

The invention relates to nuclear power engineering and provides reliable discharge of residual heat liberation of worked out nuclear fuel that is in reactor pool, under conditions of normal operation of electric power plant and at emergency with total durable de-energization. Keeping pool includes compartments with placed there in shelves heat liberation assemblies and system of passive discharge of residual heat liberation arranged as autonomous sections with intermediate two-phase heat carrier. Each of sections is circular two-phase thermo-siphon that includes evaporator placed in pool, this takes heat off from pool water, and condenser placed over evaporator out of boundaries of sealed zone of reactor compartment, this gives heat to atmospheric air. Construction of evaporator in vertical tube section provides operability of system irrespectively of change of water level in pool.