

The Safety Assessment Framework Tool (SAFRAN) – Description, Overview and Applicability

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The SAFRAN tool (Safety Assessment Framework) is a user-friendly software application that incorporates the methodologies developed in the SADRWMS (Safety Assessment Driven Radioactive Waste Management Solutions) project.

The International Atomic Energy Agency (IAEA) organized the International Project on Safety Assessment Driving Radioactive Waste Management Solutions (SADRWMS) to examine international approaches to safety assessment for predisposal management of all types of radioactive waste, including disused sources, small volumes, legacy and decommissioning waste, operational waste, and large volume naturally occurring radioactive material residues.

SAFRAN provides aid in:

- Describing the predisposal RW management activities in a systematic way,
- Conducting the SA (safety assessment) with clear documentation of the methodology, assumptions, input data and models,
- Establishing a traceable and transparent record of the safety basis for decisions on the proposed RW management solutions,
- Demonstrating clear consideration of and compliance with national and international safety standards and recommendations.

The SAFRAN tool allows the user to visibly, systematically and logically address predisposal radioactive waste management and decommissioning challenges in a structured way.

It also records the decisions taken in such a way that it constitutes a justifiable safety assessment of the proposed management solutions.

The objective of this paper is to describe the SAFRAN architecture and features, properly define the terms safety case and safety assessment, and to predict the future development of the SAFRAN tool and assess its applicability to the construction of a future LILW (Low and Intermediate Level Waste) storage facility and repository in Croatia, taking into account all the capabilities and modelling features of the SAFRAN tool.

Keywords: SAFRAN, SADRWMS, safety case, safety assessment, radioactive waste management, predisposal, decommissioning