

NE-24-34974 – Independent Analysis of Antares R1 Core Design

Antares Nuclear, Inc., located in Redondo Beach, CA, is developing a thermosiphon cooled microreactor for use in austere environments and for resilient off-grid power.

Antares has performed many initial calculations for the reactor design and is continuing the analyses to pursue electrically heated subsystem testing. To help confirm the design and parameters, Antares is looking for an independent assessment of the design prior to larger hardware demonstrations. An expert independent analysis will play a significant role in validating Antares' results on the system's performance.

Antares will partner with Oak Ridge National Laboratory (ORNL) to perform an independent, technical audit of Antares R1. ORNL's Reactor Analysis Group will verify design calculations, including core neutronics and thermal hydraulics. This project will yield high confidence that hardware test campaigns predicated on neutronics data are valid, allowing Antares to move through test stages to a fueled demonstration of the system.