

# **IR-100 RESEARCH REACTOR AND PROPOSALS FOR SPENT NUCLEAR FUEL MANAGEMENT**

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- **IR-100, light water moderator and cooled a pool-type research reactor (Sevastopol, Ukraine) was commissioned on October 18, 1967.**
- **Fuel elements EK-10 (met-uranium dioxide in magnesium matrix having initial enrichment of 10% U-235, cladding – aluminum alloy) are used in the reactor core.**
- **In the course of IR – 100 reactor operation 47 FAs with rod-type FEs in aluminum cladding were used.**
- **During 38 years of reactor operation, not a single non-leak-tight FA has been found in the reactor core.**
- **In accordance with the design, the SFAs should be placed into a wet storage facility, but at present time there is not a single SFA loaded into existing storage facility.**
- **The SFAs transferring to the wet storage (the prolongation of exposed time of water – cladding contact) may cause the corrosion failure of SFAs.**
- **Two options have been considered to raise the reliability of storage:**
  - **storage in dry stationary storage facility**
  - **storage in dual – purpose containers.**
- **The first option is more expensive, and due to a low number of SFAs, the preferable option is storage in dual – purpose containers.**