

U.S. EPR Design Overview

U.S. EPR is an evolutionary 1600 MWe pressurized water reactor based on the only Gen III+ plant being built anywhere in the world. U.S. EPR embodies the characteristics of Gen III+ nuclear power plants: evolutionary, economical and safer. The design incorporates four decades of operation, maintenance, testing and R&D worldwide to deliver a plant with significantly reduced generation costs per MWe as compared with the current fleet of plants. Four active safety divisions ensure core cooling following postulated events due to physical separation and redundancy of the divisions. The physical separation of the divisions minimizes the severity of internal fires or floods and severe accident mitigation features are built into the design, yielding a significant reduction in core damage frequency as compared with the current generation of plants. Security of U.S. EPR is further improved by incorporation of shield buildings to protect critical systems, structures and components from external explosions or aircraft hazards.