



Tristructural Isotropic (TRISO) Coated Particle Fuel

April 2023

Changing the World's Energy Future

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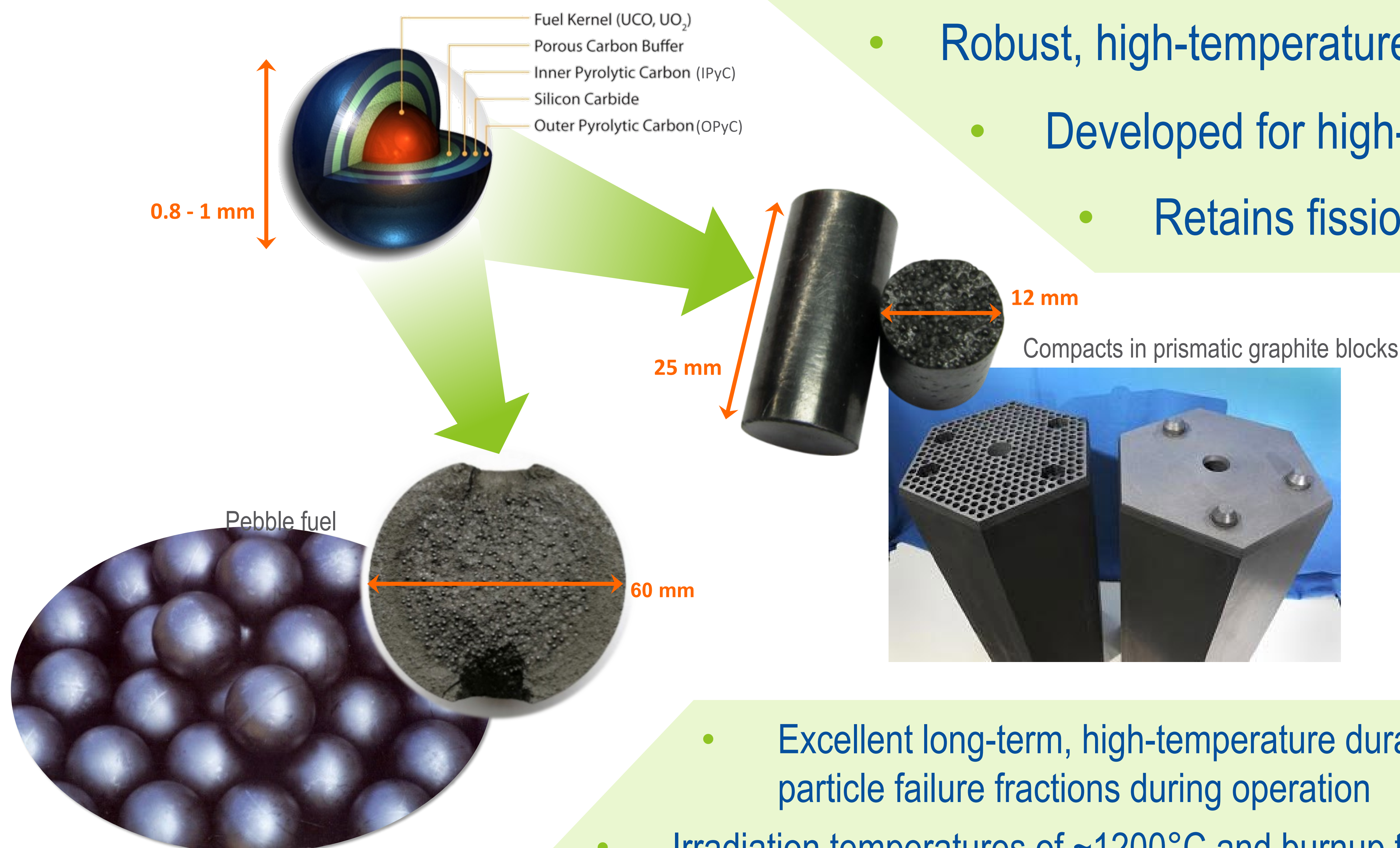
<http://www.inl.gov>

**Prepared for the
U.S. Department of Energy
Under DOE Idaho Operations Office
Contract DE-AC07-05ID14517**

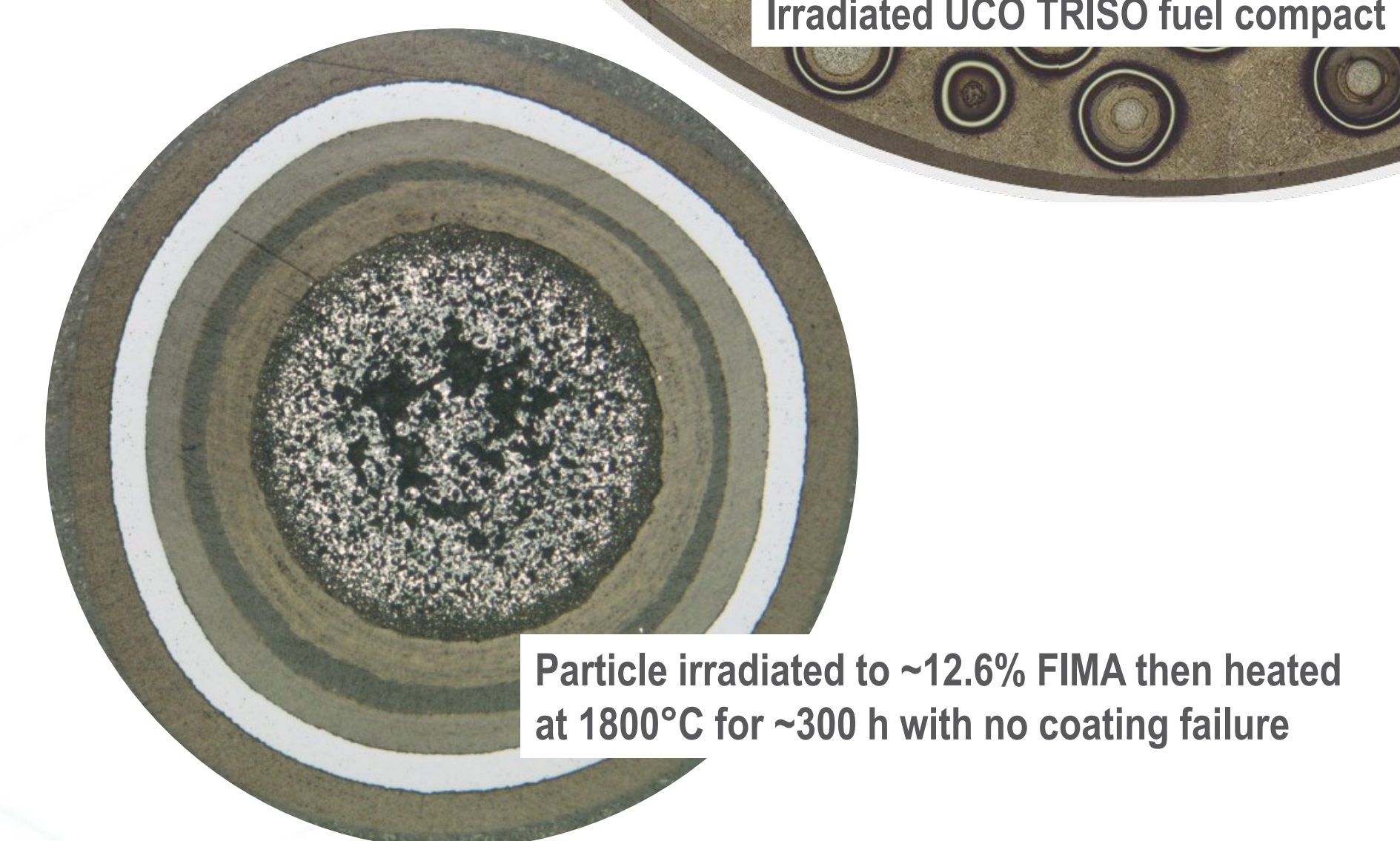
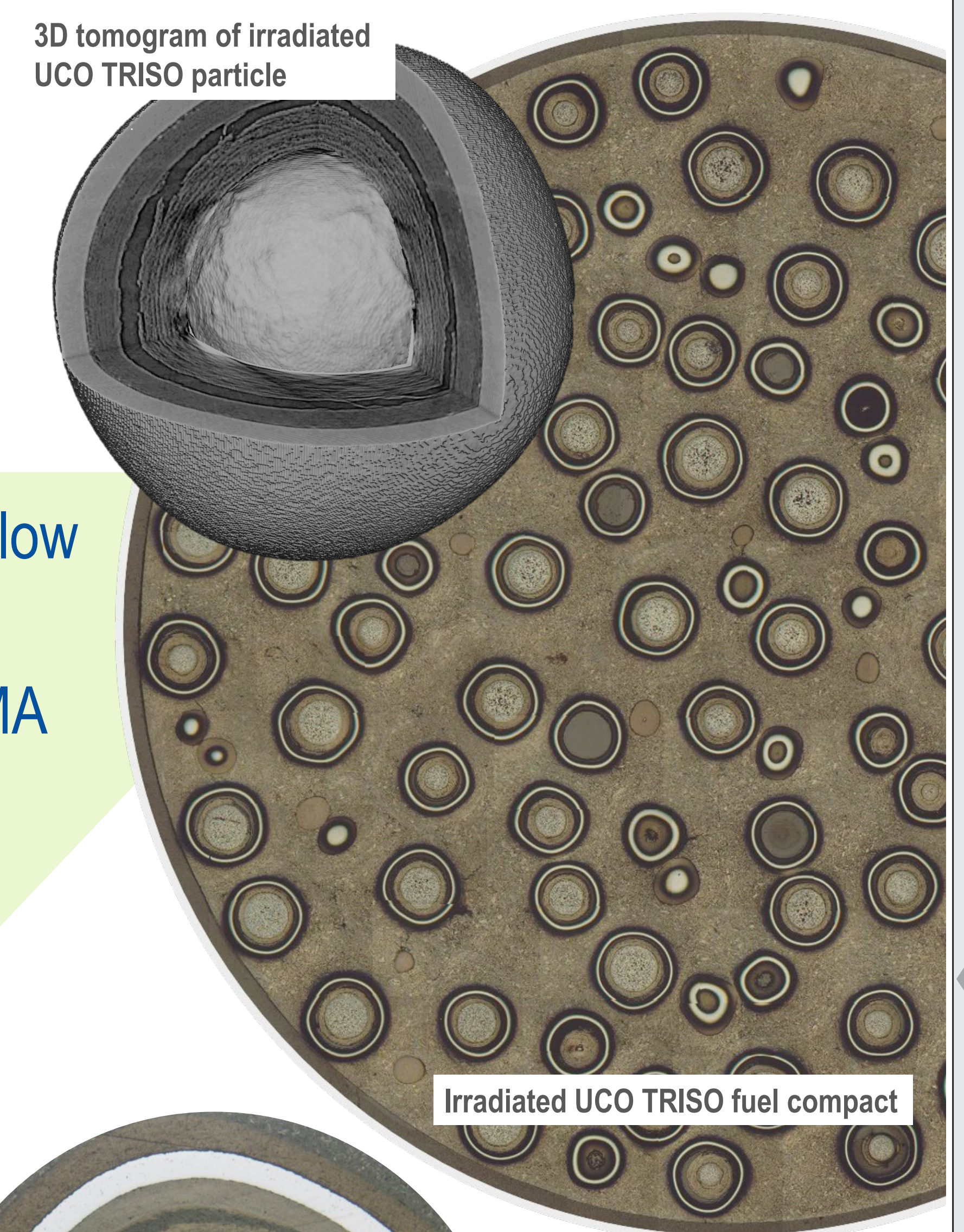
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Testing performance of fuel for advanced high-temperature reactors

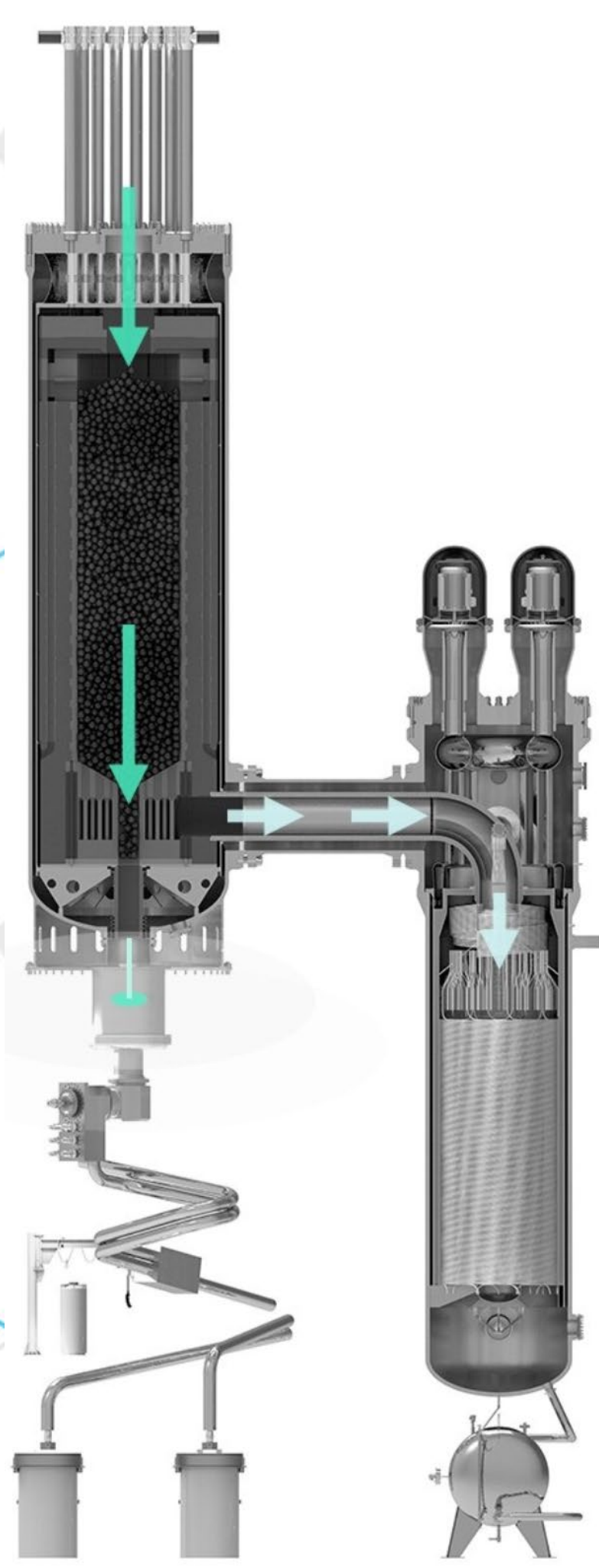
- Robust, high-temperature ceramic and graphite fuel form
- Developed for high-temperature gas-cooled reactors
- Retains fission products at their source in the fuel



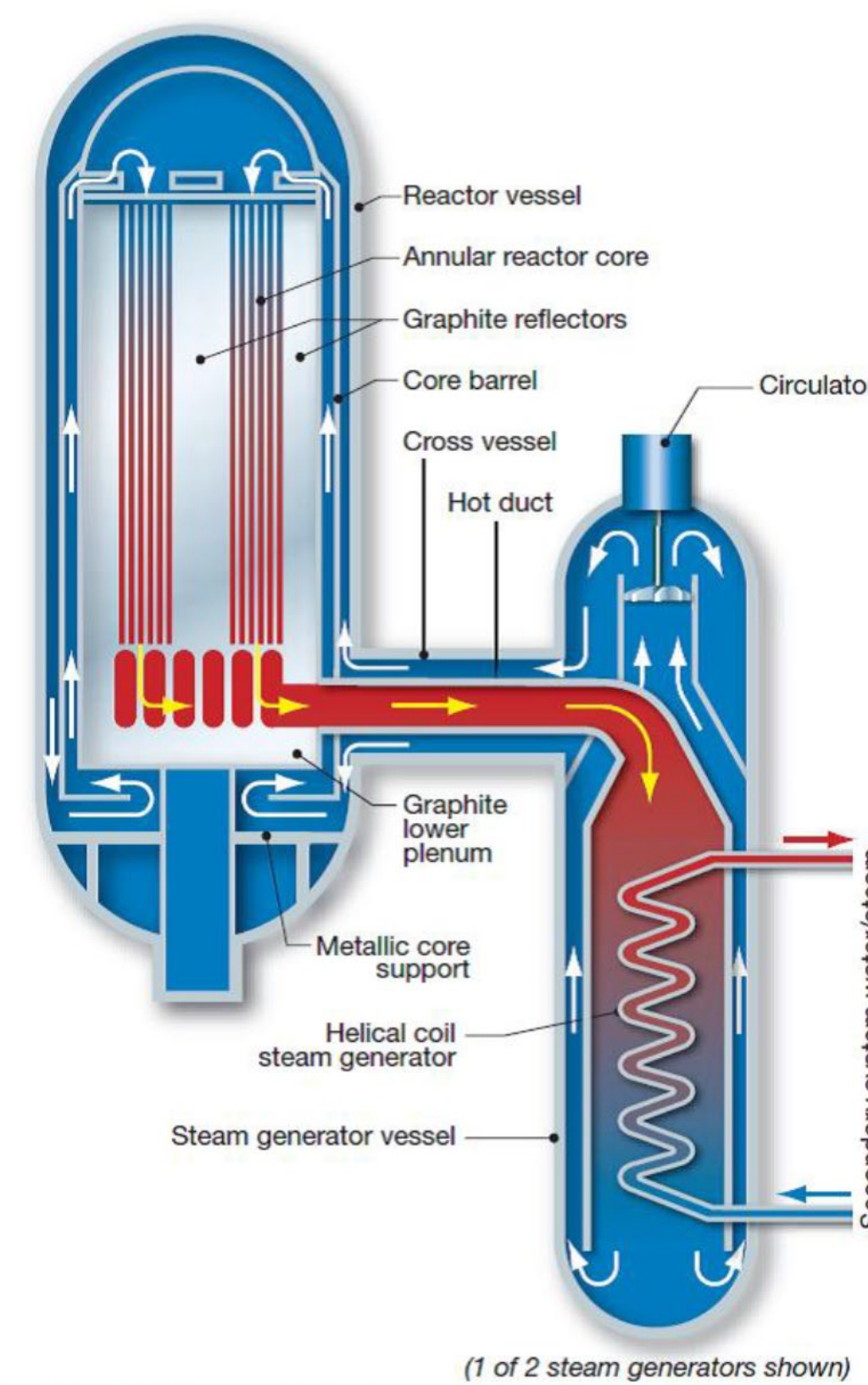
- Excellent long-term, high-temperature durability with low particle failure fractions during operation
- Irradiation temperatures of ~1200°C and burnup to 20% FIMA
- Withstands hundreds of hours at temperatures of 1600°C and beyond during accidents



Particle irradiated to ~12.6% FIMA then heated at 1800°C for ~300 h with no coating failure



- Enabling technology for passive decay heat removal in HTRs, high thermal efficiencies, and coupling to industrial processes



framatome



TRISO fuel also promises advantages for emerging, advanced small reactor designs:



Terrestrial microreactors



Space propulsion systems

