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SPENT FUEL AND RADIOACTIVE WASTE MANAGEMENT IN ARMENIA

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The one third of power generation in Armenia is from the Armenian Nuclear Power Plant (ANPP). Currently is under operation only second unit of ANPP. The safety of the ANPP is a top priority for the Government of Armenia. Strategy on the Safe Management of Radioactive Waste and Spent Nuclear Fuel and the Action Plan on its implementation was approved by Government Decrees in 2017 and 2019. The source of spent fuel is the ANPP. When its service life is expired, during refueling of the reactor core, fuel assembly is discharged from the reactor core and placed in cell of the Unit № 2 storage pool. Refueling is performed once in a year, when the reactor is shut down, depressurized and cooled down. Following discharge of spent fuel assembly from the reactor core it is tested for leak tightness. In case it is tight, a spent fuel assembly is placed in a cell of the storage pool. In case failed assemblies are detected they are placed in tight casings and stored in them. Following the required storage time (3-5 years), spent fuel assemblies are relocated into the spent fuel storage pool of № 1, where they are stored until reaching the parameters required for their 2 transferring to Dry Spent Nuclear Fuel Storage facility (DSNF SF) of NUHOMS-56 type located on Armenian NPP site. Spent fuel assemblies are placed in Dry Shielding Canister (DSC), which is filled with nuclear purity helium of retained overpressure. The DSC shielding and insulation are provided by massive reinforced concrete Horizontal Storage Module (HSM). Radioactive decay heat caused by DSC and HSM is removed using draught ventilation system, which operation is based on a passive natural convection. There are two buildings of the HSM built on the Armenian NPP site

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