

Framatome's GAIA Enhanced Accident Tolerant Fuel completes first-ever fuel cycle

February 2, 2021 – Framatome's GAIA Enhanced Accident Tolerant Fuel (EATF) technology recently completed its first 18-month fuel cycle at a nuclear power plant in the United States. This milestone marks the first time a full-length EATF concept with both pellets and cladding completed a fuel cycle in a reactor.

The plant's experts removed and inspected the four lead fuel assemblies (LFAs) during a refueling outage in August and concluded that the fuel demonstrated expected results and excellent performance. This was the first of three planned 18-month cycles of operation for the LFAs, which were inserted into the reactor in April 2019. More detailed inspections and measurements are planned following the remaining two fuel cycles.

"This significant milestone confirms that our EATF technology performs to the industry's highest standards," said Lionel Gaiffe, senior executive vice president, Fuel Business Unit at Framatome. "Our team is committed to advancing this technology so we can offer our customers enhanced safety, efficiency, reliability, and economic and performance benefits."

Framatome developed the GAIA EATF concept as part of its [PROtect program](#). The GAIA fuel assemblies consist of Framatome's advanced chromium coating added to the state-of-the-art M5_{Framatome} zirconium alloy cladding, and chromia-enhanced fuel pellets. The chromium-coated cladding improves high-temperature oxidation resistance and reduces hydrogen generation in the unlikely event of loss of cooling. The innovative coating also offers increased resistance to debris fretting, reducing the likelihood of a fuel failure during normal operations.

Compared to previous fuel designs, the chromia-enhanced fuel pellets have a higher density, reduced fission gas release and improved behavior under transient conditions. Reduced pellet-to-clad interaction also better supports power maneuvering, increasing performance for operators.

The LFAs were fabricated at Framatome's manufacturing facility in Richland, Washington.

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Visual Inspection of the GAIA EATF assembly

About Framatome

Framatome is an international leader in nuclear energy recognized for its innovative solutions and value added technologies for the global nuclear fleet. With worldwide expertise and a proven track record for reliability and performance, the company designs, services and installs components, fuel, and instrumentation and control systems for nuclear power plants. Its more than 14,000 employees work every day to help Framatome's customers supply ever cleaner, safer and more economical low-carbon energy. Visit us at: www.framatome.com, and follow us on Twitter: [@Framatome](https://twitter.com/Framatome) and LinkedIn: [Framatome](https://www.linkedin.com/company/framatome). Framatome is owned by the EDF Group (75.5%), Mitsubishi Heavy Industries (MHI – 19.5%) and Assystem (5%).

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