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Safety Analysis for Marine Radiation Leakage Accidents

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This study is focused on the radioactive dose assessment using KM-RAD (Korea Marine Radionuclide Transport & Dose) when the radioactive waste carrier sank in Korea seas. KM-RAD is the evaluation program of marine radionuclide transport & dose and consists of KOSPS-RAD (Korea Radionuclide Spill Prediction System) and MARINRAD (MARINRAD that reflects the Korea marine characteristics). This program could be utilized in other areas by improving the input data in the local data.
We carried out the dose assessment assuming that the planned load is 1,000 drums and the radionuclide leakage rate from each drum is 100%. As a result, the integrated dose of coastal residents exceeded the criteria in case of the single waste loading of the spent resin or spent filter. Therefore, the spent resin or spent filter should be loaded with the concentrated waste or dry active waste, which has low radioactivity.

This study is a part of "Improvement of Impact Assessment Model in Ship Sinking Accident", a research project supported by Korea Radioactive Waste Agency (KORAD).

Country or International Organization

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