Fukushima Daiichi Decontamination and Decommissioning -From 3.11 toward the future-

September 21, 2020

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The New Norm at Fukushima Daiichi

Thermographic measurement at entrance

No face-to-face sitting at Cafeteria

All employees wearing masks
Agenda

1. Fuel Removal from Spent Fuel Pools
2. Toward Fuel Debris Retrieval
3. Striking a Balance between Reconstruction & Decommissioning
Dismantlement of Exhaust Stack for Units 1&2

- **Before Dismantlement (July 2019)**
- **After Dismantlement (May 2020)**
1. Fuel Removal from Spent Fuel Pools
Overview of tasks toward fuel removal

- **Units 1 & 2**
  - Removal of rubble & Decontamination etc.
  - Installation of fuel removal facility

- **Unit 3**
  - Fuel removal
  - Storage & Transportation

- **Unit 1**
  - Removal to start in FY2027 to 2028
  - Jun. 2011

- **Unit 2**
  - Removal to start in FY2024 to 2026
  - Sep. 2011

- **Unit 3**
  - Removal started in Apr. 2019
  - Sep. 2011

- **Front chamber**
  - Removal to start in FY2027 to 2028
  - Dec. 2019

  - Removal to start in FY2024 to 2026
  - Feb. 2019

  - Removal started in Apr. 2019
  - Aug. 2019
Method of fuel removal at Units 1 & 2

As the return of local residents and reconstruction efforts make progress, we put premium on their safety and peace of mind by preventing radioactive dust from scattering.
2. Toward Fuel Debris Retrieval

IRID has contributed to some work shown here
Assumed distribution of fuel debris

Robotic exploration

Analysis of accident progression

Muon Survey

Unit 1

PCV

RPV

Core

Unit 2

Unit 3

Experimental retrieval to start at Unit 2 in 2021

Mar. 2017

Feb. 2017

Jan. 2018

Feb. 2019

Jul. 2017

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Step by step approach will be implemented, first with experimental retrieval followed by its review, then with stepwise expansion of the retrieval scale.

### Experimental retrieval in 2021

<table>
<thead>
<tr>
<th>Robot arm</th>
<th>Collection equipment</th>
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<tbody>
<tr>
<td></td>
<td>Metal brush</td>
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<tr>
<td></td>
<td>Vacuum container</td>
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### Stepwise expansion of the scale

<table>
<thead>
<tr>
<th>Robot arm</th>
<th>Collection equipment</th>
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<tbody>
<tr>
<td></td>
<td>Gripper tool</td>
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<tr>
<td></td>
<td>Drilling retrieval tool</td>
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</tbody>
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Whole Picture

1. **Robot arm**
2. **Enclosure**
3. **Connection pipe**
4. **PCV**
5. **X-6 penetration hole**
3. Striking a Balance between Reconstruction & Decommissioning
Mid-and-Long-Term Decommissioning Action Plan 2020

- Show Major work processes for each activity until 2031
  - Complete stagnant water treatment except for Unit 1 to 3 reactor bldgs. etc. in 2020
  - Complete fuel removal from pools at all Units (Units 1 to 6) by 2031
  - Start fuel debris retrieval from Unit 2 in 2021. Expand the scale of retrieval in stages
  - Eliminate temporary waste storage in FY2028

https://www.tepco.co.jp/en/hd/decommission/information/dap/index-e.html

<TEPCO>
Proceed with tasks safely steadily, and efficiently, looking to the future

<THE LOCALS>
- Understand future work in a concrete manner
- Join the decommissioning work proactively
Thank you for your kind attention