



PRESS RELEASE

James Fisher Nuclear

At the recent international conference on the “Management of Spent Fuel from Nuclear Power Reactors” at the IAEA headquarters in Vienna, Geoff Ashworth, Technical Director of James Fisher Nuclear presented a paper on the “Retrieval of Damaged Fuel from Wet and Dry Storage using Innovative Remote Handling Techniques”.

This major conference is held once every five years with attendees from across the globe representing government organisations, utilities, regulators and commercial companies and included 78 presentations. The theme of the conference was “An Integrated Approach to the Back End of the Fuel Cycle”

In the paper, three case studies are described in which the standard fuel handling equipment and techniques could not be employed to recover the fuel elements, because the fuel was damaged or stuck or displaced or a combination of these. JFN designed, manufactured and tested equipment to retrieve damaged fuel from the reactor core at the Magnox Chapelcross nuclear power plant which allowed defueling to progress. JFN also designed and manufactured equipment to retrieve damaged and stuck fuel in a dry fuel store at the Magnox Wylfa nuclear power plant, enabling cross reactor refuelling to be carried out which in turn enabled the generating life of the station to be extended. In both these projects, the equipment was deployed without any or minor modifications to the existing plant and equipment.

JFN’s work with submersible ROVs in legacy cooling ponds at Sellafield was also described, notably the use of ROVs with manipulators for the retrieval of fuel debris and fuel elements from a pond floor and the sorting and segregation of fuel elements in pond skips. For all of these projects, JFN adopted an iterative, pragmatic, trials based approach for the design, manufacture and operation of the equipment in order to successfully solve these fuel handling challenges in these different environments. Adopting a trials based approach offers a number of distinct advantages over more classical design methodologies, namely that key risks are mitigated and addressed as the design progresses; continual assurance is gained through the trials, operators become familiar with the equipment before it is used on site, and overall risk, cost and programme time is reduced.

Link to conference paper

<http://www.jfnl.co.uk/files/9614/3559/0733/IAEA-CN-226-135.pdf>

Link to IAEA conference

<http://www-pub.iaea.org/iaeameetings/46528/International-Conference-on-Management-of-Spent-Fuel-from-Nuclear-Power-Reactors-An-Integrated-Approach-to-the-Back-End-of-the-Fuel-Cycle>

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Notes to editors:

James Fisher Nuclear is an established supplier of specialist engineering, manufacturing and technical services for applications within challenging environments or with high integrity requirements.

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