Objective

However promising may be the MSR performances emphasized and before starting any more detailed studies of new MSR concepts, key points concerning mainly the chemical aspect of the Molten Salt technology must be deeply analysed. A large amount of work was performed between the 60’s and 80’s by ORNL, in Europe and in former Soviet Union. Some knowledge is available in literature and in laboratories. There is a need to analyse data and experiments available. The objectives are the evaluation of MSR based on comprehensive understanding of physical and chemical characteristics, and the achievement of models required for this evaluation. The project is largely based on the assessment of the state of the art in Europe and in other countries in order to establish the requirements in future R&D programs. An exploration of the most promising options will be done in the fields of salt characterization and materials in order to validate the analysis based on the review of
The renewed interest in MSR takes place in reviewing innovative systems in European countries in order to bring adequate answers to the constraints weighing on the future of the nuclear energy in terms of cost, safety, environmental impact and public acceptance, and to keep open the nuclear option in the following years. Indeed, the MSR concept presents a number of significant advantages, as regards key points for future nuclear systems, like waste management, efficiency of the system, use of fissile materials, or non-proliferation issues. In particular, the high MSR potentiality to reduce strongly the long lived wastes due to high burn up and on-site simplified processing, explains the development of new MSR concepts. The objectives are the re-evaluation of previous projects with new objectives and the evaluation of the new Molten Salt Reactors concepts, with the determination of the key points for feasibility, safety and efficiency of these innovative systems.

Programme(s)

Topic(s)

Funding Scheme

CON - Coordination of research actions

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