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How should we proceed with decontamination and waste management?

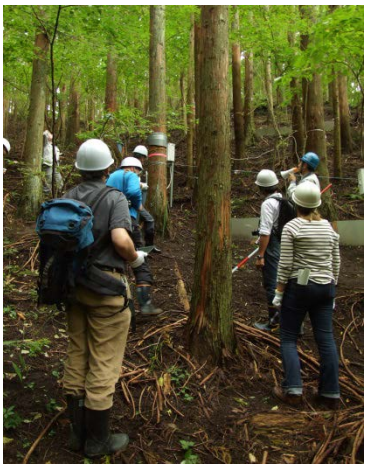
International workshop held for discussion with overseas experts

From September 30th to October 3rd, the Japan Atomic Energy Agency (JAEA) held an international meeting titled “Caesium Workshop: Fukushima recovery - understanding, modeling and managing radiocaesium decontamination.” The aim was to have experts from various countries engage in discussions based on their previous experiences in this field, with the ultimate objective of solving a number of pressing problems, including decontamination, measures to reduce radiation exposure at sensitive locations, and reduction of the volume of waste produced by decontamination activities. Among the participants, it was recognized that efforts to address these problems must not only meet technical requirements, but must also take into consideration societal issues such as the thoughts and feelings of people living in affected areas.

This workshop was held based on cooperation (described below) between JAEA and the Scottish Universities Environmental Research Centre (SUERC). A total of about 80 participants including experts from universities and research institutions in Japan, the UK, Switzerland, the USA, France and Russia.

Many countries outside of Japan have experienced nuclear incidents where major releases of radioactive materials into the environment have taken place. For

example, in 1986 the world's most serious nuclear accident took place at the Chernobyl nuclear power plant in the former USSR (now Ukraine) and, for several decades since 1949, the USSR disposed of high-level radioactive liquid waste directly into rivers and lakes. In the UK, radiocaesium fallout resulted from the Windscale reactor fire (1957), atmospheric tests of nuclear weapons and the Chernobyl accident has been extensively studied while vast quantities of radiocaesium was released directly into the Irish Sea from the nuclear reprocessing facility at Sellafield. Based on this experience and knowledge of other decontamination projects, the participants exchanged views on the best approaches for treatment/disposal of wastes produced by decontamination work in Fukushima, and research and development (R&D) on radionuclide behavior in the environment. They agreed that it will be necessary to consider the elements unique to Fukushima such as its complex terrain, its diverse forms of land use, and the fact that habited areas are contaminated. It was also pointed out that researchers and engineers should actively contribute to communication with residents on both decontamination and research activities.



On the final day, participants toured the site of a research investigation into the dynamics of radioactive caesium in both forest and reservoir ecosystems, being conducted by the JAEA at the Ogi Dam in Kawauchi Village. They also visited a temporary waste storage site for waste from decontamination work being undertaken by the Ministry of the Environment.

It is expected that both the approaches suggested and the knowledge obtained at this workshop will be used in areas such as recommendations to the government and in the future R&D plan relating to further restoration of the environment in Fukushima.

Agreement signed between the Japan Atomic Energy Agency (JAEA) and the Scottish Universities Environmental Research Centre (SUERC)

In advance of this workshop, the JAEA signed an agreement with SUERC on September 19th.

SUERC has previous experience conducting comprehensive surveys and research on radioactive materials released into the environment due to various nuclear incidents such as atmospheric nuclear weapons testing, the Windscale fire, operational releases from the Sellafield nuclear reprocessing plant and the fallout from the Chernobyl accident.

JAEA is conducting surveys of the impact of radionuclides emitted during the accident at Tokyo Electric's Fukushima Daiichi Nuclear Power Station, and developing techniques for monitoring and mapping radioactive material. Also, on December 2012 the JAEA started a project (F-TRACE:

Long-term Assessment of Transport of Radioactive Contaminant in the Environment of Fukushima) for elucidating and predicting radiocaesium behavior in the environment.

Therefore the agreement between JAEA and SUERC will deepen cooperation in areas such as evaluating the dynamics of radionuclides in the environment and in radiation monitoring. Knowledge transfer from both sides is expected to make a major contribution not only to efforts to restore the environment, which the JAEA is currently making in Fukushima, but also serve as a valuable resource to help the international community establish measures to deal with future accidents and decontamination of legacy sites.