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3D Radiation Dosimetry & ALARA Planning Tool: Enhancing Sustainable Decommissioning

The ANUBIS ALARA planning system is a software tool designed to facilitate radiation protection planning and optimization during decommissioning and dismantling activities in nuclear facilities. This abstract highlights the key features and benefits of the ANUBIS tool in supporting sustainable decommissioning efforts. It also presents the ongoing effort to validate the tool in real workplaces.

The ANUBIS ALARA planning system integrates 3D radiation dosimetry, simulation, and visualization capabilities. It allows for the simulation of radiation fields, calculation of personal doses, and planning of actions in a virtual environment. The software generates work plan reports with dose estimates and supports the modification of radiological models for improved accuracy using full Monte-Carlo simulations. Additionally, it facilitates communication and decision-making among workers through information presentation to different user categories.

The software's workflow includes characterization, modeling, planning, simulation, and visualization. It offers fast dose calculations, shielding assessments, and the evaluation of alternative optimization scenarios. The ANUBIS tool provides charts, graphs, and 3D radiation visualization to assist in result interpretation, updated to reflect changes in the modeled radiological conditions.

With its user-friendly interface, the software supports easy setup of simulations and report generation, providing real-time access to vital information. It accommodates complex geometries, scanned geometries, CAD files, and multiple radiation sources. The ANUBIS tool is currently undergoing validation and verification against leading Monte-Carlo codes in real-world environments.

In summary, the ANUBIS ALARA planning system is a software solution that contributes to sustainable decommissioning by enabling accurate dose estimation, visualization, and decision-making. It aligns with radiation protection regulations while optimizing operational costs and promoting worker safety.

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