

(9) Draft guideline of Japan Health Physics Society for waste management in existing exposure situations after a nuclear accident

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Abstract—There is a desire in existing exposure situations after a nuclear accident to reduce exposures to levels that are close to or similar to situations considered as normal. In the environmental remediation process, large amounts of contaminated wastes and substances including removed soils are accumulated as a result of decontamination activities. The management of radioactive waste must be an essential part of the remediation process and should be optimised under the framework of radiation protection to reduce the ambient dose in existing exposure situations since the generation of radioactive wastes is inevitable in decontamination. The Working Group on radioactive waste management under the Standardisation Committee in the Japan Health Physics Society (JHPS) recognises that we should develop a guideline of radiation protection for the management of radioactive waste in existing exposure situations for a practical, reasonable and sustainable environmental remediation. In existing exposure situations, intermediate reference levels, which are the source-related restriction to the dose that individuals may incur, can be adopted as a tool in the optimisation of radiation protection to reduce the existing ambient dose. The currently available radiation protection framework for radioactive waste management, however, had been developed only for planned exposure situations including introduction and operations of radioactive sources under a normal radiation dose level under which compliance with the dose limit of 1 mSv/y for public exposure is demonstrated. Therefore, the Working Group proposes a stepwise approach of radiation protection for the management of radioactive waste generated in the remediation process to reduce exposure under existing exposure situations. The presentation will provide a draft guideline; (1) a reference level for waste management should be selected from the dose band of 1 to around 10 mSv/y below the reference level for the existing ambient dose, and (2) the final target reference level for the disposal of the waste should be set at 1 mSv/y, under the relevant stakeholder involvement. We will also discuss the implication the stepwise approach through simplified case studies in typical situations after the Fukushima Daiichi nuclear accident.