

26 MARCH 2013 03 OCTOBER 2018

Interim Spent Nuclear Fuel Dry Storage Facility (ISF-2)

The Interim Spent Nuclear Fuel Dry Storage Facility (ISF-2) – is the facility designed for acceptance, preparation for storage and storage of Spent Fuel Assemblies (SFA) and Additional Absorbers (AA), currently stored at Chornobyl NPP.

The construction began in 2001 and is funded from the Nuclear Safety Account of the European Bank for Reconstruction and Development (EBRD).

ISF-2 consists of 2 parts:

1. Spent Fuel Processing Facility (SFPF). Its function is preparation for storage and packing of about 21 thousand spent fuel assemblies, 2 thousand spent additional absorbers and more than 23 thousand extension rods, transported from ChNPP Units 1, 2, 3 and from “wet” type ISF-1. The facility is designed to ensure the minimal annual capacity for processing of 2,500 fuel assemblies or absorbers.



2. Spent Fuel Storage Area. The following operations are carried out in this Area:

- transportation of the canisters, filled with spent nuclear fuel from the Spent Fuel Processing Facility to the Storage Area, using the canisters handling and transportation system;
- loading of canisters into horizontal concrete storage modules with the 100-year design life-time
- storage of canisters with nuclear fuel within 100 years.

Storage of spent nuclear fuel will be carried out using the dry modular storage technology.

The general principle of dry model storage is that fuel is stored in sealed baskets filled with inert gas. The baskets themselves are placed in concrete modules. The module design serves as radiation protection, and also prevents the damage of the metal basket.

Dry technology has the following advantages:

1. Possibility to implement construction of the facility in a staged manner and lower initial investment in the construction.
2. Passive system (due to natural air exchange) for removal of residual heat from spent fuel assemblies.
3. Generation of insignificant amount of radioactive waste during operation of the storage facility and almost complete absence of liquid radioactive waste.
4. Operating costs are significantly lower in comparison with the wet storage.



The accepted technology for ISF-2 involves the use of a Double-Walled Canister (DWC). Its design provides long-term storage of fuel due to isolation from the environment. Therefore, there will be no radiation effect on the environment under normal storage in concrete modules. One DWC contains 93 spent fuel assemblies.