

## Fukushima Daiichi Nuclear Power Station Unit 3 Commencement of PCV Internal Investigation (non-submerged area) using Micro-drones

- Today we commenced an internal investigation of the Unit 3 primary containment vessel (PCV) using extremely small micro-drones.
- This investigation will take approximately two weeks and investigate the condition of the penetration (X-6 penetration) that will serve as the access route for a fuel debris retrieval as well as conditions inside the pedestal.
- We will continue to move forward safely and steadily with this task.



Preparation work in the Remote Operation Room  
(Around 10:30 a.m., March 5, 2026)



View inside the PCV captured by the drone's camera just  
before takeoff (Around 11:30 a.m., March 5, 2026)

## Unit 3 PCV internal investigation (non-submerged area) timeline on March 5

---

- 9:31 AM: Commencement of preparations for the PCV internal investigation (non-submerged area)  
(Time when the investigation devices were powered on)
- 11:06 AM: Micro-drones inserted into the PCV from the X-53 penetration (isolation valve opened)
- 11:34 AM: **Commencement of Unit 3 PCV internal investigation (non-submerged area)**  
**(Take-off of first drone)**
- 12:24 PM: **Completion of day one of the investigation** (Isolation valve closed)

【Reference: Micro-drone flight time】

First drone: Approx. 8mins. From 11:34 AM

Second drone: Approx. 8mins. From 11:54 AM

# [Reference] Investigation devices

- Since the area inside the PCV is cramped and dark, an extremely small and highly mobile "micro-drone" with photographic capabilities will be installed through the small X-53 penetration.
- As with past investigations, a seal box will be attached to the X-53 penetration so as to allow the micro-drone to be inserted into the PCV while maintaining PCV isolation.
- The seal box will contain a total of six drones and two drones will be able to be installed inside the PCV simultaneously (how the six drones are to be used will be determined during mockup/training).

## Micro-drone



Held in the palm of the hand for size comparison

Use: Photography (2.7K)  
 Dimensions: 130×120×40[mm]  
 Weight:95[g](Including battery)  
 Communications method: Radio  
 Flight time: Approximately 13 minutes (the investigation is planned to take 10 minutes)  
 Camera performance: Image quality: 2.7K, frame rate: 60fps  
 Angle of view: diagonal 140°, Horizontal 135°, vertical 107°  
 Lights: 2 LEDs on the left and right sides (total: 380lm)  
 Radiation resistance: 200Gy  
 Notes: Corresponds to IP52, Two types of cameras: portrait and landscape

## Seal box

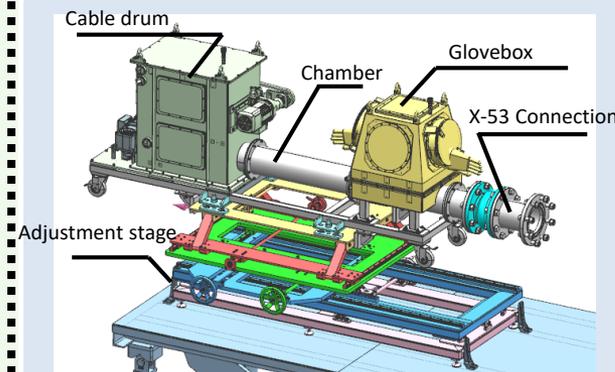


Diagram of seal box

The drones to be installed are housed in the chamber through which they are installed into the PCV.

Standby drones and recharging equipment are inside the glove box so that drones on the liftoff/landing pad can be switched out while maintaining airtightness.

Dimensions: Approx. 2.6m x 0.6m x 1.1m  
 Weight: Approx. 315kg

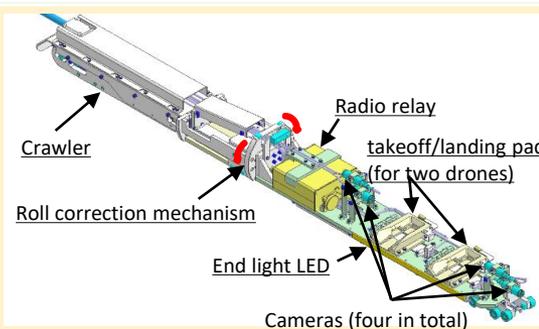


Diagram of installation equipment

The crawler enables self-installation thereby reducing worker exposure.

Two drones can be installed simultaneously.

Dimensions: Approx. 1.3m x  $\Phi$ 130mm  
 Weight: Approx. Approximately 20kg

# [Reference] Investigation plan

- Drone flights inside and outside the pedestal on the D/W1FL (hereinafter referred to as, “outside the pedestal”) can be broadly classified as **“Initial flights,” “point cloud footage flights,” and “focal point flights.”**
    - Initial flights: Investigations performed prior to the main investigation in order to determine the range of radio communications in new flight areas.
    - Point cloud footage flights: Used to obtain footage that can be used to improve the accuracy of point cloud data.
    - Focal point flights: Conduct detailed investigations in the areas identified in advance.
  - **“Additional investigations”** shall be performed after the investigations of the outside and inside of the pedestal **in accordance with conditions inside the PCV.**
    - Additional investigations: Additional investigations implemented due to new knowledge gained during the investigations of the outside and the inside of the pedestal, and to perform tasks that time did not allow for during the original schedule.
1. **Investigations outside the pedestal (4 days)**
    - i. Initial flights: One flight around the entire circumference of the pedestal and one flight to focus on the PCV walls and the pedestal walls.
    - ii. Point cloud footage flights: One flight on the south side and one flight on the north side to obtain point cloud data around the outside of the entire pedestal.
    - iii. Focal point flights: Flights on the south side, north side, and around the X-6 penetration to acquire data on predetermined the areas identified.
  2. **Investigations inside the pedestal (3 days)**
    - i. Initial flights: One flight around the entire inner circumference.
    - ii. Point cloud footage flights: Footage taken of the entire inside of the pedestal in order to form a point cloud.
    - iii. Focal point flights: Flights to be flown on the bottom, middle, and top areas in order to acquire data on predetermined the areas identified.
  3. **Additional investigations (4 days)**
    - i. Additional investigations on new focal points and new knowledge.
    - ii. Additional investigations to perform tasks that time did not allow for during the investigations of the outside and inside of the pedestal mentioned above.