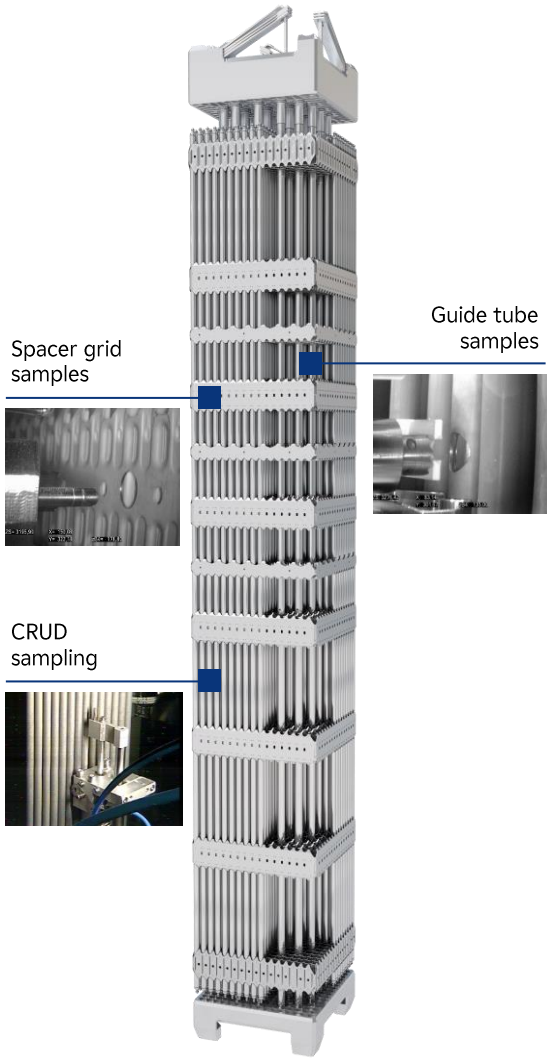
framatome

SAMPLING - FOR FURTHER EXAMINATION

Innovative Fuel Field Services solutions, proven in practice

Framatome's sampling technologies, applicable to LWR fuel assemblies, meet nuclear power plant requirements in a safe and sustainable manner.



Challenge

Targeted sampling of irradiated fuel assemblies in nuclear power plants is an essential part of post-irradiation examination (PIE) programs. It enables detailed assessment of material degradation mechanisms such as corrosion, embrittlement, and irradiation-induced changes. These operations require advanced remote-handling capabilities, strict radiological controls, and accurate documentation to ensure the integrity and representativeness of both the samples and the fuel assemblies.

Solution

As part of PIE programs, Framatome uses advanced sampling techniques — including remote cutting, drilling, and precision extraction — to obtain representative specimens from irradiated structural components or from CRUD deposits on fuel rods. The collected samples are then transferred to hot-cell facilities for detailed microstructural, mechanical, and chemical analyses under rigorous radiological conditions.

Customer benefits

- The extraction of representative samples enables detailed investigations of structural changes, corrosion mechanisms, and radioactive inventories.
- Framatome's technologies for the extraction and sampling of fuel assembly components, intended for subsequent examination in hot-cell facilities, provide a cost-efficient and reliable solution.

Framatome Solutions Portfolio Fuel Field Services

Your performance
is **our** everyday **commitment**

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