FPCJ Briefing

Fukushima Daiichi Decontamination and Decommissioning Current Status and Challenges

> February 25, 2020 Akira ONO

Chief Decommissioning Officer President of Fukushima Daiichi Decontamination and Decommissioning Engineering Company, Tokyo Electric Power Company Holdings, Inc.

Agenda

1. Risk Reduction of Reactor Buildings 2. Contaminated Water Management **3. Improvement of Work Environment** 4. Radioactive Waste Management 5. Partnership with Local Community

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Current state of reactor buildings (as of February 18)



Unit 1 D :Water injection

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Values as of 11:00 am on February 18, 2020

	Unit 1	Unit 2	Unit 3	Unit 4
Temperature A	16°C	19°C	20°C	No monitoring
Temperature B	16°C	20°C	21°C	No monitoring
Temperature C	23°C	24°C	23°C	No monitoring
Water injection	2.9m ³ /hour	3.0m ³ /hour	2.9m ³ /hour	

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impe nd-side

TEPCO What is fuel removal ?

After loading onto the fuel transfer cask, the fuel is transported to the on-site common pool and stored in the fuel rack.



Overview of tasks toward fuel removal

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→ Units 1 & 2		→ Unit 3	→ Unit 4
Removal of rubble & Decontamination etc.	Installation of fuel removal facility	Fuel removal	Storage & Transportation
Unit 1 Removal to start in FY2027 to 2028	Unit Removistart FY2024	2 ral to in to 2026	Unit 3 Removal started in Apr. 2019
Dec. 2019	Front Feb. 2019		

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TEPCO 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.





Assumed distribution of fuel debris



IRID has contributed to some work shown here

Investigation of the bottom of Unit 2 (February 2019) TEPCO





Fuel debris retrieval to start at Unit 2 in 2021

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The progress in internal investigation, improvement of the environment and no interference to fuel removal are the main factors for Unit 2 being chosen.

		Unit 1	Unit 2	Unit 3
Safety	Dose at the workplace	High (approx. 600mSv/h)	Low (approx. 5mSv/h)	Slightly high (approx. 10mSv/h)
	Containment of radioactive materials	Slightly high airtightness	High air tightness (no hydrogen explosion and building of integrity)	Low airtightness
Certainty	Condition of debris	No information	Information obtained	Information obtained
	Access route	No information	Information obtained	Information obtained
Obstacles		Removal of high- dose pipes is required	Workplace improved	Decrease of water level inside PCV is required
Interference to fuel removal		Yes	No	Yes



- A boat type device is being developed to understand the distribution of deposits mainly outside the pedestal.
- **X-2** penetration hole will be used as a access route.



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Three Principles



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Sea-side Impermeable Wall (Completed in Oct. 2015)



Monitoring Level in the Sea

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The concentrations outside the port are substantially below the Japanese regulatory limits.





Formation of Ice Wall (frozen soil wall)



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Inside of Ice Wall



Reduction of contaminated water generation

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TEPCO ALPS-treated water

Welded tank capacity of approx. 1.37 million m³ is planned to be secure by the end of December 2020.

After the summer in 2022, we may run out of the tanks to store the additional treated water.



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4. Radioactive Waste Management

5. Partnership with Local Community

Efforts have been made to mitigate the impact by contaminated plants, soil and rubble as well as radioactive water in tanks.



Efforts to reduce air dose (2)

Pavement (94% of the site as of Jan. 2020)

Site



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Near the sea





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September 2013



Protective Clothing (heavy burden during work)



From May 2018



General Uniform (light burden during work)



Trend of monthly exposure dose rate

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Mar. 2011Nov. 201921.59mSv/month0.32mSv/month

Well-being of the workers **TEPCO**









Heliport for emergency response (from May 2017)



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TEPCO Secure storage of solid waste

After incineration and volume reduction, waste will be stored appropriately based on the "Storage Management Plan" updated annually.



Northwest side of Units 5 & 6 Miscellaneous solid 6 4 waste incineration Additional solid Unit 6 Storage facilities for facility waste storages Unit 5 contaminated soil No. 10 through 13 buildings (Mar. 2016~) 2 Additional incinerator 5 pretreatment incineration Large waste system storage facility facilities З Volume reduction facility system

Blueprint

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TEPCO Two-way communications

We will strive to gain the understanding and trust of local residents by holding dialogues and giving the utmost consideration to their opinions and measures against reputational damage.
Through site visits and local events, we will increase opportunities to directly respond to the concerns and questions of the local community and society.



First floor showing decommissioning site

Fukushima Daiichi Visitor's Guidebook Number of visitors: Approximately 9,600 in the first half of FY 2019 (FY target: 20,000)

TEPCO decommissioning museum Opened in Nov. 30, 2018 Number of visitors: 52,487 (As of December 19, 2019)

"The current situation at Fukushima Daiichi NPS" -From 3.11 toward the future-



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Efforts are being made to reconstruct the local community through the decommissioning project.

• We will strive to create an opportunity for local companies by holding briefings on decommissioning projects and business meetings on supplies and equipment.



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"Trial Matching Meeting for Work Related to Decommissioning" (Dec. 2, 2019) Participation in decommissioning work by a local company "Dismantling of exhaust stack of Unit 1/2" (from Aug. 1, 2019)

Accelerating the decommissioning work with safety and steadiness

Establishment of a project-based approach

:Transition to the system which allows us to work in a planned manner, looking to the future

Engaged in an emergency crisis mode to reduce the short-term high risk

- Contaminated Water Management
- Radioactivity Reduction



