

# Investigation of the Operating Floor after opening the Outer West Wall of the Unit 2 Reactor Building

June 28, 2018

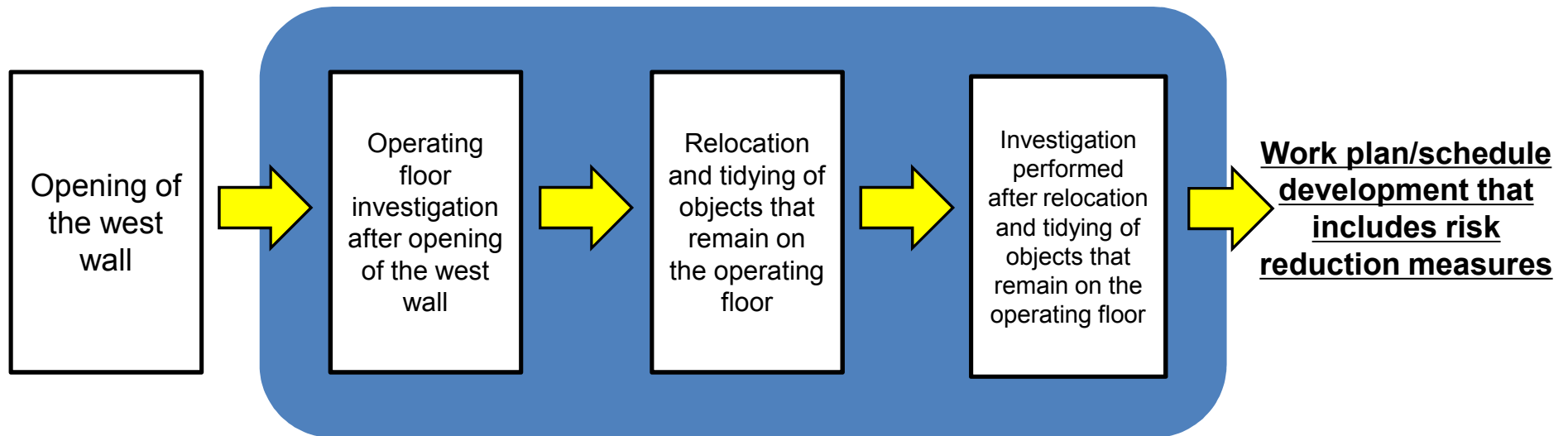


Tokyo Electric Power Company Holdings, Inc.

# 1. Operating floor investigation flow after opening of the outer west wall

- Prior to dismantling the upper portion of the building, which will be done in preparation to remove fuel from the Unit 2 spent fuel pool, we plan to investigate conditions on the operating floor (5<sup>th</sup> floor) to measure dose rates and the concentration of radioactive substances in dust in order to implement thorough measures for suppressing the dispersion of radioactive substances.
- Work to open the outer west wall of the Unit 2 reactor building was completed on June 21. During work to open the wall there were no significant fluctuations in dust measurements taken at four locations outside the anticum.
- Going forward, remotely operated robots and heavy machinery will be used to investigate dose rates and contamination conditions on the operating floor.

## Operating Floor Investigation



## 2. Operating floor investigation after opening of the west wall

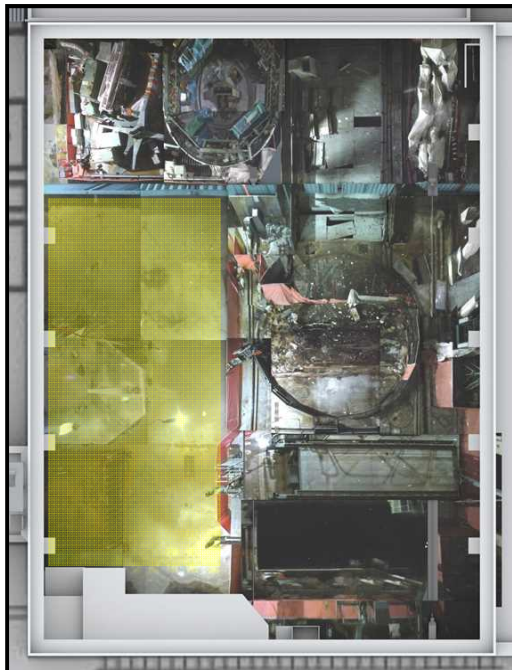
### 【 Investigation Objectives】

- The objectives of this investigation are to ascertain the conditions of objects that remain on the operating floor and also measure dose rates around the opening of the west wall of the operating floor to ensure that the steps of “Relocation and tidying of objects that remain on the operating floor” and “Investigation performed after relocation and tidying of objects that remain on the operating floor” go smoothly.
- The primary content of the investigation is as follows:
  - Air dose rate measurement
  - Dust measurement
  - Smear tests (floor/walls)
  - Use of cameras to investigate the condition of objects that remain on the operating floor
  - Measurements using collimating dosimeters (floor/walls)

North



Scope of this investigation



Packbot



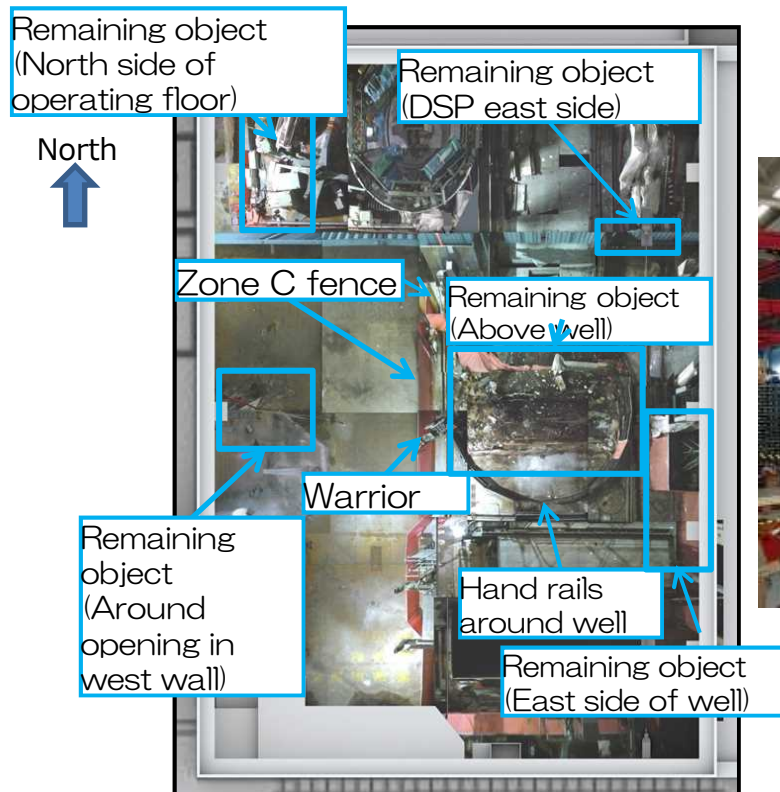
Kobra

Examples of remotely operated unmanned robots

### 3. Relocation and tidying of objects that remain on the operating floor

**【Objective】**

- To relocate and tidy objects that remain on the operating floor that may be a hindrance to the “Investigation performed after relocation and typing of objects that remain on the operating floor.”
- The primary objects to be relocated/tidied are as follows:
  - Zone C fence
  - Hand rails around the well
  - Warrior
  - Channel attachment/removal device
  - Tool rack, etc.



Examples of remotely operated unmanned heavy machinery

#### 4. Schedule for opening the outer west wall and the operating floor investigation



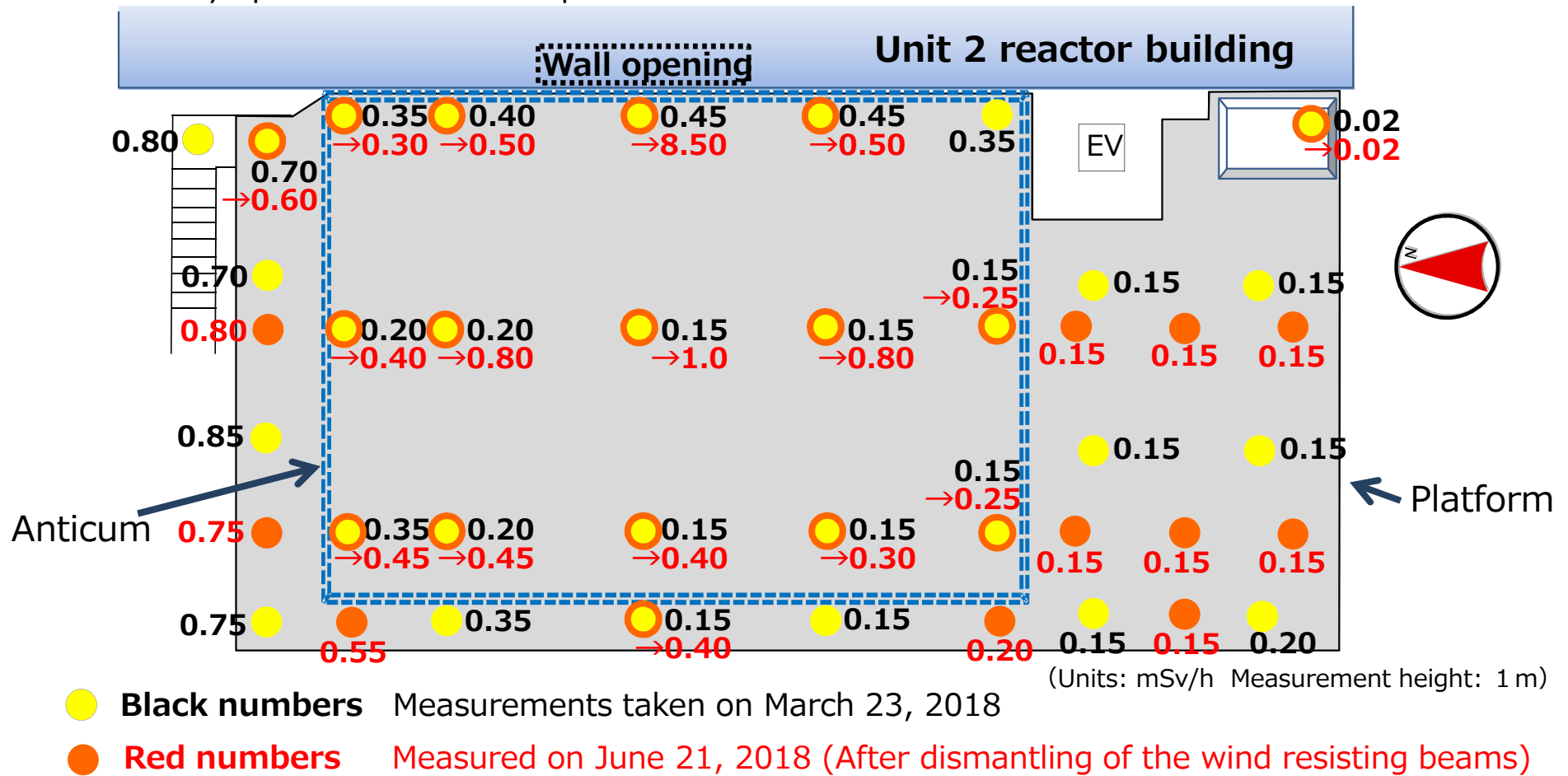
	FY2018			
	May	June	July	August
Opening of the west wall	<p>【STEP3】 Core drilling for dismantling 【STEP4】 Cutting the wall into sections/Bracket installation for dismantling 【STEP5】 Spraying of anti-dispersion agent (inside reactor building)</p>	<p>【STEP6】 Wall dismantling (opening formation)</p>		
Operating floor investigation after opening the west wall		<p>Mock-up/Preparations</p>	<p>Investigation of operating floor after opening of the west wall</p>	
Relocation /tidying of objects remaining on the operating floor		<p>Mock-up/Preparations</p>	<p>Relocation/tidying of objects that remain on the operating floor</p>	

※Changes may be made to the schedule in accordance with the progress of work

The following pages are  
for reference purposes

# Changes in radiation levels before and after project implementation (1)

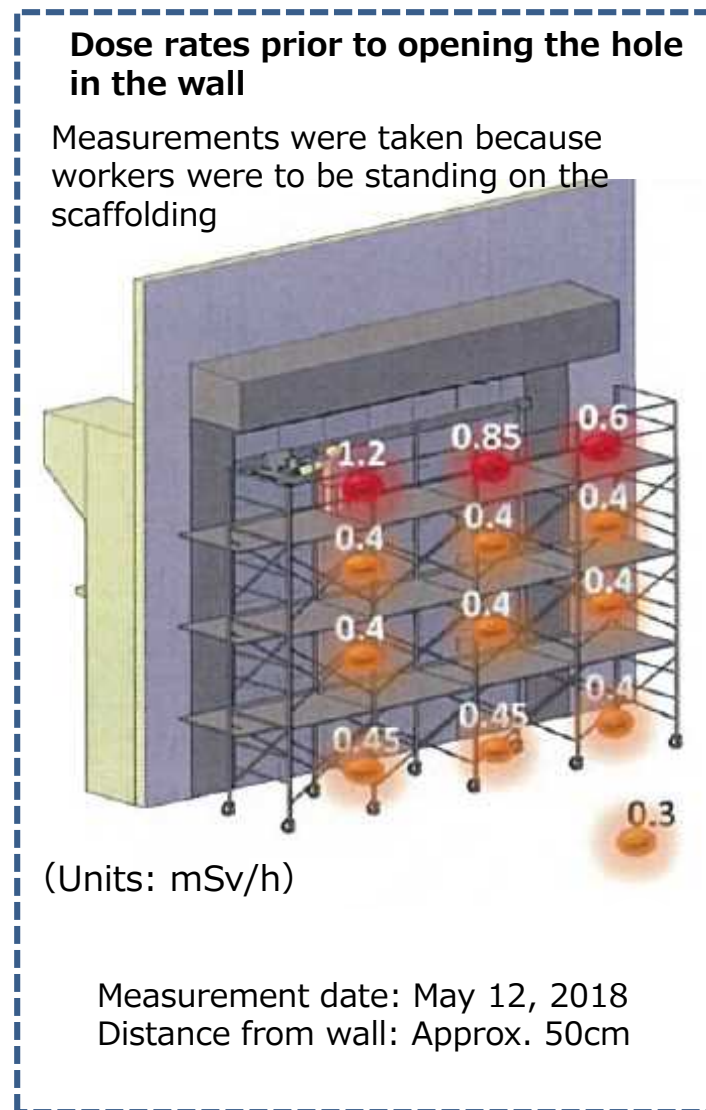
- Air dose rates above the platform to date are as follows.
- Increases were seen in dose rates nearest to the wall in particular, but were within predicted ranges, so preparations to perform an investigation of the operating floor using remotely operated robots shall proceed.



# Changes in radiation levels before and after project implementation (2)



6	2	1	3	4	5	7
			● <b>11.5mSv/h</b> Approx. 6m above the floor, measured on May 29			
29						
12	9	8	10	11	13	14
			● <b>13.7mSv/h</b> Approx. 3.5m above the floor, measured on May 31			
17	16	15	18	19	20	21
			● <b>9.0mSv/h</b> Approx. 2m above the floor, measured on June 5			
24	23	22	25	26	27	28
	● <b>9.0mSv/h</b> Approx. 1m above the floor, measured on June 7		● <b>9.0mSv/h</b> Approx. 1m above the floor, measured on June 8			



- Measurement location (horizontal): At border of R/B and anticum
- ※All measurements were taken after the opening in the wall had been formed and was open



## Results of dust measurements taken during work



- Dust measurements were taken at four locations along the outer perimeter of the anticum when work commenced on April 16, 2018. The maximum concentrations of radioactive substances in dust on each work day (24 hours) are as follows.
- The maximum values for the concentration of radioactive substances in dust are the same as the maximum values for the concentration of radioactive substances in dust measured on the operating floors of Units 1 and 3

Units: Bq/cm<sup>3</sup>

		April 2018						
Day	15 (Sun)	16 (Mon)	17 (Tue)	18 (Wed)	19 (Thu)	20 (Fri)	21 (Sat)	
Max.	–	$6.3 \times 10^{-5}$	$4.6 \times 10^{-5}$	$5.7 \times 10^{-5}$	$6.2 \times 10^{-5}$	$4.6 \times 10^{-5}$	$7.4 \times 10^{-5}$	
Day	22 (Sun)	23 (Mon)	24 (Tue)	25 (Wed)	26 (Thu)	27 (Fri)	28 (Sat)	
Max.	–	$4.6 \times 10^{-5}$	$4.9 \times 10^{-5}$	$4.7 \times 10^{-5}$	$6.3 \times 10^{-5}$	$6.3 \times 10^{-5}$	–	
		May 2018						
Day	6 (Sun)	7 (Mon)	8 (Tue)	9 (Wed)	10 (Thu)	11 (Fri)	12 (Sat)	
Max.	–	$4.3 \times 10^{-5}$	$4.7 \times 10^{-5}$	$5.7 \times 10^{-5}$	$5.0 \times 10^{-5}$	$4.6 \times 10^{-5}$	$5.6 \times 10^{-5}$	
Day	13 (Sun)	14 (Mon)	15 (Tue)	16 (Wed)	17 (Thu)	18 (Fri)	19 (Sat)	
Max.	–	$5.3 \times 10^{-5}$	$6.3 \times 10^{-5}$	$4.6 \times 10^{-5}$	$7.4 \times 10^{-5}$	$4.3 \times 10^{-5}$	$3.5 \times 10^{-5}$	
Day	20 (Sun)	21 (Mon)	22 (Tue)	23 (Wed)	24 (Thu)	25 (Fri)	26 (Sat)	
Max.	–	$4.9 \times 10^{-5}$	$4.3 \times 10^{-5}$	$4.9 \times 10^{-5}$	$3.6 \times 10^{-5}$	$4.0 \times 10^{-5}$	$4.2 \times 10^{-5}$	
Day	27 (Sun)	28 (Mon)	29 (Tue)	30 (Wed)	31 (Thu)			
Max.	$6.6 \times 10^{-5}$	$5.2 \times 10^{-5}$	$4.3 \times 10^{-5}$	$4.0 \times 10^{-5}$	$3.9 \times 10^{-5}$			
		June 2018						
Day						1 (Fri)	2 (Sat)	
Max.						$3.8 \times 10^{-5}$	–	
Day	3 (Sun)	4 (Mon)	5 (Tue)	6 (Wed)	7 (Thu)	8 (Fri)	9 (Sat)	
Max.	–	$3.1 \times 10^{-5}$	$7.2 \times 10^{-5}$	$5.6 \times 10^{-5}$	$5.6 \times 10^{-5}$	$4.0 \times 10^{-5}$	–	
Day	10 (Sun)	11 (Mon)	12 (Tue)	13 (Wed)	14 (Thu)	15 (Fri)	16 (Sat)	
Max.	–	$4.7 \times 10^{-5}$	$3.0 \times 10^{-5}$	$3.7 \times 10^{-5}$	$4.1 \times 10^{-5}$	$4.2 \times 10^{-5}$	$5.3 \times 10^{-5}$	
Day	17 (Sun)	18 (Mon)	19 (Tue)	20 (Wed)	21 (Thu)	22 (Fri)	23 (Sat)	
Max.	–	$6.0 \times 10^{-5}$	$7.0 \times 10^{-5}$	$4.8 \times 10^{-5}$	$4.0 \times 10^{-5}$	$4.7 \times 10^{-5}$	$5.0 \times 10^{-5}$	

※ A hyphen (-) indicates that work was not performed on that day. No work was performed between April 28 and May 6