The State Committee on Industrial Safety of the Republic of Uzbekistan

Fuel cycle consideration for WWR-SM research reactor

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Construction of the Institute of Nuclear Physics began in 1956. WWR-SM Research Reactor with power of 2 MW reached criticality in September, 1959
In 1994 Uzbekistan became a member of IAEA.
NUCLEAR FACILITIES AT THE INP

Cyclotron U–115

WWR–SM Reactor

Gamma facility

Cyclotron U–150

Neutron Generator

A new Electron accelerator U–003
Digital Mock-up of Research Reactor
Active core model of the WWR-SM reactor

1959 - Reactor Startup, 2 MW power
1971-78 - Reactor modernization; 10 MW power
1998 - Reactor core converted from 90% to 36% enrichment on U-235
2009 - Reactor core gradually converted from 36% to 19.7% enrichment
In the fresh fuel storage there are 12 containers fixed on the wall with iron belt. Each container capacity is 7 FF.
SFA storage pools are made of stainless steel and covered with flooring. The spent FA unloaded out of the core is installed into the storage cells, where it is aged not less than 3 years before shipping for reprocessing. The storage 1 has 60 cells.
Second SF storage has 2 levels, each level has 96 cells distributed at the step of 150 mm. Interval is 180 mm between 1 and 2 level. Total cells are 192. At present we use only 1-level.
Third Spent Fuel Storage.

By the efforts of the Institute new storage with 4 tanks was built in 2000

3/1- 44 cells
3/2- 37 cells
3/3- 37 cells
3/4- 44 cells
total 162 cells
SPENT FUEL SHIPMENT SCHEDULE
Physical protection system
Thank you for your attention!