

KMT Robotic Solutions Success Story BRITISH NUCLEAR

Cutting Box Blaster Cleaning System Doubles the Number of Decontaminated Nuclear Fuel Skips



British Nuclear Group, specialists in the area of nuclear site management and cleanup, develops safe and cost effective accelerated nuclear cleanup programs for customers in the UK and overseas.

Challenge

British Nuclear was looking for an automated system to quickly and accurately remove contaminated paint and corrosion from the surface of nuclear fuel skips. The cleaning process would take the skips back to base metal, converting them into low level nuclear waste suitable for export and storage at a nuclear repository.

"By converting the skips to low level nuclear waste instead of intermediate level waste, the robotic cleaning solution from KMT provides substantial savings in storage costs. British Nuclear Group will also be able to double the number of skips that can be cleaned in a day, while greatly reducing the need for personnel to work in radiation contaminated environments," said Paul Etchells, UK Sales

Manager for KMT Robotic Solutions.



This specially equipped robot removes radioactive paint.

Solution

KMT Robotic Solutions built and supplied a new ultra high pressure waterjet cleaning system based on its Cutting Box Blaster model, typically used to remove coatings grease and other substances from metal surfaces.

"British Nuclear Group chose KMT as preferred supplier because they sought a dependable product, both operationally and in production terms, and one which could fulfill a strict specification," said Ulf Andersson, KMT Robotic Solutions project manager. "We have nearly 15 years combined experience of developing and building advanced robotic systems. The fact that we could also guarantee a rapid delivery of a specially-adapted system was also an influencing factor," he added.

About the System

The system built for British Nuclear Group is comprised of a single floor-mounted robot, although it can be equipped with up to two inverted robots fixed to the ceiling of the cell or mounted on an overhead rail.

The cleaning jet is produced when a fine jet of water is forced through a set of nozzles (called a rotojet) at very high pressure. The rotojet nozzles are mounted within a body that is rotated independently by a pneumatically driven motor. This produces a cone-shaped cleaning jet that, when combined with the movement of the robot or the worktable, provides optimum coverage for cleaning a surface. The system's flexible hoses ensure that the robot's movement isn't limited by high-pressure steel coils. The Cutting Box Blaster can also be equipped with rotating and fixed worktables to ensure even more cleaning productivity and flexibility.

The Cutting Box Blaster is a safe, ergonomic and clean system, easily accessed through clear sliding doors, which also give an excellent view of the cleaning operation. Even with the spacious interior, the sound proof enclosure of the Blaster still offers a very compact footprint for installation in the cleaning shop or on the production floor.

KMT Robotic Solutions.
Creating value through automation.



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