

# Results of Reinvestigation of Unit 1 Operation Floor at Fukushima Daiichi Nuclear Power Station

## [Outline]

### Purpose

Provide useful inputs on spent fuel removal by understanding the current condition of the operation floor on the fifth floor of Unit 1 Reactor Building.

### Detail

The following investigation was done with a balloon with a camera attached.

- Current conditions of the roof debris on the operation floor, overhead traveling crane and fuel exchanger
- Accessibility from the carry-in entrance for large equipments through the equipment hatch to the spent fuel pool
- Radiation dose measurement at the equipment hatch opening on the operation floor

Out of the four cameras used, the images acquired by the camera taking images in the upper direction could not be obtained. Since the investigation using the balloon was successful, investigation utilizing flying object was not performed.

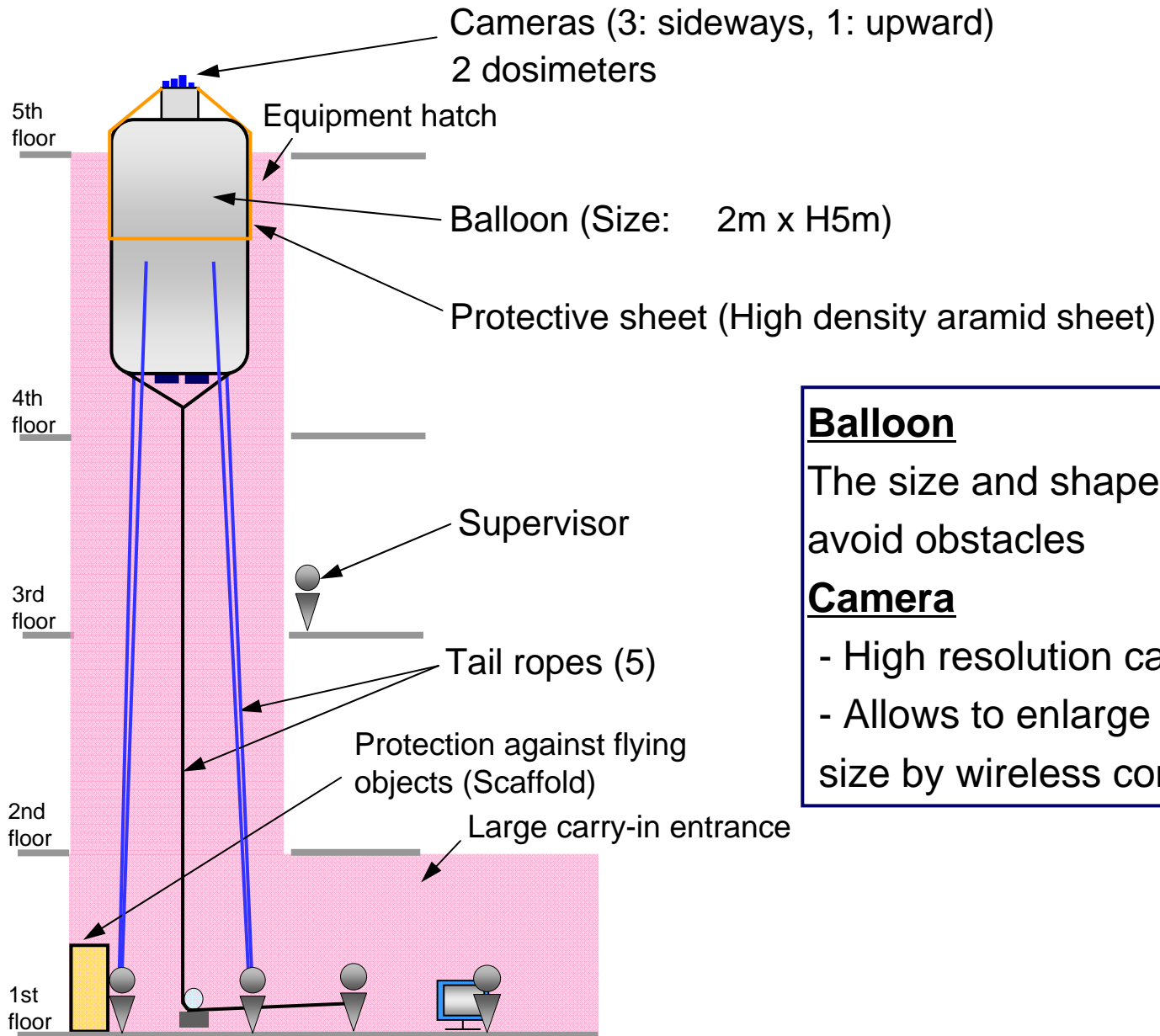
### Number of employees involved

TEPCO: 4, cooperative company: 25

**Date and time:** Wednesday, October 24 from 11:07 AM to 12:48 PM

**Maximum radiation exposure dose:** 3.81mSv (Planned exposure dose: 5mSv)

# Investigation (Overview)



## **Balloon**

The size and shape were modified to avoid obstacles

## **Camera**

- High resolution camera
- Allows to enlarge or reduce the image size by wireless communication

## Investigation (Balloon)



Balloon (Placed in sideways)



Balloon floating in the equipment hatch (Image taken from below)



Balloon (Vertically placed)

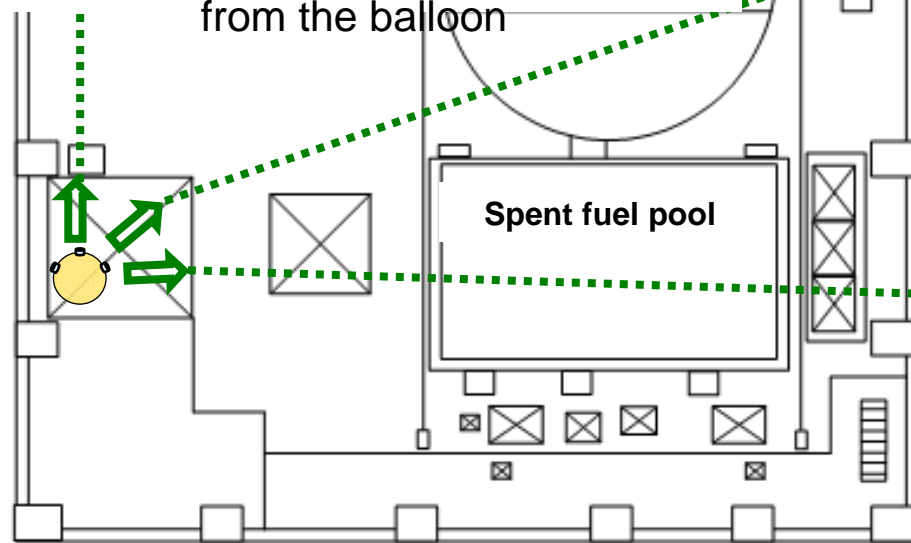
# Investigation results (Reactor Building 5th floor-1)



Image of the north side taken from the balloon



Image of the northeast side taken from the balloon



Unit 1 Reactor Building 5th floor



Image of the east side taken from the balloon

## Investigation results (Reactor Building 5th floor-2)



Spent fuel pool water surface



Part of the overhead traveling crane

## Investigation results (Radiation dose rate of each floor)

The highest point the balloon reached:  
OP42400 (3.5m above the operation floor  
surface) **37.1mSv/h**

The operation floor (1m above the operation  
floor surface) **Max. 53.6mSv/h**

4th floor of the Reactor Building **Max. 20.1mSv/h**

3rd floor of the Reactor Building **Max. 33.6mSv/h**

2nd floor of the Reactor Building **Max. 150.5mSv/h**

