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Progress of Design and related Researches of Sodium-cooled Fast Reactor in Japan

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In Japan, we have implemented the development of a sodium-cooled fast reactor from the viewpoint of severe accident measures in order to strengthen safety of a fast reactor since the Great East Japan Earthquake. This paper describes the progress of design study and research and development (R&D) related to safety enhancement and severe accident measures. For the purpose of strengthening of decay heat removal function, we are performing R&D and development of test facilities on the decay heat removal after core disruptive accident (CDA), the application of a variety of heat removal system, and the evaluation methods for thermal hydraulics. In order to elucidate the behavior of molten fuel during CDA, we are conducting the in-pile and out-of-pile tests by international collaboration, the basic experiments, and the development of evaluation methods for CDA. Also, we have promoted the improvement of core design from the viewpoint of preventing the occurrence of severe accident.

Country/Int. Organization

JAPAN

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