

Abstract Submitted
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High-temperature Gas Reactor (HTGR) SAJAD ABEDI — General Atomics (GA) has over 35 years experience in prismatic block High-temperature Gas Reactor (HTGR) technology design. During this period, the design has recently involved into a modular have been performed to demonstrate its versatility. This versatility is directly related to refractory TRISO coated - particle fuel that can contain any type of fuel. This paper summarized GA's fuel cycle studies individually and compares each based upon its cycle sustainability, proliferation-resistance capabilities, and other performance data against pressurized water reactor (PWR) fuel cycle data. Fuel cycle studies LEU-NV;commercial HEU-Th;commercial LEU-Th;weapons-grade plutonium consumption; and burning of LWR waste including plutonium and minor actinides in the MHR. results show that all commercial MHR options, with the exception of HEU-TH, are more sustainable than a PWR fuel cycle. With LEU-NV being the most sustainable commercial options. In addition, all commercial MHR options out perform the PWR with regards to its proliferation-resistance, with thorium fuel cycle having the best proliferation-resistance characteristics.

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