

News story: Installed: the machine set to clean up Sellafield's most hazardous building

The £100 million Silo Emptying Plant will scoop radioactive waste out of the Magnox Swarf Storage Silo.

The 1960s storage facility has been described as one of the most hazardous buildings in western Europe and contains 10,000 cubic metres of intermediate level waste from the earliest days of the UK's civil nuclear industry.

John Clarke, outgoing NDA Chief Executive, unveiled the machine – the first of three being assembled in the building – at a ceremony yesterday.

He said:

This is an enormous step forward for the Sellafield decommissioning programme.

It is the culmination of 20 years of work to get to the position where we've got the first machine in place that will retrieve waste from these silos.

The machines will sit on rails on top of the silo's 22 vertical waste compartments. Each compartment is big enough to accommodate six double decker buses stacked three high.

Once operational, the emptying machines will be manoeuvred into place over the top of each compartment to scoop out their contents.

The material will then be packed into nuclear skips and sent to modern waste stores at Sellafield, pending final disposal in the UK's Geological Disposal Facility.

The machines will be ready to start retrieving waste in 2018, taking an estimated 20-25 years to complete the task.

Chris Halliwell, head of the Magnox Swarf Storage Silo, said:

This is probably the most complicated and advanced machine ever built at Sellafield.

It has about 13,500 different working parts and its design and concept was first drawn up more than 20 years ago.

Turning that vision into the machine we have today has been a major challenge for the UK's advanced manufacturing and nuclear supply

chain.

The process has been hugely challenging because no plans were drawn up for how waste would be taken out of the building when it was built in the 1960s.

The emptying machines were built by engineering firm NES Ansaldo at its Wolverhampton factory, before being dismantled and sent to Sellafield in 23 separate modules.

These modules were lifted one by one into the silo building and then re-assembled in situ.

Chris Halliwell added:

There is no job at Sellafield more important than the one being done by this machine. Emptying the waste from this legacy silo is our number one priority.

It has to be reliable because once it starts taking waste out, the contamination inside it would make it very difficult to maintain or repair.

The silo took waste from nuclear power stations all over the UK until its closure in June 2000.

Its contents are chiefly made up of magnesium cladding which was stripped from nuclear fuel rods before they were sent for reprocessing.