ICAR: TOOL OF INTERCOMPARISON OF ACTIONS FOR THE REHABILITATION IN POST-ACCIDENTAL PHASE

REALES N[1], CESSAC B[1]

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In the event of a nuclear crisis, from the emergency to the post-accidental phase, decision makers may need specific information to choose a rehabilitation strategy among the available options. As the post accidental phase constitutes a very complex situation, involving many stakes at different levels, technical experts must be able to provide clear and argued recommendations adapted to the decision makers demand.

In order to fit this problematic and to enhance its expertise capacities, IRSN is currently developing a coherent package of operational decision-aiding tools. Among them, *"ICAR"* is a new interactive software used to investigate the likely consequences of a range of recovery options for the post-accidental phase. This tool is based on an intercomparison methodology of relevant technical and radiological indicators related to the implementation of rehabilitation strategies and the associated consequences.

"ICAR" is composed of 4 main sub-modules:

- The "Scenario of accident" module, used to define the characteristics of the accident and of the contaminated environment (date, deposited radionuclides, …).
- The "Radiological diagnosis" module provides indicators related to the radiological effectiveness of the rehabilitation strategies (gain of exposure of various groups of population, contamination of the environment and the food products…).
- The "Construction of rehabilitation strategies" module, used to build new strategies from existing rehabilitation options and to insert them in the comparison process.
- The "Technical assessment" module, used to compare some technical criteria related to the implementation of selected rehabilitation strategies (human and materials means, duration, amount of generated waste,…).

According to the use made of *"ICAR",* two main axes were developed: accessibility and flexibility. So structure, calculation speed and user-interface of *"ICAR"* allow an intuitive, simple and convivial use. For example, the graphic mode is largely used to facilitate the reading and the interpretation of results. Moreover, it is possible to process the results with a specific function in order to sort them in a personalised way.