



# **THE SMR-300™** *SMALL MODULAR NUCLEAR REACTOR*



***INNOVATIVELY DESIGNED TO PROVIDE SAFE, CLEAN,  
SECURE ENERGY ANYWHERE IN THE WORLD***

## ECONOMIC AND EFFICIENT

Holtec's SMR-300™ is an advanced Pressurized Water Reactor (PWR) that is deployed in a dual-unit configuration (two SMR-300 units) within a single plant envelope that will generate approximately 600 MW of 24/7 clean electricity to power communities, businesses and large power off-takers.

The SMR-300 is a Gen III+ Small Modular Reactor (SMR) based on proven PWR technology and traditional PWR fuel in use today. The dominance of the PWR technology, as the safest and most widely deployed technology on the market, is borne out by its adoption by practically every international reactor supplier in the world. Holtec's main

contribution to the classical PWR framework is through introduction of passive fluid cooling loops that embody robust safety features, incorporation of black start capability, and simplification of the design focused on ease of manufacturing and construction.

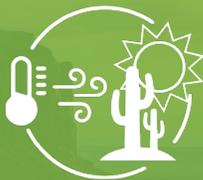
The design measures to ensure unprecedented levels of safety in SMR-300 have been implemented along with a close focus on minimizing as-built plant costs. Holtec has further modularized the construction of the SMR-300 to enable factory mass-production of components and structures that will be shipped to site for final assembly by extensive use of robot-actuated welding machinery.



SMR-300™ helps the world meet its climate goals by using fission to create clean, carbon-free energy.



Can be configured to start without outside power sources and can run independently from local electrical grids.



Can be used in the world's driest regions, with the use of air-cooled condensers.



# SMR-300™



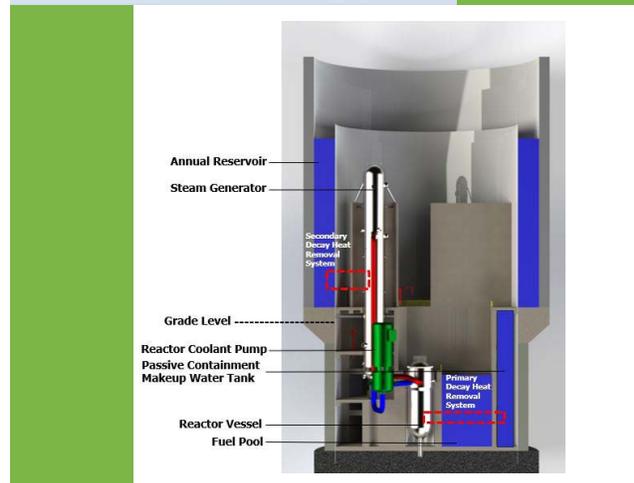
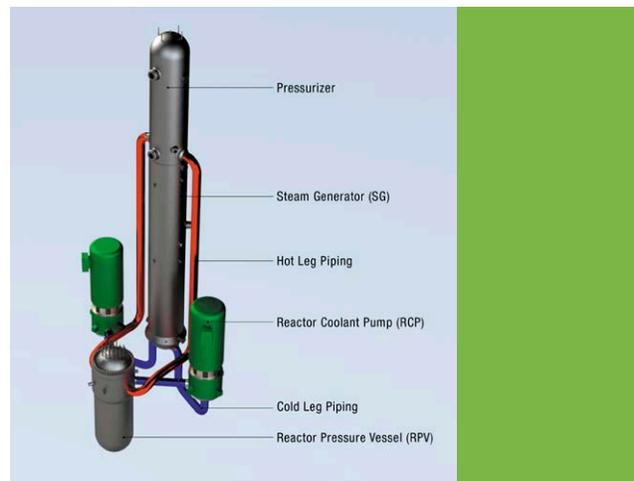
## INNOVATION

The **SMR-300™** innovative design enables radiation area boundaries such as the Exclusion Area Boundary (EAB), Low-Population Zone (LPZ), and Emergency Planning Zone (EPZ) to coincide with the Protected Area, reducing costs (e.g., emergency planning, insurance, etc.) and ease of access to the site for co-located facilities. Holtec's SMR-300 is designed to enable use of Air-Cooled Condensers (ACCs) for locations where water is not available or permitting is difficult, greatly expanding locations SMR-300 can be deployed.

## SAFE AND SECURE

Holtec's **SMR-300™** also implements security and safeguards by design, including standard PWR fuel (<5% enrichment), spent fuel pool and all safety related equipment inside containment, and integrated dry spent fuel storage systems compliant with IAEA safeguard seals field-implemented already. Our comprehensive cyber security plan design is informed by the NRC (and foreign regulators) defined design basis threats.

- **The reactor core is situated deep underground, protected by a steel and concrete containment enclosure**
- **All equipment vital to the safety and security of the plant is housed deep within well-protected areas**
- **SMR-300™ is "walk-away safe," requiring no operator actions during natural disasters, man-made threats, or volatile conditions considered by U.S. regulations**
- **Unlike current reactors, SMR-300™ features passive safety systems, eliminating the need for many active components**
- **A large water inventory protects the reactor core, which is designed to always remain deeply submerged in best operating situations**
- **SMR-300™ uses Holtec's HI-STORM UMAX dry storage system, safely holding spent fuel in an underground vertical ventilated module**





## FAQs

### **Is SMR-300 an “advanced” reactor?**

SMR-300 is an advanced PWR conventional fission reactor using water as the cooling medium. As an advanced GEN3+ design, it uses stored energy such as gravity and pressure to drive passive plant cooling to an advanced level of safety.

### **How big is the SMR-300™?**

The height of the tallest SMR-300 plant structure is about the same as a small city water tower. However, much of the power plant is deep underground, improving security and safety aspects of the plant.

### **What is the service life of SMR-300™?**

SMR-300 is designed to run for at least 80 years.

### **What type of fuel does the SMR-300™ use?**

SMR-300 uses traditional PWR nuclear fuel assemblies like those manufactured today by suppliers around the world for other commercially operated power plants.

### **What happens with the spent fuel from the SMR-300™?**

SMR-300 will store the used fuel on-site in Holtec’s HI-STORM UMAX subterranean dry storage system, which is licensed by the U.S. Nuclear Regulatory Commission (NRC) and deployed at existing sites.

### **How will SMR-300™ be manufactured?**

Holtec’s Advanced Manufacturing Division in Camden, New Jersey, will produce many of the SMR-300 components. The manufacturing facility is already creating nuclear-grade components for domestic and international use. Holtec intends to build new regional manufacturing centers to support demand.

### **Why is the SMR-300™ described as “walk-away safe”?**

SMR-300 requires no operator actions to maintain safe conditions during natural disasters or man-made threats.

### **Can SMR-300™ be operated in a water-challenged region?**

Unlike typical power plants, the SMR-300 does not need to be sited next to a large body of water. With the flexibility to use air-cooled condensers, it can run in the most arid regions of the world, such as deserts.

### **Where is the first SMR-300™ planned for deployment?**

The first deployment of our SMR-300 is scheduled for the Palisades Nuclear Plant in Covert, Michigan in the 2030 timeframe.

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