

Nuclear power plant start-up process

Starting a nuclear power plant is a complex process that includes implementation steps.

The steps for starting a nuclear power plant are similar to the pressurized water reactors most commonly used in the world and in operation since the 1970s or to the new generation of EPR reactors.

First, fuel - probably enriched uranium pellets placed in thousands of tubes called fuel rods - is loaded into the reactor. These rods are placed in a fuel assembly that is several meters long and weighs several hundred kilograms.



Depending on the reactor's capacity to determine the exact number of rods and fuel assemblies needed.

The fuel assembly is moved to the storage building and placed in the tank. They are then injected into the core of the nuclear reactor. This refueling process can take several days.

As soon as the fuel is loaded, the reactor vessel closes. Then the temperature and pressure of the cooling system gradually increase. During this process, scientists will conduct electrical and safety tests.

The first nuclear reaction was carried out on orders from the nuclear plant's command center. During the several months before connecting to the grid and providing electricity, the nuclear reactor gradually increased its capacity.

A nuclear power plant is an electric power generation system that uses heat energy released from controlled nuclear reactions to create high-pressure and high-temperature steam that is used to drive turbines and rotate the generator.

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