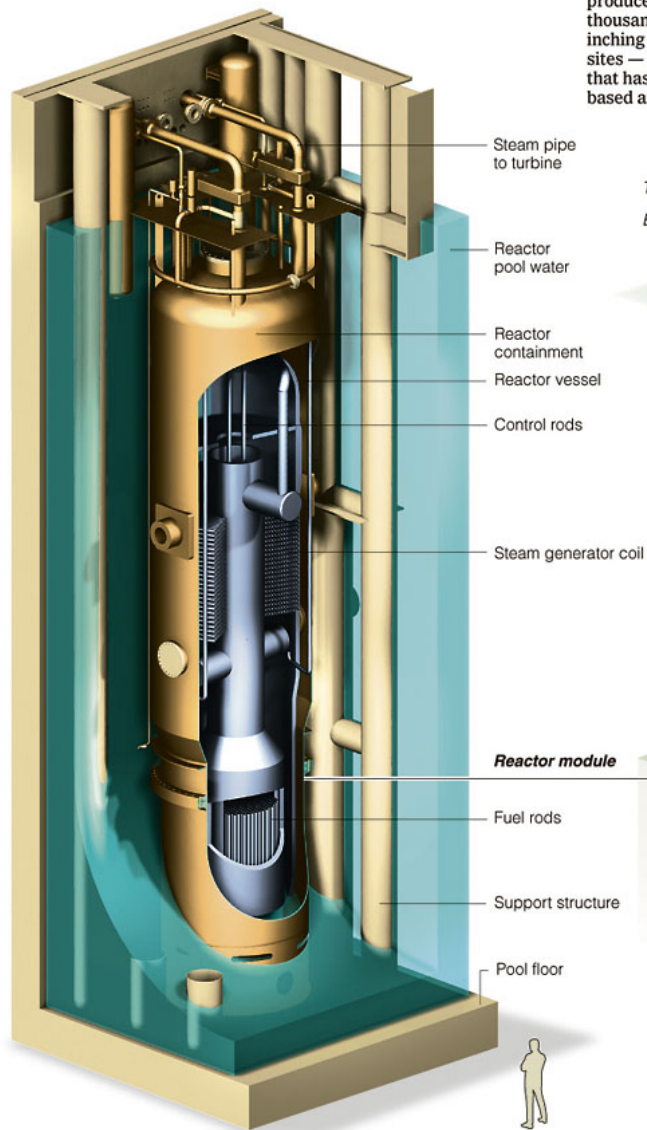


SCIENCE ILLUSTRATED | **A New Scale for Nuclear Power**

Nuclear plants may be getting a lot smaller in the future. Traditional plants, like the 104 that produce 20 percent of the nation's electricity, are sprawling nuclear estates that can cover thousands of acres and come with huge price tags. But new power plant designs, which are inching their way through the Nuclear Regulatory Commission's approval process, may have sites — and costs — that are a small fraction of current ones. NuScale, a company in Oregon that has already presented its safety analysis and other studies to the N.R.C., has a design based around multiple small reactors.

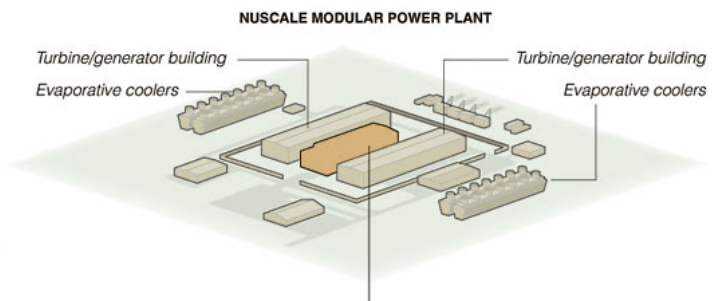
HANNAH FAIRFIELD



POWER MODULE

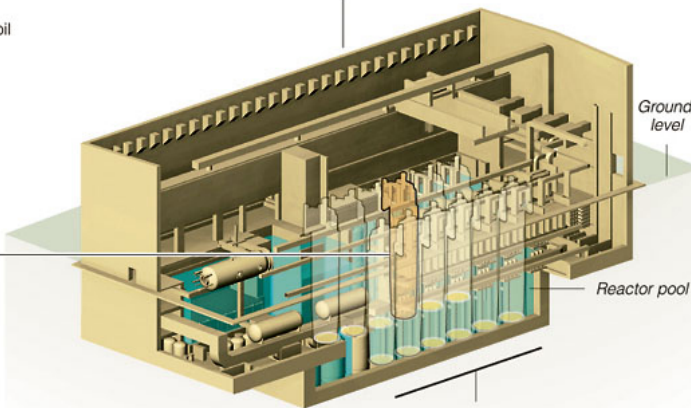
Each reactor is 45 megawatts, so it contains a much smaller amount of nuclear fuel than the large reactors. Each module is self-contained, with individual shutdown protections in case of emergency.

Sources: NuScale Power; Nuclear Energy Institute



NUCLEAR REACTOR BUILDING

Twelve small reactors together generate 540 megawatts, about the same capacity as some smaller conventional reactors.



CONVENTIONAL NUCLEAR PLANT

Reactor is above-ground.



PLANT SIZE: Many plants are about 20 acres within high-security fences.

The N.R.C. requires a 10-mile-radius emergency planning zone that can be quickly evacuated.

NUSCALE PLANT

Reactors are underground.



PLANT SIZE: 3.7 acres within high-security fences.

For reactors below 250 megawatts, like NuScale's, the emergency planning zone could be smaller.

ILLUSTRATIONS BY MIKA GRÖNDÄHL/THE NEW YORK TIMES