



Volume Reduction System by Soil Classifying; Soil-washing System and Problems to Be Solved

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Summary

Radioactive contamination of ground surfaces, buildings and forests in a broad area was caused by the accident at the Fukushima Daiichi Nuclear Power Plant in Japan. The national government and municipalities have still been carrying out the decontamination works for livelihood areas after five years from the accident. The government estimated that the amounts of soils and wastes removed by the decontamination works would be about 28,000,000 cubic meters maximum including 20,000,000 cubic meters maximum of soils. The removed soils will be stored in “Interim Storage Facility” then will be finally disposed outside of Fukushima prefecture within 30 years. On the other hand, shortage of the soils as materials needed for the revitalization in Fukushima prefecture is expected.

Technical Advisory Council on Remediation and Waste Management, which consists of about 90 companies, started a working group to investigate solutions to these problems. The working group focused on the investigation of the possibility to recycle the soils by washing and classification to use them as the materials for civil engineering works, and to reduce the volume of the interim storage. In the first part of this report, we have evaluated the applicability of various technologies for purification and volume reduction of the removed soils, and have researched usages, required quantities and specifications of the recycled soils. In the second part, we have made trial calculations of the volume reduction effects and costs using the washing and classification system. The calculated results showed the possibilities of reducing the storage capacity of the interim storage facility, as well as the construction and the operation costs by recycling the removed soils with the washing and classification system inside the interim storage facility. At the end of this report, we proposed problems to be solved in order to adopt the washing and classification system.

Key Words: Radioactive contamination in the environment, Interim storage facility, Recycle, Soil-washing system