



Global Nuclear Fuel

*Eight GNF3 Lead Use
Assemblies in operation
since early 2015.
Available for full
reloads starting
in 2018.*

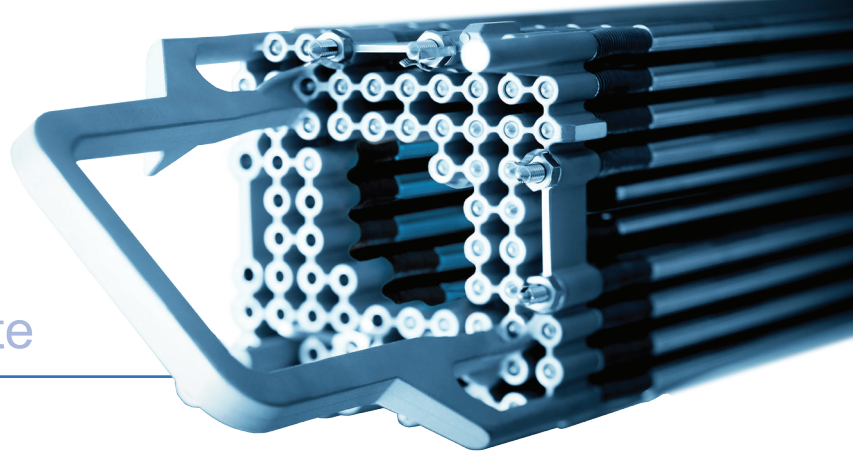
GNF3: Fueling the Future



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A Joint Venture of GE, Toshiba, & Hitachi

GNF3 product update



Fueling the Future

Based on evolutionary design changes to the proven GNF2 10 x 10 lattice design, the optimized GNF3 fuel assembly design aims to provide customers with improved fuel cycle economics, enhanced performance, and flexibility in operation while improving on an industry-leading record of reliability.

GNF fuel offers access to our unrivaled, responsive BWR industry experts ... 24/7.

Better Fuel Cycle Economics

- Advanced features and industry-leading core design seek to lower reload costs by requiring fewer bundles, less uranium, and/or lower enrichment costs
- Designed for channeled shipping, saving refuel floor costs and dose

Enhanced Performance

- Optimized to improve critical power ratio and operational flexibility
- GNF provides high performance, high reliability core designs with maximum maneuverability and little or no capacity factor impact associated with operating guidelines
- U.S. NRC approved GS3 methodology option enables adoption of GNF3 for stability-restricted plants

GNF3: The Most Reliable BWR Fuel Just Got Better

GNF layers defense-in-depth technologies and material solutions with state-of-the-art manufacturing processes to provide protection against the most challenging industry issues.

GNF3 is designed to offer substantial fuel cycle savings and reliability benefits while minimizing fuel transition risks.

INDUSTRY CHALLENGES	GNF2 LEGACY	GNF3
PCI (Pellet Cladding Interaction) failures	Zero	Zero ... same 10x10 fuel rod design maintains "barrier" protection
Corrosion failures	Zero	Zero ... same corrosion resistant cladding, proven in every BWR water chemistry environment
Fuel shadow corrosion failures	Zero	Zero ... same corrosion resistant cladding, proven in every BWR water chemistry environment
Debris failures	~30% reduction from GE14	Improved resistance ... eliminated potential debris capture sites in spacers
Failure degradation	Zero*	Zero ... same cladding & GNF operating guidelines should a fuel failure occur
Channel distortion (bow)	Issues with current materials and certain plant configurations	Nearly zero monitoring / no shadow bow distortions ... NSF channels standard on GNF3
Dryout failures	Zero	Zero
Structural failures	Zero	Zero ... same robust, 100% redundant fuel bundle structure (no single point of failure ... weight supported by 8 tie-rods)
Manufacturing defect-induced failures	Zero	Zero ... Continued excellence in bundle fabrication (same component and fuel rod process)
Regulatory certainty for new fuel designs / vendor transitions	GESTAR II Generic Compliance Process	GESTAR II ... Pre-approved U.S. NRC process provides GNF3's evolutionary 10x10 design an unparalleled speed to market and lowers regulatory risk / oversight requirements

*Following GNF's industry-leading FFMGT (failed fuel management practices)



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For more information, contact your Global Nuclear Fuel representative or visit us at nuclear.gepower.com/gnf3

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