Fuel rods manufactured by Global Nuclear Fuel to be evaluated at Pacific Northwest National Laboratory

WILMINGTON, North Carolina (August 13, 2025) – High burnup fuel rods, manufactured by Global Nuclear Fuel (GNF, a GE Vernova-led joint venture with Hitachi, Ltd.) have been delivered to the U.S. Department of Energy's (DOE) Pacific Northwest National Laboratory (PNNL) for examination after commercial operation.

The shipment contained rods from GNF2 assemblies that were initially loaded into a U.S. nuclear power plant for two cycles of operation. In close coordination with the plant operator, the assemblies were redesignated as high burnup lead use assemblies through GNF's U.S. Nuclear Regulatory Commission (NRC) approved licensing process and then reloaded for an additional cycle to achieve operation in the reactor beyond current NRC licensing limits. PNNL is analyzing the rods to determine the impact of the additional cycles on the fuel and cladding performance.

"The examination of these rods is the next step in our continuous drive to develop higher efficiency fuels that are safer and more reliable," said **Craig Ranson, Installed Base CEO, GE Vernova Hitachi Nuclear Energy**. "We are proud to be part of this collaboration with the U.S. Department of Energy, PNNL and our utility partners to benefit the entire industry."

"This is a significant milestone for our Accident Tolerant Fuel program," said **Frank Goldner, the Accident Tolerant Fuel federal program manager in the Office of Nuclear Energy**. "The development of this fuel could further support the Trump Administration's executive order to facilitate five gigawatts of power uprates at existing power plants by 2030 and high burnup fuels could be a big part of that."

"This delivery represents a rare and valuable opportunity," said **Mark Nutt, director of PNNL's nuclear energy market sector**. "We look forward to realizing the full scientific potential of this material—that's an area where PNNL is especially capable, given our multidisciplinary strengths. The resulting research

could help achieve several important goals in service to the nation and go a long way toward providing abundant and reliable energy to the grid allowing for US energy dominance."

The fuel rods were manufactured at GNF's Wilmington, NC facility. Evaluation of the rods will help provide GNF and DOE with valuable information about high burnup fuel, a key goal of DOE's Accident Tolerant Fuel (ATF) program.

High burnup fuel is expected to improve fuel cycle economics and further support power uprates for commercial nuclear power plants by enabling fuel to remain in the reactor core for longer periods of time while also operating at higher efficiency.

It is anticipated that the need for fewer bundles over time will enhance nuclear safety and reduce the spent fuel generated for long-term storage. The post-irradiation fuel rod examinations to be performed by PNNL support GNF's development, engineering and licensing efforts to ensure the continued safe and reliable performance of fuel under expanded operating conditions.

The fuel shipped to PNNL is the same design that will be used in the initial core designs of the GVH BWRX-300 small modular reactor. The data obtained through this program will be used to support future potential economic improvements in BWRX-300 fuel cycle designs, including extending fuel cycle lengths to 36 to 48 months.

About GE Vernova Hitachi Nuclear Energy

GE Vernova's Nuclear energy business, through its global alliance with Hitachi, is a world-leading provider of nuclear fuel bundles, services, and advanced nuclear

reactor designs. Technologies include boiling water reactors and small modular reactors, such as the BWRX-300, which is one of the simplest, yet most innovative boiling water reactor designs. GE Vernova's Nuclear fuel business, Global Nuclear Fuel (GNF), is a world-leading supplier of boiling water reactor fuel and fuel-related engineering services. GNF is a GE Vernova-led joint venture with Hitachi, Ltd. and operates primarily through Global Nuclear Fuel-Americas, LLC in Wilmington, N.C., and Global Nuclear Fuel-Japan Co., Ltd. in Kurihama, Japan. HITACHI is a trademark of Hitachi, Ltd. used under trademark license. GE is a trademark of General Electric Company used under trademark license.

https://www.gevernova.com/
GE Vernova

Media inquiries

Jon Allen

GE Vernova | Communications, Nuclear Power
jonathan.allen1@ge.com
+1 910 819 2581