

# EFFORTS FOR RECONSTRUCTION AND REVITALIZATION AFTER THE GREAT EAST JAPAN EARTHQUAKE AND NUCLEAR POWER PLANT ACCIDENT

On March 11, 2011, a magnitude 9.0 earthquake occurred off the coast of Japan. It was the most powerful earthquake ever recorded around Japan. It generated a tsunami that caused massive damage across a wide swath of northeastern Japan, particularly along the Pacific coast. Simultaneously, the accident at the Tokyo Electric Power Company (TEPCO) Fukushima Daiichi Nuclear Power Station released a large volume of radioactive materials into the environment, forcing many residents to evacuate to other areas. The Ministry of the Environment has been engaged in the efforts aimed at the reconstruction and revitalization of the affected areas, including the decontamination and construction of Interim Storage Facilities, the disposal of specified wastes, and the decontamination and administration of the Specified Reconstruction and Revitalization Bases (SRRBs) in the Restricted Areas.

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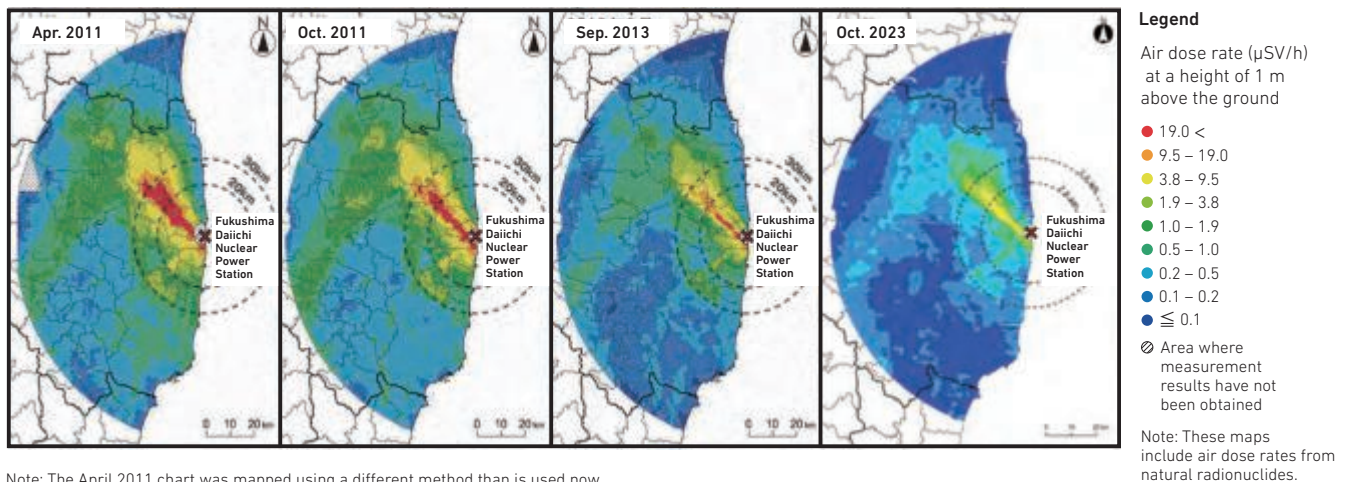
## 1 STATUS OF ENVIRONMENTAL RESTORATION FROM RADIOACTIVE CONTAMINATION

Airborne monitoring within the 80-km zone around the Fukushima Daiichi Nuclear Power Station has shown that the average air dose rate of radioactivity at a height of 1 meter above the ground continues to decline as of November 2023.

In addition, according to monitoring in Fukushima

Prefecture and surrounding areas conducted by the Ministry of the Environment, no radioactive cesium has been detected in rivers, coastal area water, or groundwater in recent years. Further, in lakes, radioactive cesium has been detected in only 2 out of 164 spots in FY 2022.

Distribution of air dose rates within 80 km radius of TEPCO Fukushima Daiichi Nuclear Power Station



Note: The April 2011 chart was mapped using a different method than is used now.  
Source: Secretariat of the Nuclear Regulation Authority

## 2 DECONTAMINATION MEASURES FOR SOIL CONTAMINATED BY RADIOACTIVE MATERIALS

By the end of March 2018, whole area decontamination of 100 cities, towns, and villages in eight prefectures was completed, excluding Restricted Areas. In addition, decontamination work and the demolition of houses and other buildings in SRRBs have been progressing since December 2017. In the SRRBs, decontamination work was almost completed, while the progress rate for demolition in relation to the number of applications received was approximately 86% by the end of February 2024.

As a result of these efforts, by November 2023, evacuation orders for the SRRBs in six towns and villages (Katsurao Village, Okuma Town, Futaba Town, Namie Town, Tomioka Town, and Iitate Village) were all lifted. Regarding areas outside the SRRBs, the Nuclear Emergency Response Headquarters and the Reconstruction Promotion

Council issued a document titled “Consideration on the Lifting of Evacuation Orders to Facilitate Return to and Residence in Areas Outside Specified Reconstruction and Revitalization Bases” in August 2021. Accordingly, efforts will be made to decontaminate necessary locations and lift evacuation orders so that residents who wish to return home may do so over the course of the 2020’s. To implement this government policy, we amended a draft law to partially amend the Act on Special Measures for the Reconstruction and Revitalization of Fukushima in June 2023. As a result, mayors in the Evacuation Order Areas have been empowered to designate The Specified Living Areas for Returnees with the aim of facilitating residents’ return to their home towns and the rebuilding of their lives after returning by lifting the evacuation orders.

### 3 EFFORTS TOWARD THE FINAL DISPOSAL OF REMOVED SOIL AND WASTE WITHIN FUKUSHIMA PREFECTURE

Regarding removed soil and waste arising from decontamination activities within Fukushima Prefecture, necessary measures are to be taken to complete the final disposal outside Fukushima Prefecture within 30 years from the start of interim storage.

To achieve the final disposal of removed soil outside the prefecture, it is important to reduce the volume for the final disposal by efforts of the managed recycling and volume reduction. Regarding the managed recycling, demonstration projects for agricultural embankment and road embankment have been carried out and the safety of recycled soil has been confirmed. As for volume

reduction, demonstration tests for basic technology related to cleaning and stabilizing fly ash generated at ash processing facilities in the Interim Storage Facility have been carried out.

To foster public understanding of the managed recycling and the final disposal outside the prefecture of removed soil nationwide, various initiatives have been implemented, including dialogue forums across the country on the necessity and safety of the managed recycling and volume reduction of removed soil, site tours of demonstration projects for the general public, lectures on environmental restoration projects for university students, and others.

### 4 MONITORING OF SEA AREAS RELATED TO ALPS TREATED WATER

In August 2023, the discharge of water treated by multi-nuclide removal equipment (Advanced Liquid Processing System: ALPS) (hereinafter “ALPS treated water”) into the sea started. When ALPS treated water is discharged into the sea, it is necessary to confirm that radioactive materials have been sufficiently purified to reduce their levels of concentration to well below the maximum allowable level under the safety standard. Regarding the concentration of tritium, which is difficult to remove, it is required that treated water be disposed of after being diluted with seawater significantly, down to a concentration level that sufficiently meets the safety standard (below 1,500 becquerel/liter).

In order to grasp the situation of contamination in the environment, the Ministry of the Environment measures the concentration levels of tritium and other radionuclides contained in seawater, fish, and seaweed based on the Comprehensive Radiation Monitoring Plan (decided by the Monitoring Coordination Meeting in August 2011 and revised in March 2024). Since the start of the discharge of ALPS treated water in particular, we have enhanced and expanded monitoring and conducted an analysis intended to obtain results over a short period of time (rapid analysis), approximately one week or so, at a high frequency, in addition to an existing analysis intended to obtain precise results over an extended period of time (precise analysis). As a result of those

analyses, we have confirmed that there have been no effects on the human body or the environment.

When examining the monitoring method and evaluating analysis results, we check scientific validity by receiving reviews and advice from experts at meetings of the panel of experts on the monitoring of sea areas related to ALPS treated water.

In order to check the credibility of Japan’s analysis capability, in October 2023, experts from the International Atomic Energy Agency (IAEA) and third countries visited Japan as part of the Interlaboratory Comparison initiative and jointly conducted sample collection and other activities. Going forward, the IAEA will conduct comparison and evaluation of the results of analyses conducted by Japan, the IAEA and third countries. According to the results of the Interlaboratory Comparison conducted in 2022, the IAEA recognized the sample collection method used by Japanese laboratories as appropriate and gave the assessment that Japanese laboratories involved in the analysis of radionuclides in the marine environment possess a high level of accuracy and competence.

We will continue the monitoring of the sea areas with a high level of objectivity, transparency, and credibility, as well as disseminating information on the results domestically and internationally in an easy-to-understand manner.