OAK RIDGE NATIONAL LABORATORY
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Light Water Reactor TRISO Particle-Metal-Matrix Composite Fuel

Disclosure Number

201002507

Technology Summary

Light water reactor (LWR), tristructural isotropic (TRISO) particle-metal-matrix composite fuel is and advanced nuclear fuel concept that offers both exceptional reliability during long-term reactor operation and capability to achieve ultra-high uranium burnup levels. This invention enables incorporation of the established benefits of TRISO coated fuel particles into current pressurized and boiling water reactors in the most effective manner. This advanced fuel is designed such that many of the failure modes observed in current uranium oxide fuel rods, due to phenomenon that occur internal or external to the fuel rod, are eliminated.

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