

## What technical solutions are used in case of insufficient thermal storage capacity of the cooling pond?

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In this case the cooling tower becomes the key element of the NPP's external cooling circuit. It serves as the basis of the so-called closed-circuit cooling systems. The main element of this system is the forced draft-cooling tower for cooling water. Water is injected into the tower at a certain height directly into the distribution system. It then streams downwards and cools due to evaporation. In the lower part of the cooling tower the water is collected and pumped into the turbine condenser. Cold air intake windows are located below the water dropping point. By moving in the opposite direction to that of the water the air absorbs the heat by means of partial evaporation of the water. Hot air is released into the atmosphere creating a natural draft due to the tower's shape.

There is one more element of the NPP's external cooling circuit – spray cooling ponds designed to cool down non-radioactive water from the secondary circuit or equipment of the power unit. The temperature in spray cooling ponds goes down due to two factors: mist air-cooling and evaporation.

One should emphasize that the design of all systems of the NPP's external cooling circuit efficiently excludes the direct contact of circulating water with any radioactive substances or materials. For this reason it cannot be a source of radioactive contamination of the environment.