

Using SNAP and RADTRAD to Establish the Analysis Model for Maanshan PWR Plant

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Abstract : In this study, we focus on the establishment of the analysis model for Maanshan PWR nuclear power plant (NPP) by using RADTRAD and SNAP codes with the FSAR, manuals, and other data. In order to evaluate the cumulative dose at the Exclusion Area Boundary (EAB) and Low Population Zone (LPZ) outer boundary, Maanshan NPP RADTRAD/SNAP model was used to perform the analysis of the DBA LOCA case. The analysis results of RADTRAD were similar to FSAR data. These analysis results were lower than the failure criteria of 10 CFR 100.11 (a total radiation dose to the whole body, 250 mSv; a total radiation dose to the thyroid from iodine exposure, 3000 mSv).

Keywords : RADionuclide, transport, removal, and dose estimation (RADTRAD), symbolic nuclear analysis package (SNAP), dose, PWR

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