

News story: Robots tackle Sellafield's notorious radioactive 'hot spot'

The radioactive 'hotspot', known to those at the site as 'D-Bay', is a subsection of the First Generation Magnox Storage Pond.

The area was used to deposit radioactive sludge which started to accumulate in the plant in the 1970s.

The sludge is now being carefully 'hoovered up' using robotic arms, following 10 years of planning with supply chain partners ACKtiv joint venture and Jacobs.

[Robots removing sludge from D Bay](#)

Head of Legacy Ponds for Sellafield Ltd, Dorothy Gradden, said:

D-Bay has always been one of our biggest headaches at Sellafield.

It is a concentration of a problem in our most complicated and hazardous legacy facility.

After years of designing, making and installing the necessary equipment, we are now delighted to be safely reducing the hazard day by day.

The dedication and innovative thinking of more than 800 people at Sellafield and in our supply chain that has ensured that we safely arrived at this 'man on the moon' moment for this plant.

I'd like to thank and congratulate them all.

D-bay holds the equivalent of 35 concrete mixer trucks full of radioactive sludge, which is a by-product formed from decaying nuclear fuel and other debris.

It has been a no-go area for around 40 years, due to the proximity of the sludge to the surface of the water and the sheer volume of radioactive material.

The work has been done remotely using 'Brokk' manipulator robots, operated by people who control them from behind a shielded wall.

The robotic arms are attached to an overhead travelling crane and various tools can be attached to the arm for different tasks.

A suction device is used to 'hoover' up the sludge, while other tools allow the arm to pick up larger waste items and chop them into smaller pieces (referred to by operators as 'giving a haircut'), so that the sludge can be

accessed more easily.

The material is being transferred to a state-of-the-art plant for safe storage.

Now 66 years old, the pond was originally used to store, cool and prepare magnox fuel for reprocessing.

It is now one of the 4 legacy ponds and silos at Sellafield that the Nuclear Decommissioning Authority has prioritised for clean-up.

D-Bay is one of the plant's 'wet bays', which were separate areas designed for removing the cladding on nuclear fuel rods.

Work is ongoing to remove waste from the main pond, which is due to be emptied by 2031.