News story: Sellafield’s ‘locked vault’ is ready to be emptied

The holes will allow radioactive waste to be removed from one of the site’s most hazardous buildings.

Six giant steel doors now provide a safe barrier between the outside world and the waste inside the silo, until it starts to be removed by a ‘grabbing’ machine.

Sellafield’s ‘locked vault’ is ready to be emptied

The Pile Fuel Cladding Silo was built in the 1950s when the site’s purpose was to make material for nuclear weapons.

Safely decommissioning the building is one of the highest priorities for Sellafield Ltd and the Nuclear Decommissioning Authority.

Getting access to the waste inside has been one of the most complex engineering challenges in the site’s history.

Head of the PFCS programme Steven Carroll said:

> It’s an early Christmas present to complete the work three months early and under budget. We can now say ‘the silo is ready for retrievals’ for the first ever time.
>
> Getting access to this nuclear waste store which was built with no thought to how it would be emptied has been an incredible engineering challenge, involving years of planning and preparation, hundreds of dedicated people and many millions pounds of investment.
>
> It’s also involved a massive team effort with our main contractor partner Bechtel Cavendish Nuclear Solutions and businesses such as James Fisher Nuclear and Shepley Engineers.
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> Reaching this landmark allows us to fully focus next year on manufacturing and installing all of the equipment which will reach in, retrieve the waste and allow it to be safely exported to the new facility for safer storage.

The level of challenge involved with this facility is unparalleled, considering the age of the building, the lack of historical information about the waste itself, the atmosphere inside the silo and its position on one of the most congested sites, anywhere in the world.

Each section of concrete has been cut away in a single piece (known as the

monolith) and withdrawn into a containment bag. Six containment doors (already installed on all compartments) is then lowered over the apertures and closed.

To remove the waste, a crane will extend through the cut holes, a grabber will then drop down to scoop the waste up, lifting it out of the container and back through the hole.

It will then be dropped into a specially-designed metal box, for safe and secure storage in a modern facility.
As the first ever breaking of the structure since it was built, this takes Europe’s most complex nuclear site a step closer to reducing the UK’s nuclear hazard.