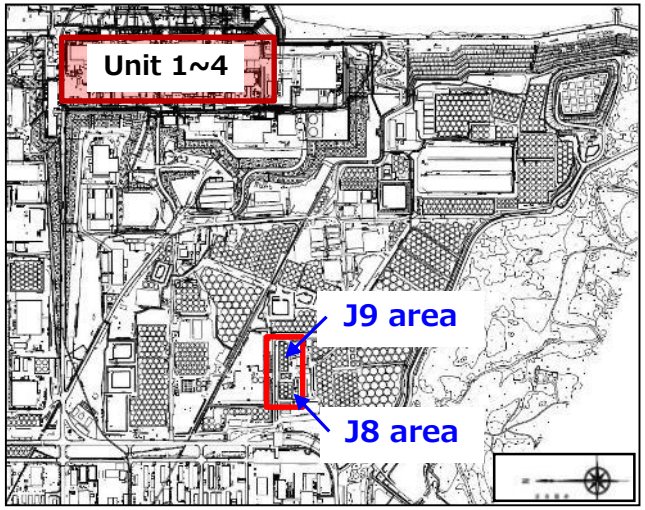
**FY2025**

| Management number※ | Discharge tank group | Tritium concentration | Discharge commencement date | Discharge completion date | Discharge volume | Total tritium volume |
|---|---|---|---|---|---|---|
| 25-1-12 | Group A | 370,000 Bq/L | 2024/4/10 | 2024/4/28 | 7,853m$^3$ | Approximately 2.9 trillion Bq |

# Commencement of the dismantling of the tanks in the J9 area

- TEPCO is currently planning to use the J8 and J9 tank areas for the construction of facilities needed to retrieve fuel debris from Unit 3. We have started by dismantling the tanks in the J9 area that are being emptied in conjunction with the ocean discharge of ALPS-treated water.
- Dismantling of the J9 area tanks commenced on February 14, 2025 and should be completed by the end of FY2025.


< Welded tanks in the J9 area >



J8/J9 tank area location


< Removing the lid off a tank in the J9 area >
(Photographed at around 8:47 AM on February 14)

< Hoisting the side plates of the tank in the J9 area >
(Photographed at around 2:10 PM on February 20)

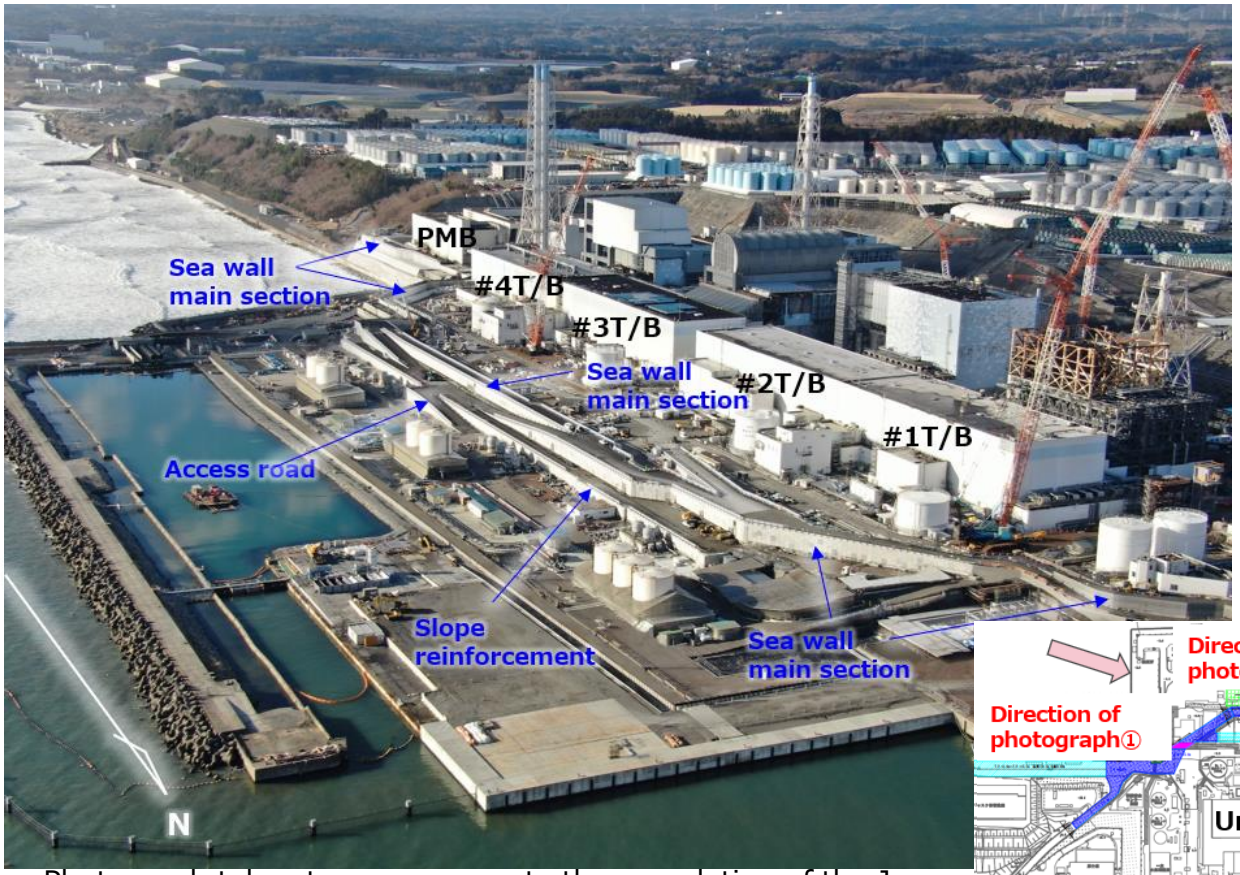

< Hoisting the bottom >
(Photographed at around 8 AM on March 4)


< Photo taken after complete removal of one of the tanks >
(Photographed at around 8:10 AM on March 4)

# 3. PROGRESS STATUS OF OTHER DECOMMISSIONING TASKS

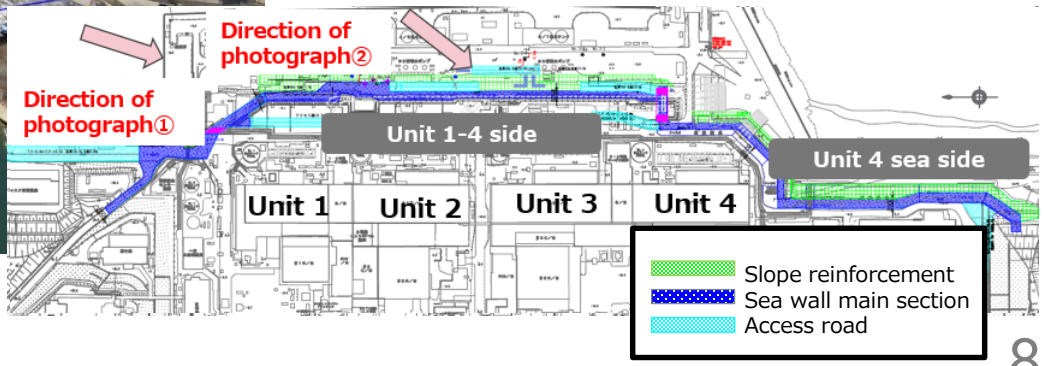
# Completion of sea wall construction

- On March 15, 2024 we completed construction of a sea wall meant to prevent the influx of a tsunami generated by an earthquake in the Japan Trench (Main section: Total length: Approximately 1km/height: T.P. 13.5~16m).
- In conjunction with the completion of construction of the aforementioned sea wall the Fukushima Daiichi Nuclear Power Station is now safe from a tsunami generated in the Japan Trench (T.P. 10.3~14.9m near Units 1-4 and in the south side area of Unit 4), an event that experts predict may happen in the near future, thereby reducing the risk of delays in decommissioning tasks taking place throughout the entire site.



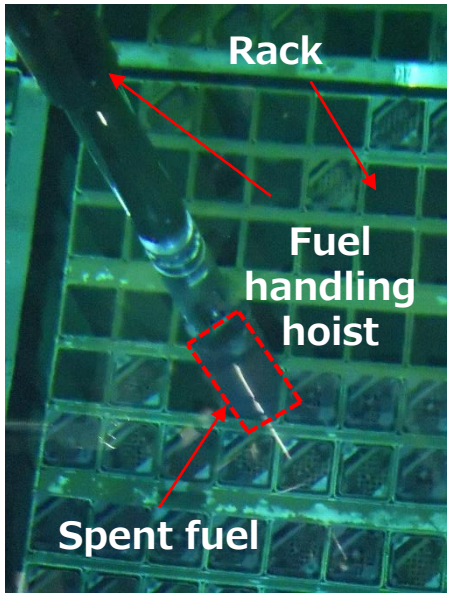

Photograph taken to commemorate the completion of the Japan Trench tsunami prevention sea wall (main section) (photographed on March 2, 2024) Direction of photograph①


On the side of Units 1-4 (unit 2/3-sea side) Direction of photograph ② (photograph on March 7, 2024)



# Completion of the removal of spent fuel from Unit 6

- On April 16, 2025 we completed the transport of all of the 1,456 spent fuel assemblies that were being stored in the unit 6 spent fuel pool to the common pool.
- There are 428 new fuel assemblies that still remain in Unit 6 (198 assemblies in the spent fuel pool and 230 assemblies in the new fuel storage warehouse). We will continue to deliberate what to do with the new fuel.




Inserting the last spent fuel assembly in the common pool rack (photographed on April 16, 2025)

Fuel stored in Units 1~6 (as of April 16)

| Storage location | Number of fuel assemblies and storage | | | | Percentage removed(%) |
|---|---|---|---|---|---|
| | Spent fuel pool | | New fuel storage warehouse | Total | |
| | New fuel | Spent fuel | New fuel | | |
| 1号機 | 100 | 292 | 0 | 392 | 0 |
| 2号機 | 28 | 587 | 0 | 615 | 0 |
| 3号機 | 0 | 0 | 0 | 0 | 100 |
| 4号機 | 0 | 0 | 0 | 0 | 100 |
| 5号機 | 168 | 1,374 | 0 | 1,542 | 0 |
| 6号機 | 198 | 0 | 230 | 428 | 77.3 |

# 4. STATUS OF INITIATIVES TO ADDRESS THE TROUBLES THAT OCCURRED AFTER OCTOBER 2023 AND "ONE TEAM" INITIATIVES

# Status of initiatives to address the troubles that occurred since October 2023

TEPCO

- We've analyze the causes and draft countermeasures for the four incidents that have occurred since October 2023, such as the body contamination of workers that occurred in the additionally installed ALPS building. We've also completed an analysis of factors common to all four incidents.
  - ✓ Bodily contamination of workers during cleaning of the additionally installed ALPS pipes (October 2023)
  - ✓ Leak of liquid containing radioactive substances from the high temperature incinerator building (February 2024)
  - ✓ Fire alarm caused by steam from the waste storage pit in the additionally installed miscellaneous waste incinerator facility (February 2024)
  - ✓ Shutdown of on-site power system A and worker injury (April 2024)
- Worker inspections are underway to assess risks associated with all tasks being implemented at the power station

In order to improve the ability of all field workers at the Fukushima Daiichi Nuclear Power Station we have transcended the boundaries of client and vendor and built a “One Team" system under which TEPCO and contractors can work together as one in the field.

# Forming “One Team" of TEPCO employees and workers in the field

## The One Team philosophy

1. **Everyone shares the same objectives**

   No distinction is made between client and vendor. Managers, team leaders, and workers transcend the boundaries of their roles to cooperate so that the entire team can work together with a common objective.

2. **Being conscious of treating everyone as a trusted buddy**

   Everyone working at the power station should treat each other as their buddies and build relationships of equal standing

3. **Enabling safe and efficient work practices**

   Everyone on the team should share concerns about problems and search for optimum solutions so as to enable work to be carried out safely in the field at all times

# Working as “One Team” in the field at the Fukushima Daiichi Nuclear Power Station

- At the Fukushima Daiichi Nuclear Power Station water treatment facilities, etc. are already operated under a "one team" system, but we are in the process incorporating decommissioning field work, such as maintenance, into this team as such work is accompanied by high safety/safety risks.
- In FY2024, TEPCO and contractors began joint deliberations about field work with a focus on water treatment facility maintenance work (which is accompanied by high exposure/safety risks) in which TEPCO is rarely involved.
- As part of the "one team" system of implementing field work, in FY2025, the following ALPS-related tasks were targeted for trial use of this system. By having TEPCO employees and contractors work together we hope to deepen understanding of field tasks and improve the ability of field workers at Fukushima Daiichi.
  - Adsorption material backwashing
  - Adsorption material replacement
  - Crossflow filter cleaning

Scene doing TBM-KY

Scene doing KY on site

Scene doing adsorption material replacement

# 5. DISSEMINATING INFORMATION TO, AND COMMUNICATING WITH, THE REGION, THE JAPANESE PEOPLE, AND THE INTERNATIONAL COMMUNITY

# Disseminating information throughout Japan and overseas via specially created websites

- Special websites have been created to convey scientifically-based information pertaining to decommissioning initiatives in an easy-to-understand manner and in real time.
- These special websites have been localized into different languages to correctly convey information to the international community

## Treated Water Portal Site

- Website that enables viewing of detailed information pertaining to ALPS-treated water, such as real-time data on the ocean discharge of ALPS-treated water
- Available in Japanese, English, Chinese and Korean


## Fuel Debris Portal Site

- Created to explain information pertaining to fuel debris in an easy-to-understand manner using charts, photos and video, etc.
- Retrieval work progress is continually updated
- Available in Japanese and English


## Overarching Radiation-monitoring data Browsing System around Japan（ORBS）

- Enables viewing of all ocean, etc. monitoring data collected by Fukushima Prefecture, the Nuclear Regulation Authority, Ministry of the Environment, Fisheries Agency and TEPCO in order to objectively present data on ocean conditions.
- Available in Japanese, English, Chinese and Korean

# Two-way dialogue

- Along with providing tours of the site and explaining the status of decommissioning while participants view facilities with their own eyes, we also hold roundtable discussions to carefully answer questions.
- We also continue to set up booths at events held in Fukushima Prefecture to convey information in an easy-to-understand manner using quizzes and models of ALPS-treated water facilities, and engage in two-way communication with participants

Tours/roundtable discussions at the Fukushima Daiichi Nuclear Power Station


LIVE AZUMA 2024（2024.10）
@ Fukushima City Booth

Recovery Namie Town, Toka-chi Festival（2024.11）
@ Namie Town Booth