Results of Investigation into Building Frames around Unit 1 Reactor Building Equipment Hatch at Fukushima Daiichi NPS

December 6, 2013
Tokyo Electric Power Company

1. Investigation

◆ Purpose

We aim to clarify damages of building frames inside Unit 1 reactor building in Fukushima Daiichi NPS.

◆ Work details

Taking high radiation dose into account, we adopt a investigation method suitable for lower radiation exposure; we install a lifting device equipped with cameras and lights on the first floor below the equipment hatch opening, and take photos of surrounding building frames via remote control.

◆ Work area

Building frames around the equipment hatch (from 2nd to 4th floors) at Unit 1 Reactor Building

◆ Date

On December 4 (Wed.) and 5 (Thu.), 2013

◆ Group

1 TEPCO employee and 8 associated company workers
2. Investigation Image

- **Cameras, lighting fixtures, and a video camera**

- **Lifting devices (expandable pole air system)**
  - Maximum elasticity: (Height) Approx. 24m
  - Weight: Approx. 650kg

- **Camera and lighting fixture**
  - 2 cameras (1 for preliminary)
  - Video camera (for preliminary use)
  - 2 lighting fixtures

- **Large-objects carry-into the building**
  - 2 operators and 6 workers

- **Outer wall (west)**

- **Equipment hatch**

- **Height approx. 24m**

- **Width approx. 4.6m**

- **Frame height Approx. 3.7m**

- **Operating cables**

- **Spent Fuel Pool**

- **Photo shooting area**

* Due to some existing facilities in this area, the photo-shooting area will be limited.
3. Results of photo shooting (4th floor)

A | B | C
---|---|---
① | ![Image 1] | ![Image 2] | ![Image 3]
③ | ![Image 7] | ![Image 8] | ![Image 9]

[4th floor equipment hatch walls in the west]

[Plan (4th floor)]

West

East

[Cross section (4th floor)]
3. Results of photo shooting (4th floor)

[Plan (4th floor)]

South

①
②
③

A B

North

[Cross section (4th floor)]

[4th floor equipment hatch walls in the south]
## 3. Results of photo shooting (3rd floor)

<table>
<thead>
<tr>
<th></th>
<th>A</th>
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<tr>
<td>①</td>
<td><img src="image1" alt="Image of A" /></td>
<td><img src="image2" alt="Image of B" /></td>
<td><img src="image3" alt="Image of C" /></td>
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<tr>
<td>②</td>
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[3rd floor equipment hatch walls in the west]

[Plan (3rd floor)]

[Cross section (3rd floor)]
### 3. Results of photo shooting (2nd floor)

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[2nd floor, equipment hatch, walls in the west]

[Plan (2nd floor)]

[Cross section (2nd floor)]
4. Summary

- After taking photos of the walls on each floor, no remarkable damage was found.
- These results will be reflected in the seismic resistance evaluation in future.

<Reference> Plan for fuel and fuel debris removal from the spent fuel pool (Unit 1)

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<tbody>
<tr>
<td>Plan 1: Building Cover removal</td>
<td>Debris etc. removal</td>
<td>Fuel removal</td>
<td>Building cover reconstruction and recovery</td>
<td>Building cover removal, separate container construction</td>
<td>Fuel debris removal</td>
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Judgment (HP1-1): Judgment flowchart in the first half of FY 2014

- Both a) and b) Approved
- a) Building cover reconstruction feasibility*1
- b) Reactor building earthquake-proof safety*2

*1: Including safety for fuel handling facilities (overhead crane and fuel handling machine) installation
*2: Earthquake-proof safety when upper container is loaded
*3: Cover fuel removal
*4: On the basis of risk reduction and optimization, we adopt a plan.