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# Study on Safety Design Concept for future Sodium-cooled Fast Reactors in Japan

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This paper describes safety design concept for future sodium-cooled fast reactors (SFRs) in Japan, which is based on the safety design criteria and safety design guidelines under development in the international forum of generation IV nuclear energy systems. The future safety design of SFRs should be advanced taking the feedback of experiences, achievement of existing technology, and innovative technology into account. Inherent and/or passive design features are utilized based on SFRs characteristics such as low pressure, high thermal inertia of the system. Lesson learned from the Fukushima Dai-ichi accident is one of important issue to be incorporated into the safety design concept. In order to realize commercial SFRs in the future, robust and rational safety design should be pursued by integration of various factors in the design, limiting additional specific systems, structures and components. Existing engineering bases for design and manufacturing of SFRs components, and innovative technologies introduced in the FaCT project are keys to realize the safety concept.

## Country/Int. Organization

JAPAN

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