

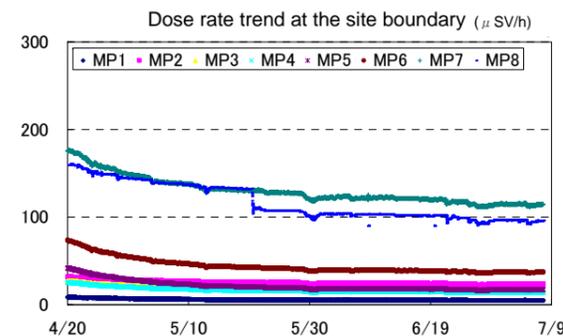
## Points of Progress Status of “Roadmap towards Restoration from the Accident at Fukushima Daiichi Nuclear Power Station, TEPCO”

**1. Basic policy (no change)**

By bringing the reactors and spent fuel pools to a stable cooling condition and mitigating the release of radioactive materials, we will make every effort to enable evacuees to return to their homes and for all citizens to be able to secure a sound life.

**2. Summary of Step 1**

Radiation dose indicated by monitoring posts, etc. has been declining during the period of Step1 (see right figure). TEPCO has evaluated current release of radioactive materials. Based on the evaluation of exposure dose at the site boundary, it has been confirmed that the provisional dose is approximately 1.7mSV/year at the most (Cs134, 137), showing sufficient decrease compared to that during the initial phase of the accident (see Reference 2). Therefore, accomplishment of the Step1 target “Radiation dose is in steady decline” has been confirmed.

**1. [Issue (1) Reactors]: Achieved “stable cooling”**

- The target of “stable cooling” is considered to be achieved based on the following status:
  - ✓ Temperature at the bottom of RPV does not show an upward trend and the heat generated in the reactor (decay heat) is being steadily removed.
  - ✓ Water processing facility is in operation and water is injected without increasing the volume of accumulated water (circulating injection cooling).
  - ✓ Reliability of water injection (countermeasures against abnormal condition, multiple water injection measures, etc.) is secured
  - ✓ Hydrogen explosion is avoided by injecting nitrogen gas into the PCV.

**2. [Issue (2) Spent fuel pools]: Achieved “stable cooling” (particularly as for Units 2 and 3, the target for Step 2, “more stable cooling,” have been achieved)**

- Water injection using existing line has begun in Unit 1 (May 29). In Unit 4, an external injection facility was installed (June 17) as an alternative to existing line and has achieved “stable cooling.”
- Circulating cooling using heat exchanger has begun in Units 2 and 3, thus achieving the target for Step 2, “more stable cooling” (May 31 for Unit 2 and June 30 for Unit 3.)

**3. [Issue (3) Accumulated water]: Secured storage and began operation of processing facility**

- Processing facility is in operation. By processing the accumulated water in the buildings, the risk of unintentional leakage to the environment has been mitigated.
- The number of tanks for storage is being increased gradually.
- Sludge waste with high radioactivity derived from the process is properly stored.

**4. [Issue (4) Groundwater]**

- Radiation analysis and water volume control of the subdrainage are implemented.
- In accordance with the decrease in accumulated water in the buildings, pumps will be restored

gradually in order to discharge the subdrainage.

**5. [Issue (5) Atmosphere/Soil]**

- Main installation work of Unit 1 reactor building cover is underway.

**6. [Issue (6) Measurement, Reduction, Announcement]**

- Monitoring scope/ the number of sampling have been expanded, measured and announced.
- Values such as radiation dose indicated by monitoring posts, etc. as well as radioactivity concentration in the seawater, etc. are in a declining trend.
- On the other hand, since the radioactivity concentration in the seawater in the plant port is still high, decontamination is being conducted utilizing circulation-type seawater processing apparatus.

**7. [Issue (7) Tsunami, Reinforcement, etc.]**

- As a countermeasure against earthquakes, installation work of support structure in the spent fuel pool of Unit 4 is underway.
- As a countermeasure against tsunamis, temporary tide walls have been installed (June 30).

**8. [Issue (8) Life/work environment]**

- On-site rest stations and temporary dormitories are being installed. Living conditions such as showers and meals have been improved.

**9. [Issue (9) Radiation control/Medical care]**

- Measurement and evaluation of external/internal exposure of workers are being conducted. The number of whole-body counter is increasing.
- Doctors with expertise in emergency exposure treatment, etc. are stationed at the site on a 24h-basis (more than one doctor is stationed) and an emergency medical treatment facility was opened (on July 1, in the service building of Units 5/6.)
- Experts on tragedy-induced stress have been deployed from the Ministry of Defense/National Defense Medical College. Countermeasures against mental health are being implemented (July 10.)
- Preventions against heat stroke are being implemented.

**3. Targets and achievement date for STEP2**

- There is no change in the target of “Release of radioactive materials is under control and radiation dose is being significantly held down” and the target achievement date (3-6 months hereafter.)
- [Issue (1) Reactors]: Continue with the circulating injection cooling and properly monitor the RPV temperature, etc., thus bringing the reactors to a “cold shutdown condition.”
- [Issue (2) Spent fuel pools]: Proceed with the installation works of circulating cooling system in Units 1 and 4, and target for achieving circulating cooling similar to that in Units 2 and 3.
- [Issue (3) Accumulated water]: Strive hard for a stable operation of the processing facility, aiming to decrease the total volume of accumulated water.
- As for Issues 4-8, actions taken in Step1 will continue, and together with reduction of radiation, improvement of workers’ life and work environment as well as health care will be enhanced.
- [Issue (9) Radiation control/Medical care]: Radiation control will be enhanced by implementing the following: increase in the number of whole body counters; monthly measurement of internal exposure; automatic recording of personal dose; enhancement of safety training for workers; consideration for long-term health care such as establishing a database. Industrial hygiene programs such as speedy transportation of urgent patients and preventive health care will be established.
- [Action towards mid-term issues]: The government will draft a mid-term safety policy and TEPCO will develop a plan based on the policy.