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Important Factors for the Public's Acceptance of the Volume Reduction of Radioactively Contaminated Soil and Wastes Resulting from the Fukushima Daiichi Nuclear Power Station Accident

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• Summary • For the final disposal of 13.3 million m^3 of contaminated soil and wastes resulting from the Fukushima Daiichi Nuclear Power Station accident of 2011, it is important to consider not only the technical development of volume reduction efforts for contaminated soil and wastes but also its public acceptance. In this study, a choice-based conjoint analysis using an online questionnaire was used to examine important factors related to the public's acceptance of the application of a volume-reduction technology. The survey covered the volume of material to be disposed of, the radioactivity concentration of the disposed material, and types of disposal facilities. Responses were obtained from 2026 residents in the Kanto region in August 2023. The results showed that respondents' preferences were greater for smaller disposal volumes, lower radioactivity concentrations, and more strictly controlled disposal facilities. Overall, respondents' preference was greater for a scenario with a lower degree of volume reduction. That is, they considered a lower radioactivity concentration to be more important than the reduction in the amount of material disposed of through the use of a volume-reduction technology or the use of a more strictly controlled disposal facility. Our study identified that public resistance and aversion to increased radioactivity concentrations due to volume reduction are difficult to offset by the benefits of reduced disposal volume, which is useful information not only for actual scenario selection, but also for risk communications with stakeholders after candidate sites have been selected.

Key Words: conjoint analysis, online survey, final disposal, Fukushima Daiichi Nuclear Power Station accident

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