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## Framatome delivers GAIA fuel assemblies containing the first complete Enhanced Accident Tolerant Fuel concept

Framatome delivered the industry's first full-length Enhanced Accident Tolerant Fuel (EATF) concept containing both pellets and claddings to Georgia Power's Alvin W. Vogtle Electric Generating Plant. Southern Nuclear, operator of Plant Vogtle, inserted the GAIA lead fuel assemblies containing EATF during the Unit 2 spring refueling outage. Framatome delivered the fuel to the plant in January 2019.

"This is an important milestone for Framatome and the industry," said Lionel Gaiffe, senior executive vice president, Fuel Business Unit at Framatome. "We applaud Southern Nuclear's consistent support of EATF initiatives, and we are pleased to deploy an economical advanced fuel technology that offers operators additional response time and greater operational flexibility."

Under the umbrella of its PROtect program, Framatome's advanced chromium coating added to the state-of-the-art M5<sub>Framatome</sub> zirconium alloy cladding improves high-temperature oxidation resistance and reduces hydrogen generation during loss of cooling. The chromium coating also greatly reduces creep to maintain a coolable geometry and has mechanical properties that allow for more operator response time. Further, the innovative coating offers increased resistance to debris fretting during normal operations.

In addition to chromium coated cladding, this integrated fuel solution includes chromia-enhanced fuel pellets, which have a higher density, reduced fission gas release and improved behavior during loss of cooling. Reduced Pellet Clad Interaction (PCI) also better supports power maneuvering.

Framatome has worked for several years with the support of the U.S. Department of Energy's Accident Tolerant Fuel program, which has allowed the company to significantly improve on its initial target of 2022 to deploy this technology. European partners, like CEA, which initially explored and identified the suitable cladding coating process, and also EDF, Goesgen Nuclear Power Plant in Switzerland and leaders from across the nuclear sector have collaborated for several years on aspects of this fuel design.

Framatome fabricated the fuel assemblies at its fuel manufacturing facility in Richland, Washington, as part of a 2017 contract with Southern Nuclear. Southern Nuclear, a subsidiary of Southern Company, operates a total of six units for Alabama Power and Georgia Power.

Framatome is a major international player in the nuclear energy market focused on designing, building, maintaining and advancing the global nuclear fleet. In North America, Framatome Inc. combines U.S. and Canadian leadership to deliver innovative solutions and value-added technologies to support the operation of the commercial nuclear fleet and prepare for the next generation of nuclear power plants. Leveraging the expertise of its 2,300 North American employees, Framatome Inc. is helping its customers improve the safety and performance of their nuclear plants and achieve their economic and societal goals.

Join the energy conversation with Framatome Inc. on Twitter: @FramatomeUS, Facebook: @FramatomeUS and LinkedIn: @Framatome.

Framatome is owned by the EDF Group (75.5%), Mitsubishi Heavy Industries (MHI – 19.5%) and Assystem (5%).

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