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Methodology for PSA Uncertainty Estimation and Application in Risk-Informed Decision-Making

Uncertainties are very important in risk analysis and should be considered in the decision-making process. This paper proposes the methodology for estimation of PSA uncertainties in risk-informed decision-making. The methodology allows solving the complex task of identifying the sources of uncertainties, assessing their range, and providing an approach for consideration of PSA results with uncertainties in combination with other factors underlying risk-informed decision-making. The levels of uncertainties are proposed to be classified using the variation factor. The authors applied the developed methodology to assess alternatives of post-Fukushima safety measures.
Keywords: uncertainty, risk-informed, decision-making, risk analysis.