

Stand for developing and testing the processes and equipment of the pyrochemical methods of nuclear fuel management

M.V. Kormilitsyn, A.V. Bychkov, V.S. Ishunin, I.N. Andreychuk, M.I. Melnik

*Federal State Unitary Enterprise "State Scientific Center of RF Research Institute of Atomic Reactors",
Dimitrovgrad-10, Ulyanovsk region, Russia, 433510*

The report summarizes the experience on developing and operating in RIAR's Chemical Technology Division a versatile stand designed for obtaining of experimental data on the process parameters of the currently developed non-aqueous processes of nuclear fuel management and on the peculiarities of the test equipment operation. The experiments carried out at the Stand according to the process requirements and the requirements of the equipment remote servicing are maximally approximated to the experimental processes with real irradiated fuel. The versatility of the Stand allows accomplishing a wide range of experimental tasks including those related to investigation of the processes for implementation of the closed fuel cycle.

The report presents the data on the Stand structure and interior arrangement as well as on the configuration of the main and ancillary equipment.

The report presents information on a number of "cold" experiments carried out using the Stand.

In order to check new design approaches, it is planned to arrange in the simulated shielded cell of the Stand the research complex of semi-industrial-scale equipment: the apparatus for pyrochemical reprocessing of spent nuclear fuel (SNF) and the furnace for vitrification of high-level wastes arisen from SNF reprocessing by non-aqueous methods.

E-mail address of the corresponding author: bav@niiar.ru