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La Hague Reprocessing plant: a mature technology continuously enhancing its performances through industrialisation of R&D programs

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Over 35 000 tons of used fuel have been processed in La Hague so far, and more than 8000 MOX and 7200 ERU Fuel Assemblies have been produced from recycled material. These experiences together with fairly stable yearly production levels for 40 years clearly demonstrate the industrial maturity of those technologies.

In France, used fuel reprocessing and recycling facilities continue their operation while enhancing the range of LWR and RR used fuels to be treated and performing investments to both increase competitiveness and secure long-term operations. This leads to continuously develop and implement new technologies, those resulting from constant interactions between R&D teams, mainly from the CEA, engineering department and operating facility teams.

These improvements include since 2010 the implementation of a Cold Crucible Induction Melter (CCIM) in an existing and very highly active facility (R7) at La Hague. In comparison with the Hot Melter, the Cold Crucible Induction Melter allows to operate with a higher throughput and a higher elaboration temperature. This technology makes possible the conditioning of two different types of effluents (from rinsing operation and with corrosive solution) with different glass formulations. Additional recent examples range from the first silicide fuel reprocessing campaign completed in 2017 at La Hague thanks to R&D developments enabling the process qualification, the deployment of a prototype innovative technology in order to provide a 360 degree weld with no physical nor visual access, and the completion of the dismantling of one of the former fission products' evaporator using laser technology.

R&D developments are continuously being performed to enlarge the range of used fuel capabilities to meet customer/market needs as well as to improve operating standards and secure long term operation

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Country or International Organization

France

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