

Inviting Applications: Proposals on Expertise and Technology Applicable to Decommissioning of Fukushima Daiichi through Open Innovation Platform

August 25, 2016



Tokyo Electric Power Company Holdings, Incorporated

Utilization of knowledge from Japan and abroad through website for technology proposals



- Purpose and Background: Utilization of wisdom from Japan and abroad
 - To proceed with decommissioning Fukushima Daiichi Nuclear Power station efficiently and effectively, it is important to gather and utilize wisdom from Japan and abroad including full utilization of knowledge and experiences from decommissioning abroad. (Abstract from Medium-to Long-term Roadmap)
- Background: Current status and issues
 - Since the Great Earthquake disaster, TEPCO Group has been introducing technology from Japan and abroad through study findings conducted on a national project level, proposals from manufacturers and organizations in Japan and abroad having cooperative relationships with our company.
 - However, there are limitations in the scope of the existing nuclear power industry and technology surveys through institutions concerned, and TEPCO Group therefore might not have sufficiently identified technology in Japan and abroad that would be potentially useful for decommissioning of Fukushima Daiichi.
- Action items: New efforts to gather knowledge from Japan and abroad
 - To gather wisdom from Japan and abroad, TEPCO Holdings will widely invite proposals on applicable expertise and technology by proactively disclosing the needs in decommissioning Fukushima Daiichi through open innovation platform (Proposals on 33 items in 7 areas will be invited at the start of operations).
- Schedule
 - Start operations on August 25, 2016

Issues at Fukushima Daiichi (Example)



33 items on issues in 7 areas (contaminated water countermeasures, pool fuel removal, fuel debris removal, waste management, site management, external communication and other technological challenges) are extracted. (The number of items or areas may change depending on situation in the future)

Title	Challenge and Current Status	Inviting application	Schedule
Reduction of quantity of waste generated and storage management	<ul style="list-style-type: none"> It is important to reduce the generation of solid waste by ensuring thorough control on bringing new material from outside the site and by promoting re-use within the premises, while also paying attention to the volume reduction effect or the impact on disposal resulting from generation of secondary waste. This is an issue at the stage when the policy is formulated and overseas knowledge regarding re-use within the premises and reduction of volume of waste generated needs to be leveraged. 	Research/ Benchmark/ Case study Consultation/ Review	FY2015 Development of Storage Management Plan (Medium- to Long-term Roadmap) FY2017 Development of Basic Concept of Waste Disposal(Medium- to long-term Roadmap)
Volume reduction of waste in dismantling and removing underground water storage	<ul style="list-style-type: none"> Study of dismantling and removing underground water storage #1, 2 and 3, which leaked in the past, is started from 2016. Along with the dismantling, a large amount of storage frame made of plastic will be generated as radioactive waste, which are contaminated by RO concentrated brine water. Measures are necessary to effectively limit amount of waste by volume reduction process. 	Technical proposal	First half of 2017
Dose reduction for workers with remote monitoring	<ul style="list-style-type: none"> In some overseas sites, remote work monitoring system is deployed in which a work is overseen and work order is given from a remote monitoring room. Individual worker dose can be monitored as well. Dose reduction for RP personnel would be possible by introducing remote monitoring system for workers. 	Research/ Benchmark/ Case study	(None)

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TEPCO CUUSOO
An open innovation platform for energy related technologies and ideas

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Items 52 Innovation 3 About TEPCO CUUSOO FAQ

Expertise and Technologies in Decommissioning

In a pursuit to decommission Fukushima nuclear plant, TEPCO group is seeking knowledge and expertise of research institutions and firms from across the world. As the accident has no precedent, we are in need of expertise and advanced technologies from internal and external sources in order to address complicated issues and operations.

We welcome your suggestions. For samples of proposals and submission procedure, click [here](#).

[CHALLENGE](#) | [PROCUREMENT](#) | [DATA](#) | **[DECOMMISSIONING](#)**

<p>Decommissioning No.15 Accuracy improvement of remote fuel debris detection</p>	<p>Decommissioning No.28 Nuclear Safety Regulation</p>	<p>Decommissioning No.26 Improving and maintaining the reliability of equipment</p>	<p>Decommissioning No.24 Establishment of risk evaluation policy</p>
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Invitation of proposals on expertise and technology from Japan and abroad in Japanese and English

TEPCO has already established an open innovation platform, and will utilize it for the technology related to decommissioning.

Newly added

Show the issues at Fukushima Daiichi

Issue Details Webpage: Image

Accuracy improvement of remote fuel debris detection



POSTED BY
TEPCO

36
Users

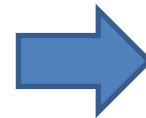
TAGS

Decommissioning

知見収集

燃料アプリ取り出し

CREATED DATE
July 28, 2016



Expertise and Technology Submission Form

Submission Form

User Information

Company/Research Institute(Required)
Please enter name of your company or research institute.

Department
Please enter company department.

Name (Required)
Please enter your full name.

Contact E-mail address(Required)
All e-mails from CUUSOO will be sent to this e-mail address.

Company/Research Institute web site
Please enter the URL of your company or research institute.

Submission Proposal

Type of proposal(Required) Benchmark/Case study
 Tech. proposal
 Consultation/Review
Please select the type of your proposal.

Title (Required)
Please enter title of your proposal

URL (If any)
If you have a website related to your proposal, please enter the URL here.

Description (Required)
Please describe your proposal. If possible, please explain your proposals regulation suitability to the Fukushima Daiichi or in Japan.

Technical Readiness Level and its supporting evidence (Required)
Please explain whether your proposal requires R&D or not, and progress status for practical use. (1000 characters or less)

Accomplishment
Application performance, successes / failures etc. inside or outside of Japan. (1000 characters or less)

Appendix

Please click SUBMIT BUTTON to apply

TEPCO is looking for

- Benchmark/Case study
- Tech. proposal
- Consultation/Review

about the challenge below.
Please enter your proposal from SUBMIT button.

The proposal style for the invited items is shown (Proposer can select the style).

[Challenge and Current Status]

In the investigation of fuel debris around reactor pressure vessel pedestal (B2 Investigation)of unit 1 planned in March 2017, a robot running on a grating floor inside pressure containment vessel (PCV) strings down a instrument with a camera and radiation monitor toward the bottom of PCV floor, which is about 3.5 meters below the grating floor. The aim is to confirm whether there is any debris outside the pedestal. Due to limitation on size and weight, the instrument only measures gamma ray counting. Debris distribution is estimated by comparing limited measured air dose rate distribution results and computational debris distribution results obtained from simulating the debris radiation source by a burn-up calculation result and a representative nuclide. Uncertainty for debris distribution estimate, which is derived only through gamma ray counting measurement, can be large because of uncertainty of the representative nuclide distribution estimate, so it is one of the challenges.

Outline of the issue is described

URL for accessing detailed information including background of the issue

[Related Information, Background]

Investigation inside the Reactor Primary Containment Vessel ("PCV")
<http://www.tepco.co.jp/en/decommission/planaction/pcv/index-e.html>

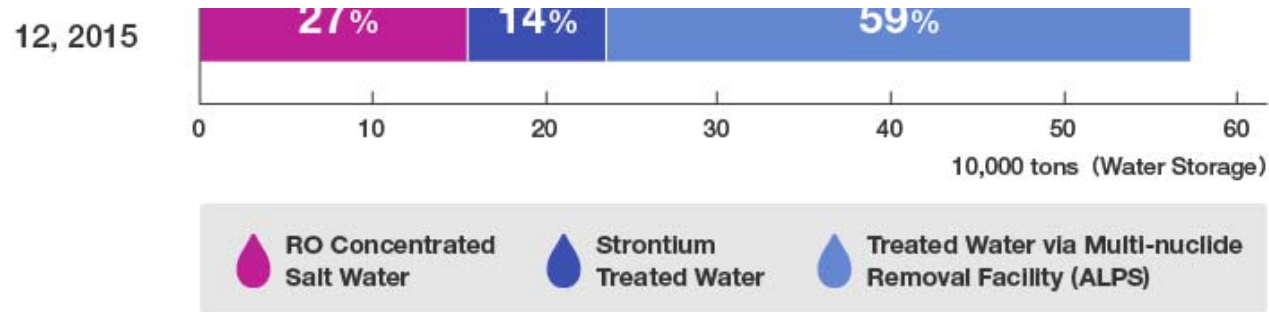
[Timing of obtaining knowledge, Related milestones]

Investigation of fuel debris around reactor pressure vessel pedestal (B2 Investigation) of unit 1 is planned in March 2017

Timing of obtaining knowledge with related milestones

SUBMIT

Top page of "Decommissioning Project" on TEPCO's website



Photos Library >

About Compensation for Nuclear Damages

Internal exposure dose measurement for the emergency workers who have never measured their internal exposure dose

Contact information for the emergency workers at Fukushima Daiichi Nuclear Power Station who have never measured their internal exposure dose and have lost contact

Contact for Procurement Information

Fukushima-Daiichi decommissioning Challenges

Fukushima Daiichi NPS Prompt Report

- May 30, 2016 Recent Topics:ADVANCES IN 'ICE WALL' FREEZING, KK ENHANCEMENTS, AND OVERALL SAFETY IMPROVEMENT HIGHLIGHT LATEST PROGRESS REPORT
- Mar 30, 2016 Recent Topics:ICE WALL FREEZING OVER PERIOD OF 1 MONTH
- Mar 29, 2016 Recent Topics:NUCLEAR POWER PLANT OPERATIONS FOR FIRST TIME AFTER 1 YEAR
- Mar 11, 2016 Recent Topics:MAR 11, 2016 CONTINUED RESCUE OPERATIONS
- Mar 1, 2016 Recent Topics:A WORKING PLAN FOR CONVENIENCE STAFF

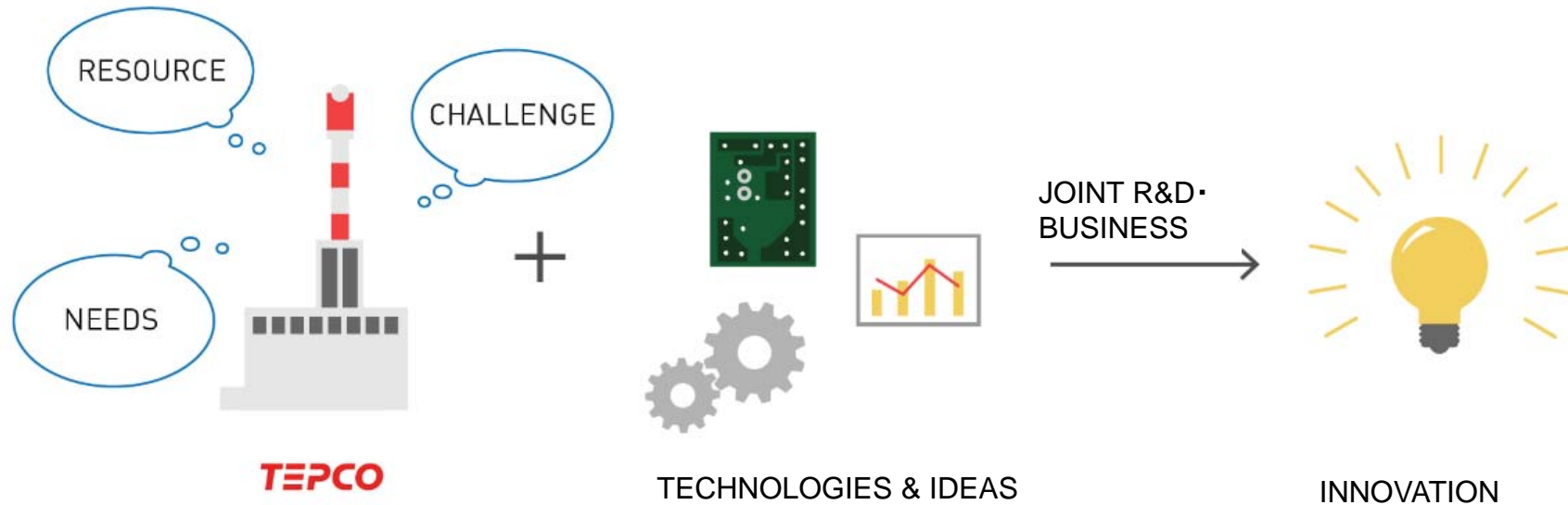
Add a button for accessing the page for proposing knowledge and technology as well as the issues at Fukushima Daiichi.
 (The example is from the English page but a similar link will also be added on the Japanese top page.)

Our Mission

TEPCO is looking for partners that would realize innovative values and solutions to critical social issues.

Through challenging ourselves with new technology, dealing with various businesses, and making even greater use of the big data stored and created by TEPCO, we contribute to society's development by creating new value for the lives and businesses of consumers and business people. Co-creation will open new doors.

By partnering with you, we will be able to tackle issues we could not before. It is our mission to create better future by openly cooperating with everyone as we move forward.



Flow chart (Image)

<https://tepcocuusoo.com/>