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Nuclear and Radiation Safety of the Centralized Spent Fuel Storage Facility in Ukraine

The paper presents the analysis of ensuring nuclear and radiation safety in the management of spent nuclear fuel at the Centralized SFSF and activities planned for Centralized SFSF lifecycle stages. There are results of comparing requirements of U.S. regulatory documents used by the HOLTEC Company to design Centralized SFSF equipment staff with relevant requirements of Ukrainian regulations, results based on analysis of the most important factors of Centralized SFSF safety (strength and reliability, nuclear safety, thermal regimes and biological protection) and verified expert calculations of the SSTC NRS. The paper includes issues to be considered in further implementation of Centralized SFSF project.

Keywords: Centralized SFSF, multipurpose container (MPC), spent nuclear fuel, HI-STORM, HI-STAR, nuclear safety, radiation safety.