

Framatome implements industry-first underwater fuel weld and seal encapsulation technique

March 30, 2022 – Framatome recently implemented an industry-first encapsulation technique that prepares damaged fuel rods for dry storage while shielded underwater. In February, the method was used to safely weld and seal damaged fuel rods underwater at Belgian’s Doel 1 and 2 power plants. This milestone endorses the full functionality of the technique as the first-of-its-kind in the nuclear industry and demonstrates enhanced safety standards for Framatome’s customers.

“As part of Framatome’s sustainable commitment to provide customers efficient operations that center on safety, operators can now remotely perform fuel rod encapsulation completely underwater, resulting in optimal protective conditions,” said Lionel Gaiffe, senior executive vice president of the Fuel Business Unit at Framatome. “At Framatome, we continue to prioritize and deliver innovations that have positive impact for our customers’ safe and reliable, low-carbon electricity generation.”

The process to encapsulate fuel rods occurs in the spent fuel pool. This includes remotely dewatering and hot gas drying the capsule, welding the end plugs and ultrasonically testing weld seams. The encapsulation surrounds defective fuel rods with a pressure-tight steel capsule in a dry state, thus preventing possible leakage of fuel or radioactive substances into the storage facility. This tight enclosure is an important criterion for the capability of dry interim storage in compliance with regulatory restrictions.

Framatome’s experts are dedicated to innovations that advance the nuclear industry. This technique minimizes radiation released in the working environment and is an industry best practice.



Encapsulation equipment emerged into the fuel pool at Belgian’s Doel Nuclear Power Plant

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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 15,000 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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