

GNF2: High Performance Fuel Assembly



Global Nuclear Fuel

A Joint Venture of GE, Toshiba, & Hitachi

Superior Fuel Reliability through Best-in-Class Filtering Technology

Optimized Design and Performance

The enhanced design of the GNF2 fuel assembly — based on pioneering technologies developed by GNF — provides customers with improved fuel utilization and increased performance and reliability.

In addition to increased output and reduced fuel costs, the GNF2 advanced design offers the latest technology in corrosion and debris resistance. The advanced debris filter, the Defender™, is now standard on the GNF2 fuel assembly — increasing reliability and filtration to the best available in today's market.

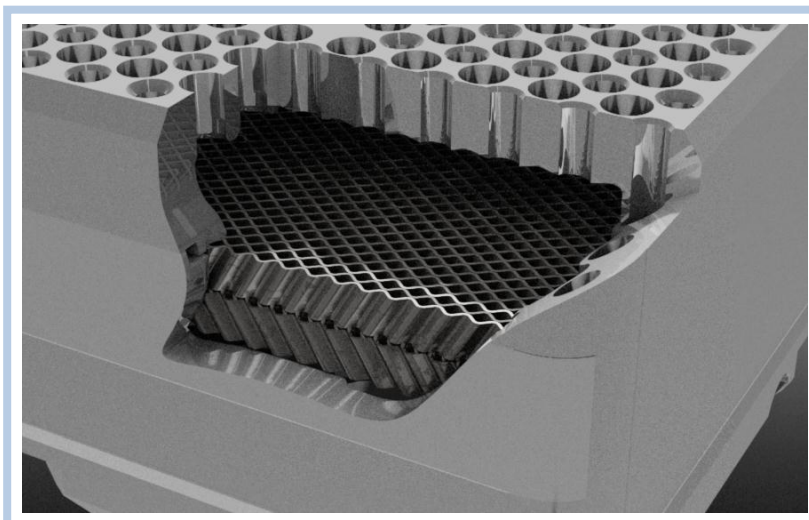
The GNF2 fuel assembly has undergone rigorous testing and is expected to be even more reliable than other fuel designs — preventing more fuel failures than any other design due to the standard Defender™ filter.

Increased Output, Reduced Fuel Costs

To meet customers' needs in a demanding market, we designed GNF2 to deliver increased energy output — while reducing overall fuel cycle costs. This enhanced design will save money by reducing the total amount of uranium and the average enrichment in fuel reloads.



The Defender™ advanced debris filtration system is standard on GNF2 fuel assemblies



Features

High Energy Fuel Rod Design

- Increased Plenum Volume
- High Mass Pellet

Reactivity – Enhancing Part Length Rods

- Optimized Two-Phase Pressure Drop
- Multiple Lengths
- Positioned for Improved Reactivity

Advanced Spacer Design

- Reduced Thickness Inconel Grid
- Flow Wings

Advanced Debris Filter – The Defender™

- Equivalent Pressure Drop
- Debris Shield also Available

Simplified Channel

- Thick Ends and Corners
- Fewer Welds
- Formed Features

Benefits

Reduced Fuel Cycle Costs

- Reduced Batch Size at Constant EUP
- Improved Nuclear Efficiency
- Bundle U Mass
- Improved Axial H/U ratio
- Optimized Cold Shutdown Margin

Increased Energy

- Increased Exposure Capability
- Supports 24-Month Cycles @ 120% Power

Operating Flexibility

- Accommodates High Assembly Power
- Increased Critical Power Margin
- Increased Loading Pattern Flexibility
- Low Pressure Drop

Reliability and Quality Enhancements

- Enhanced Debris Mitigation (Defender™ Debris Filter Lower Tie Plate (DFLTP))
- Enhanced Corrosion-Resistant Cladding
- Improved Manufacturing Process