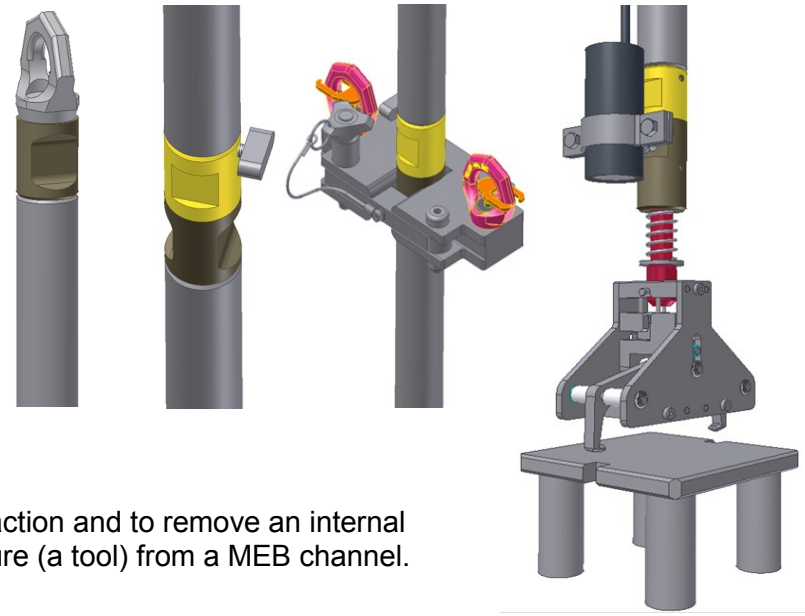
James Fisher Nuclear

Removal of Structural Feature from MEB

Long Reach Tooling

MEB



JFN designed, manufactured and tested a long reach tool for the removal of a structural feature , known as a "stool" from a Multi Element Bottle (MEB)

The Challenge

Multi Element Bottles (MEBs) which weigh around three tonnes each are used to hold spent fuel assemblies which are then placed in transport flasks and sent to Sellafield for reprocessing. On arrival, the MEBs are removed from the flask and transferred to a storage pond. Once the fuel has been removed, the MEBs are then exported from the storage ponds and placed in ISO-freight containers, before being sent to the MEB store.

The MEBs need to be decontaminated to reduce activity levels as much as possible, which helps provide a long term solution for their eventual treatment and disposal. Trials with water jetting were undertaken to decontaminate the MEBs and this included the development of two long reach tools to assist with sludge extraction and to remove an internal feature (a tool) from a MEB channel.

JFN Support

JFN provided design engineering support for the MEB water jetting project . This included the modification of an existing JFN designed water jetting system and the development of two long reach tools to assist with sludge extraction and to remove a stool from a MEB channel. These were developed from concept through to detail design, manufacture and then tested at a JFN facility.

In addition to the bespoke stool removal end feature, JFN called upon a 'tried and tested' long reach pole connection system which provides a means of securing sections of a long reach tool whilst providing a fall arrest system to prevent any manually handled poles being dropped.