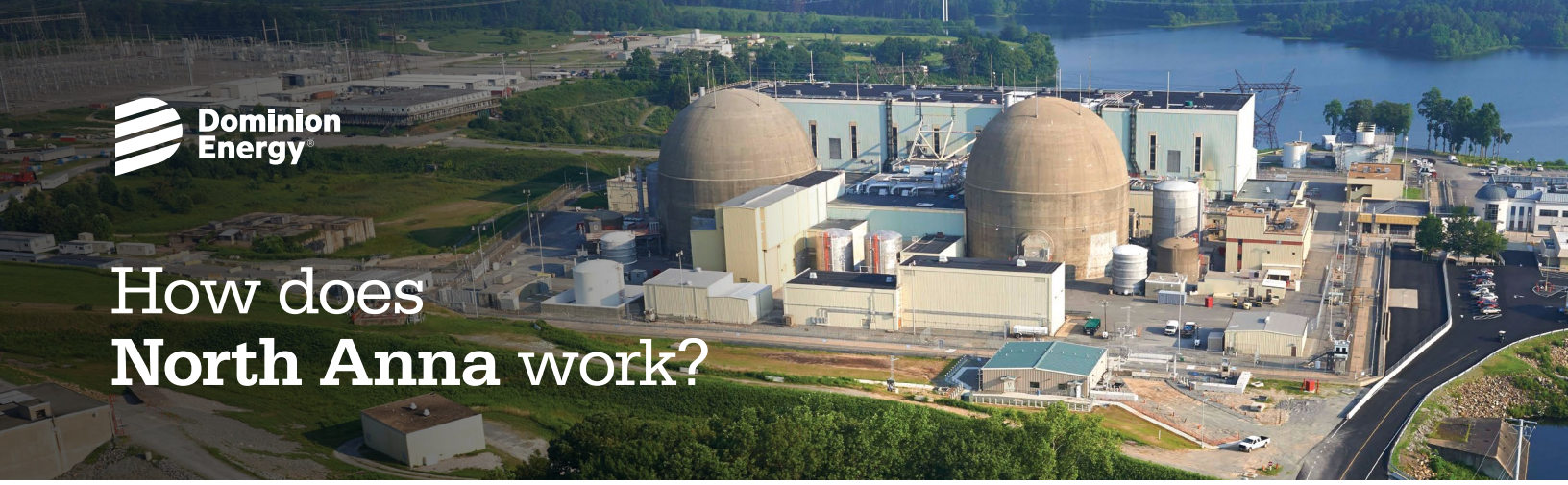
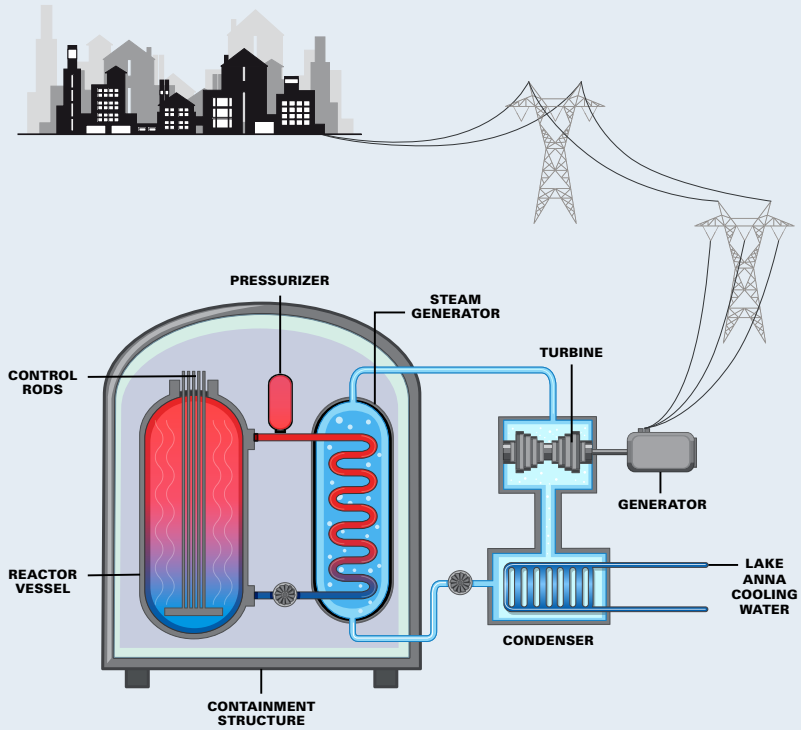


How does **North Anna** work?

- North Anna is a nuclear power station, comprised of two Westinghouse Pressurized Water Reactors (PWRs).
- Unit 1 began operations in 1978 and Unit 2 in 1980. Both Unit 1 and Unit 2 produce approximately 945 megawatts (MW) each.
- In August 2024, the Nuclear Regulatory Commission (NRC) approved second relicense renewal applications for both units, allowing North Anna to continue generating power through 2058 (Unit 1) and 2060 (Unit 2).

North Anna Power Station (North Anna), located at Lake Anna in Louisa County, Virginia, is a vital part of Virginia's energy landscape serving nearly 475,000 homes and businesses with safe, reliable, and carbon-free electricity.

North Anna produces electricity by heating water to create steam, which turns a turbine to produce electricity. The primary difference between a nuclear power station and other traditional power stations (coal, natural gas, oil, biomass) is that the heat needed to carry out the process is created through the nuclear fission process versus the burning of fuel. This process is also what makes nuclear power a clean energy source.



1. Nuclear fission is the process of splitting an atom to produce carbon-free electricity. This process takes place inside the Reactor Vessel where a Pressurizer keeps water under high pressure so that it heats but does not boil.
2. Once pressurized, the water in the reactor loop carries heat to a Steam Generator where water in a secondary loop is vaporized into steam.
3. The steam is the pumped into a turbine, pushing the blades to turn the electrical generator and produce electricity.
4. After turning the turbines, unused steam is cooled and condensed by a third, separate, loop of cooling water pumped from the Lake Anna Reservoir.
5. The condensed steam- now water again- is pumped back into the Steam Generator to be reheated and repeat the process.

The pressurized water in the reactor loop, the water in the Steam Generator, and the cooling water are three separate loops and never mix. This also means that the cooling water withdrawn from the Lake Anna Reservoir and discharged into the Waste Heat Treatment Facility (WHTF) never comes in contact with the nuclear fuel.

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