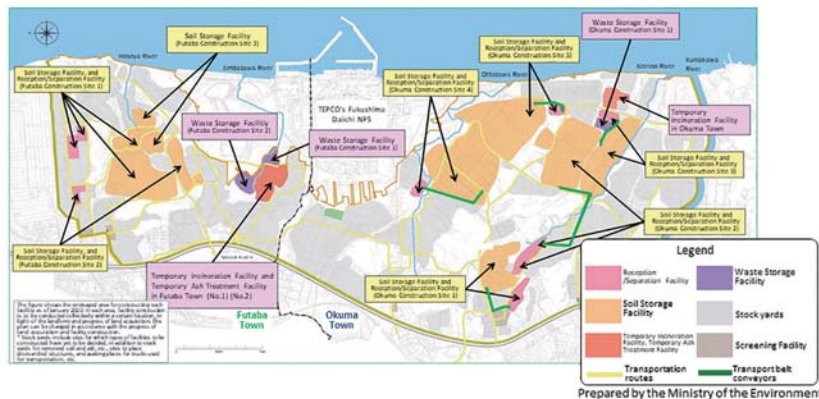


Interim Storage Facility for Removed Soil and Waste

- The Interim Storage Facility (ISF) was built to safely and intensively manage and store removed soil, waste, and incinerated ash (>100,000 Bq/kg) generated by decontamination in Fukushima Prefecture, until final disposal outside the prefecture within 30 years from the start of transportation to the Interim Storage Facility.
- Okuma Town and Futaba Town agreed to the request to build the facility, which was a very important decision. The Ministry of the Environment will continue to work on the ISF project with a “Safety First” approach.
- The total area of the planned site for the ISF is approx. 1,600 ha (almost the same as the area of Shibuya Ward in Tokyo). By the end of December 2021, the national government acquired land of approx. 1,263 ha (approx. 78.9% of the total sites).



At the ISF, the following are to be stored:

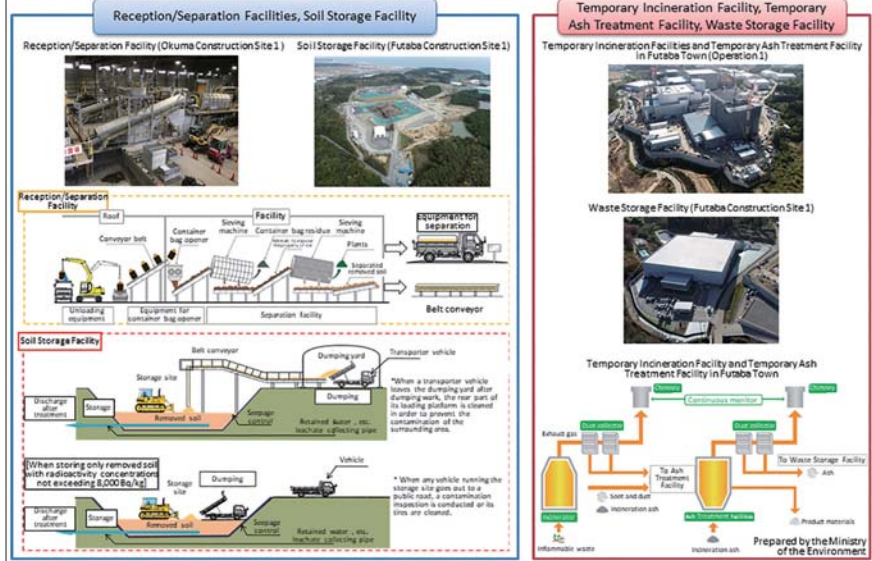
- Removed soil and waste (e.g. fallen leaves and branches, etc.) generated due to decontamination work in Fukushima Prefecture;
- Incineration ash with radioactivity concentration exceeding 100,000 Bq/kg.

The ISF is a facility to safely and intensively manage and store the above until final disposal outside the prefecture within 30 years after the commencement of interim storage. It is comprised of Reception/Separation Facilities, Soil Storage Facilities, and Waste Storage Facilities, etc.

Consent to accept the construction of the ISF was obtained from Fukushima Prefecture in September 2014 and from Okuma Town and Futaba Town in January 2015. The total area of the planned site is approx. 16 km², almost the same area as Shibuya Ward in Tokyo. By the end of December 2021, the national government acquired land of approx. 1,263 ha (approx. 78.9% of the total sites). The national government considers it most important to obtain understanding on the ISF project, not to mention building a relationship of trust with landowners, and is committed to continuing efforts while providing sufficient explanations to landowners.

Included in this reference material on January 18, 2016

Updated on March 31, 2022



The Reception/Separation Facilities receive the removed soil and waste which is transported from the Temporary Storage Sites in Fukushima Prefecture to the ISF. The soil and waste are unloaded from trucks, taken out from container bags and separated into combustibles and incombustibles. The Soil Storage Facilities store the soil treated at the Reception/Separation Facilities safely in accordance with their radioactivity concentrations and other properties. As waste-related facilities, Temporary Incineration Facilities, Temporary Ash Treatment Facilities, and Waste Storage Facilities are also constructed. At Temporary Incineration Facilities, decontamination waste, disaster waste, and plants, etc. that are combustible are incinerated to minimize the volume. Generated incineration ash, etc. are melted at Temporary Ash Treatment Facilities to further reduce volume. Ash generated at Temporary Ash Treatment Facilities is encapsulated in square steel containers and stored at Waste Storage Facilities made of reinforced concrete, etc.

Construction of these facilities was commenced first for Reception/Separation Facilities and Soil Storage Facilities in November 2016. Then, reception and separation of the removed soil and waste started in June 2017 and storage of the soil sorted out started at the completed Soil Storage Facilities in October 2017. In March 2020, the ISF commenced operations of facilities for all processes of the treatment and storage of removed soil and waste.

At these facilities, safety measures to prevent scattering and leakage of radioactive materials are taken. At the Reception/Separation Facilities, scattering of radioactive materials to outside of the facilities is being prevented by roofs, walls, and double doors and through negative pressure control. Floors are structured not to allow permeation of a liquid for the purpose of preventing contaminated water, etc. from permeating into groundwater. At Soil Storage Facilities, scattering of radioactive materials is prevented by watering, and covering with soil, and permeation into groundwater is prevented by seepage control. Leachate, etc. generated at these facilities is treated properly at a leachate treatment facility and is discharged after water quality management.

Included in this reference material on February 28, 2018
Updated on March 31, 2022

Interim Storage Facility Transportation of Removed Soil and Waste

- Transportation of the soil and waste from Temporary Storage Sites (TSS) to the Interim Storage Facility (ISF) has been implemented mostly using 10-ton dump trucks.
- Transportation was commenced at the end of FY2014. In FY2021, removed soil and waste were transported from 18 municipalities. Efforts will be continued, aiming to almost complete transportation of removed soil and waste that has been temporarily stored within Fukushima Prefecture excluding those in Restricted Areas,* and transportation of removed soil and waste generated in Specified Reconstruction and Revitalization Base Areas will also be promoted.
- Safe and secure transportation is being conducted through managing the whole amount of material to be transported and operation of trucks used for transportation, and conducting environmental monitoring, etc.
- Approx. 12,460,000 m³ of removed soil and waste (including those in Restricted Areas) has been transported to the ISF (as of the end of December 2021).
- Total of the amount stored at the Temporary Storage Sites and the amount already transported: Approx. 14,000,000 m³ (estimation as of October 2019)

Progress in transportation from respective municipalities (as of the end of December 2021)

- Municipalities where transportation has been completed(*)
- Municipalities where transportation was conducted

* Even in municipalities where transportation has been completed, if any object that needs to be transported is generated, such object is to be transported to the ISF.

Management and monitoring of transportation

Management of the whole amount of material to be transported

- Objects to be transported from Temporary Storage Sites are all managed centrally by the unit of storage container.

Management of operation of trucks used for transportation

- Positional information, etc. of trucks is ascertained on a real-time basis by the use of GPS or other means.
- Instructions concerning schedule adjustments and route changes depending on circumstances.

Prepared by the Ministry of the Environment

In line with the FY2021 Policies for the ISF Program published on December 11, 2020, it is intended to almost complete transportation of removed soil, etc. that has been temporarily stored within Fukushima Prefecture (excluding those in Restricted Areas) to the ISF by the end of FY2021, and transportation of removed soil and waste in Specified Reconstruction and Revitalization Base Areas will also be promoted. As of the end of December 2021, an accumulative total volume of approx. 12,460,000 m³ of the removed soil and waste had been transported to the ISF.

Transportation is being conducted on a safety-first policy. Major traffic safety measures are as follows.

1. Training for new and existing workers:

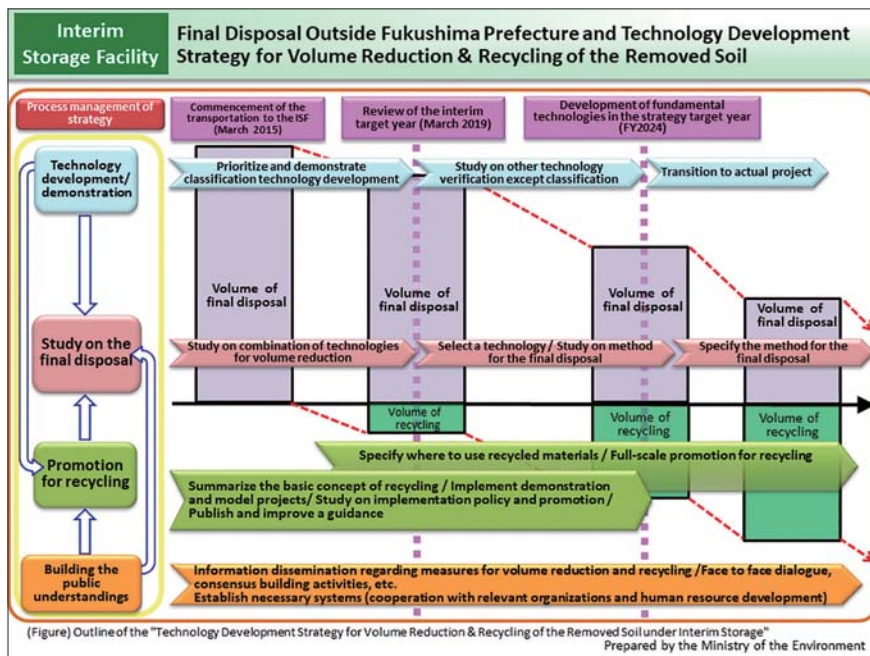
Training on transportation of removed soil and waste to the ISF is provided to truck drivers and other workers newly employed. Workers already engaging in transportation also receive training again every fiscal year.
2. Pre-driving of transportation routes:

All drivers drive the transportation routes in advance to mutually check high-risk spots and things to note, etc.
3. On-site checking of driving status:

At spots where attention should be paid for speeding or heavily trafficked spots, etc. driving status of trucks transporting removed soil and waste is checked (including on their way back).
4. Commendation of superior drivers:

With the aim of improving and maintaining drivers' motivation and safety awareness, superior driver certificates (to be put on helmets and dashboards) are given to drivers who conducted transportation safely for 100 days or longer via contractors.

Included in this reference material on February 28, 2018
 Updated on March 31, 2022



For achieving final disposal of the soil and waste removed through off-site decontamination work outside Fukushima Prefecture within 30 years from the commencement of interim storage, it is important to increase the amount of removed soil and waste that can be recycled to the extent possible through processing them while fully utilizing volume reduction technology, thereby reducing the total amount for final disposal. Volume reduction technology includes heat treatment and treatment by classifying removed soil and incineration ash into fine grains and sand and pebbles. Regarding volume reduction and recycling of removed soil and waste, efforts have been made steadily to develop technologies, promote recycling, and study the direction for final disposal in line with the “Technology Development Strategy for Volume Reduction & Recycling of the Removed Soil under Interim Storage,” which the Ministry of the Environment (MOE) published in April 2016. In the mid fiscal year of the Strategy (FY2018), MOE comprehensively reviewed the achievement of the interim target and the forecast of technology development and recycling in the future, etc. and revised the Strategy in March 2019. Additionally, MOE published a guide (draft), which compiled technological matters to note in handling recycled soil safely in public works, etc., in March 2019 and updated it in December 2019.

Included in this reference material on March 31, 2019

Updated on March 31, 2022

Interim
Storage FacilityBasic Concept for Safe Use of Removed Soil
Processed into Recycled Materials

- The Ministry of the Environment (MOE) released "Basic Concept" in June 2016 to realize the use of the removed soil under proper management after volume reduction and recycling materialization on the premise of securing radiation safety.
- According to a policy of Basic Concept, MOE implements demonstration and model projects, confirms radiation safety, studies specific management systems, while fostering understandings of public all over Japan and developing an environment towards full-scale recycling.

Limited Use

- ✓ The use of contaminated soil is to be limited to public project whose management entity and responsible system are clear such as basic structure of banking, which assumed not to change shape artificially for a long time.
E.g. coastal levees, seaside protection forests, embankment materials for roads, cover soil for waste disposal sites, landfill materials and filler for land development, and farmland for flowers and resource crops

Proper Management

- ✓ The additional exposure dose should be restricted below 1 mSv/y during the construction.
- ✓ Radioactivity concentration recycling level of Cs-137 included in the soil is below 8,000 Bq/kg as a principle, and is set separately for each use.
- ✓ Shielding is installed to cover soil and prevent the leakage and scattering. The data is also recorded.



Prepared by the Ministry of the Environment

With the aim of broadly obtaining understanding and trust of the public and local residents for recycling of the soil removed through off-site decontamination work in Fukushima Prefecture, and at the same time promoting safe use of removed soil processed into recycled soil by stage, the Ministry of the Environment (MOE) compiled the Basic Concept for Safe Use of Removed Soil Processed into Recycled Materials in June 2016. This Basic Concept imposes a limitation that processed removed soil be only used in public works, etc. where management entities and responsibility-related systems are clarified. It also sets the upper limit for radioactivity concentrations of recycled materials to limit additional exposure doses, while supposing that they are used under proper management, such as with shielding by cover soil.

At present, based on this Basic Concept, MOE is implementing demonstration projects in Minamisoma City and Iitate Village to confirm the safety of processed removed soil. The results obtained so far through the demonstration projects have shown no significant changes in air dose rates or other values since commencing the projects, and measured values of radioactive cesium in seepage water through cover soil were all below the detection limit. In Minamisoma City, a trial embankment was created using recycled materials and radiation monitoring was conducted. As a result, data for over three years were obtained, and the embankment was removed in FY2021.

In Iitate Village, preparatory work for the development of farmland was commenced in June 2020 and creation of an embankment was commenced in April 2021. In the village, an experiment to grow edible crops has been conducted to confirm growth and safety. In the experiment in FY2021, measured concentrations of radioactive cesium in those edible crops were judged to be below the detection limit (The method of measuring radioactive cesium concentrations in foods specified by the Ministry of Health, Labour and Welfare sets the detection limit as less than 20 Bq/kg. As a result of continuing measurements until Cs was detected, all values were 0.1 to 2.5 Bq/kg, far below the standard limit for general foods (100 Bq/kg)). Additionally in FY2021, a test to check functions of paddy fields was also conducted.

For achieving final disposal outside Fukushima Prefecture, the national government has been holding meetings to exchange opinions nationwide since FY2021 or has otherwise been fundamentally strengthening activities to obtain public understanding for the need and the safety of volume reduction and recycling of waste.

MOE's website, "Interim Storage Facility": Demonstration Project for Recycling in Minamisoma City
<http://josen.env.go.jp/chukanchozou/facility/effort/recycling/minamisoma.html> (in Japanese)

MOE's website, "Interim Storage Facility": Demonstration Project for Recycling in Iitate Village
<http://josen.env.go.jp/chukanchozou/facility/effort/recycling/itate.html> (in Japanese)

Included in this reference material on March 31, 2019
 Updated on March 31, 2022