

Focus on risk reduction

Completion of fuel removal from Unit 4 spent fuel pool

Regarding the fuel removal from Unit 4 spent fuel pool, all fuel assemblies have been transferred by December 22, 2014.

Based on this experience, preparation for fuel removal from Units 1-3 will be implemented.



<Fuel removal>

Completion of purification of contaminated water (RO concentrated salt water)

Contaminated water (RO concentrated salt water) is being treated using seven types of equipment, including the multi-nuclide removal equipment (ALPS). This treatment was completed on May 27, 2015, with the exception of the remaining water at the tank bottom.

The remaining water will be treated sequentially toward dismantling of the tanks. The strontium-treated water from other facilities than the multi-nuclide removal equipment will be re-purified in the multi-nuclide removal equipment to further reduce risks.

Dismantle of flange-type tanks started on May 27, 2015.

Removal of contaminated water in seawater-pipe trenches

Regarding the accumulated water remaining in Unit 2-4 seawater-pipe trenches, to eliminate the risk of leakage to the outside, filling of closing materials started in the tunnel sections and vertical shafts of these trenches.

Currently, contaminated water is being removed from these trenches, with approx. 70% completed to date.



<Removal of contaminated water>

Achievement of on-site boundaries effective dose limit

Through the progress of contaminated water treatment by the multi-nuclide removal equipment, etc., the effective dose at the site boundaries^(Note) at the end of FY2014 achieved a limit value of less than 2mSv/year.

The contaminated water treatment will continue to achieve the target of less than 1mSv/year by the end of FY2015.

Note: Effective dose at the site boundaries: Additional dose (evaluation values) at the site boundaries due to rubble and contaminated water, etc., generated after the accident

Status of freezing functioning test of land-side impermeable walls

From April 30, 2015, the freezing functioning test started at 18 points (58 frozen pipes, approx. 6% on the mountain side).

This test is to confirm the facility-wide operation status through freezing temperature circulated in frozen pipes, etc. as well as points to consider during the full-scale operation through earth temperature.



<Status of installed chiller>

Operation start of groundwater bypass

The "groundwater bypass" is a measure to prevent increase of contaminated water by pumping groundwater on the mountain side before the groundwater flows into the buildings and releasing it to the sea after checking its water quality.

On April 9, 2014, 12 pumps of the groundwater bypass started operation sequentially as the commencement of this measure.

After confirming that the pumped groundwater met the strict operation target, the release started on May 21, 2014.

A total of 67 times (approx. 110,000m³) of groundwater has been released to date.

Further reduction of workers' exposure dose and enhancement of labor, safety and sanitary management system

Operation start of new Administration Office Building

To improve the office environment of related people including partner companies, a new Administration Office Building was built on site. TEPCO will continue to improve the labor management for workers including partner companies.

Opening: October 27, 2014



<External appearance of new Administration Office Building>

Operation start of Fukushima revitalization meal service center

To improve and enhance the work environment, Fukushima revitalization meal service center was established in Ogawara district in Ohkuma Town on March 31.

On June 1, meal service commenced at this center in conjunction with the operation start of the large rest house on May 31.



<External appearance of the center>



<Inside the center>

Operation start of large rest house

A large rest house for workers was established and its operation commenced on May 31.

Spaces in the large rest house were also installed for office work and collective worker safety checks as well as taking rest.



<Space for rest>

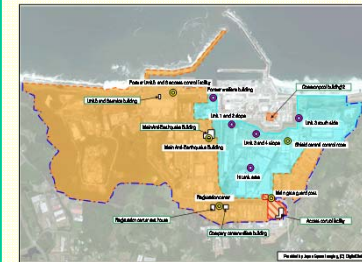


<External appearance of large rest house>

Expansion of full-face mask unnecessary area

To alleviate risks of heat stroke in summer, reduce workload and improve productivity, the full-face mask unnecessary area was reviewed and expanded to approx. 90% of the site from May 29, 2015.

Note: Wearing full-face mask is required for work exposed to highly concentrated dust; and full-face masks for works involving a risk of ingesting concentrated salt water, etc.



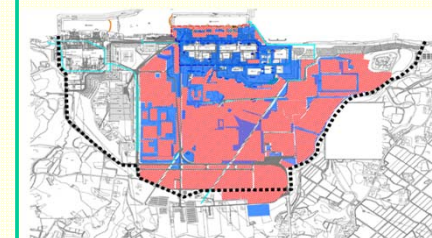
- [Ongoing area] full-face mask unnecessary area *1 *3
- [Additional area] full-face mask unnecessary area *3
- [Area where use of surgical mask is allowed during both transportation and work]
- [Boundary of controlled area]
- [Ongoing area] continuous dust monitor
- [Additional area] continuous dust monitor

*1 Excluding the inside of the solid waste storage building and the cask storage building.
*2 Only in a portion of area on 2nd and 3rd floors of the common pool building.
*3 Full-face mask for works exposed to highly concentrated dust, and full-face mask, for works with risks taking in highly contaminated strontium water.

Expansion of facing on site

Facing is underway to cover the ground surface on site with asphalt, reduce the dose, prevent rainwater seeping underground, and reduce inflow of groundwater into the buildings.

Area: 1,450,000 m²
Progress rate: approx. 73% (as of May 22, 2015)



- [Area where construction is underway]
- [Area where construction is completed]
- [Boundary of area which requires dose reduction on site]

◇Area where facing will be completed at the end of FY2015: approx. 1,350,000 m²
◇Area where facing will be conducted according to the progress of decommissioning: approx. 100,000 m²

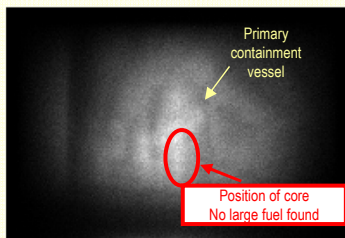
Preparation for fuel debris removal

Investigative results inside the Unit 1 reactor

To gain an insight into the status of fuel debris in the Unit 1 reactor, its position was measured using muons (a type of elementary particle), which are derived from cosmic radiation, from February 12 to May 19, 2015.

The accumulated data through the measurement over approx. three months reduced statistical error and quantitatively confirmed the absence of a large fuel block at the core location.

The investigation using muons will also be implemented in Unit 2.



<Measurement results>

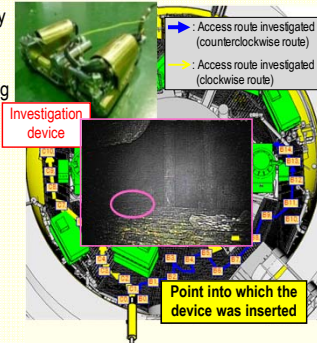
Investigation inside Unit 1 PCV

An investigation inside the Unit 1 primary containment vessel (PCV) was conducted using the robot from April 10 to 20, 2015.

This not only revealed information including images inside the PCV 1st floor and airborne radiation, but also brought invaluable data such as absence of obstacles around the opening to access basement.

These results will be used in future investigations on the PCV basement.

An investigation using the robot will also be conducted in Unit 2 from August 2015 and one using cameras, etc. will be conducted in Unit 3 in October 2015.



TEPCO will make our utmost efforts in further reducing risks and improving the labor environment and steadily proceed with the decommissioning.