

International Conference on Management of Spent Fuel from Nuclear Power Reactors: An Integrated Approach to the Back End of the Fuel Cycle



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Russian Experience and Proposals on Management of Non-Conforming SNF of RBMK Reactors

The RBMK-1000 power reactors have been operated at Leningrad, Kursk and Smolensk NPPs in the European part of Russia. The yearly fuel discharge from the RBMK-1000 reactors makes up 3500 SFAs placed in reactor cooling pools and separate spent fuel wet storage facilities at NPPs. Since 2011, in accordance with Rosatom's concept the RBMK SNF has been converted to safer dry storage in a centralized dry storage facility at the Mining and Chemical Combine in Kraskoyarsk region, Siberia. According to the approved technology leak-tight SFAs with sound grid skeletons (conforming SFAs) are subject to dry storage at NPP storage facilities and transfer to the centralized storage facility. Conversion of defective and leaky spent fuel (non-conforming SFAs) to dry storage in NPP storage facilities and their transfer to the centralized storage facility were not ensured. One of the ways of management of defective and leaky RBMK-1000 SFAs is reprocessing at Mayak PA, separation of uranium, plutonium, neptunium, and vitrification of radioactive waste. In 2011, a pilot batch of leaky SNF was removed from the Leningrad NPP and reprocessed to try out and verify engineering solutions. In 2014, a batch of leak-tight non-conforming SNF was shipped from the Leningrad NPP to a reprocessing plant. The paper addresses Russian experience and proposals on management of non-conforming SNF of RBMK reactors.

Country/ int. organization

Russian Federation

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