

Review

Decontamination Tests in the Recreational Areas Affected by the Chernobyl Accident: Efficiency of Decontamination and Long-term Stability of the Effects

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Summary

The paper provides a review of the decontamination tests and the follow up monitoring program conducted by the Russian and Danish researchers in two recreational areas in the period 1995–2003. The recreational areas Novie Bobovichy and Muravinka consisted of sets of wooden and brick summer houses in forest-grassland surroundings. The sites are located on the territory of the Bryansk region (Russia) at a distance of about 180 km north-east of the Chernobyl Nuclear Power Plant. Before intervention began, the inventory of ¹³⁷Cs in soil was determined at a level of 1000 kBq m⁻². The collaborative research project showed that use of simple countermeasures involving hand-tools and light machinery could reduce the external dose rate considerably, even though 10 years had passed since fallout of the Chernobyl radiocesium. The long-term monitoring of the recreational areas did not demonstrate significant re-contamination of cleaned ground plots within the time period of 15–17 years after intervention. The technologies and the methods implemented to clean up the recreational areas may be recommended for restoration of some Japanese sites that were strongly contaminated in 2011 as a result of the Fukushima accident.

Key words: Chernobyl, nuclear accident, radiocesium, decontamination, external exposure, monitoring.
