



BLADECUTTER

Our Bladecutter device was originally developed as a horizontal dredge system for the Hunterston A nuclear facility.

Its patented design allows it to cut through and collect stratified nuclear sludge, fluidising the material as part of the process. This allows the highly dangerous contaminated material to be collected from radioactive sludge ponds and gathered for more effective storage – usually box encapsulation.

To date, two versions of the Bladecutter device have been deployed at Hunterston, allowing the efficient clean-up of two of the site's nuclear bays. Following the success of the Bladecutter horizontal dredge, the Barrnon team developed a vertical version to remove radioactive sludge from underwater skips at decommissioning sites.

It is now part of extensive trials to establish the efficiency of the units which are currently under consideration for use in the ponds at Sellafield and at Fukushima in Japan.

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KEY POINTS

- Cuts and collects stratified nuclear sludge
- Horizontal and vertical versions available
- Successful deployment at Hunterston A
- Can be deployed using HydroSpyder
- Remote operation using umbilical system



SLUDGE COLLECTION

The collection of underwater radioactive sludge from tanks and ponds at nuclear facilities, is extremely challenging. When the Decommissioning Team at Hunterston A invited Barrnon to develop a system to clear radioactive sludge from their ponds, we turned to our experience in marine dredging.

At the same time, we created a new horizontal suction head powered by a prime mover so that it would be capable of retrieving a wide variety of sludges from the pond floor and transporting them for further processing.

We designed, built and tested the mark one Bladecutter in the pond at our Appleby workshop, demonstrating its efficiency to representatives from Hunterston A and the National Nuclear Laboratory.

A variety of sludge simulants were supplied by the Hunterston Team varying from fine silt, through estuary mud to assorted sizes of PHP arisings up to nuts bolts washers and cable ties. The Bladecutter collected all of these material neatly and efficiently.

It has since been involved in the complete clean-up of two large ponds at Hunterston A.

For more information on Bladecutter

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ANDY BARR

Barrnon, MD and chief designer, Andy Barr has over 20 years' experience in product development and has worked across many industry sectors. Bladecutter is one of his recent patented inventions and it a key part of Barrnon's suite of nuclear decommissioning tools.

BLADECUTTER CAPABILITIES

Bladecutter is capable of retrieving sludge of varying viscosities. In testing and deployment, it has successfully handled alluvial sands, clays, oils, PHP arisings and B30 simulants CMS and CMgS. In practice, it has shown to be capable of removing 30 cubic metres of contaminated sludge in just 10 operational days.

Bladecutter's ongoing success has led to requests for a number of design variations to meet specific client needs.

