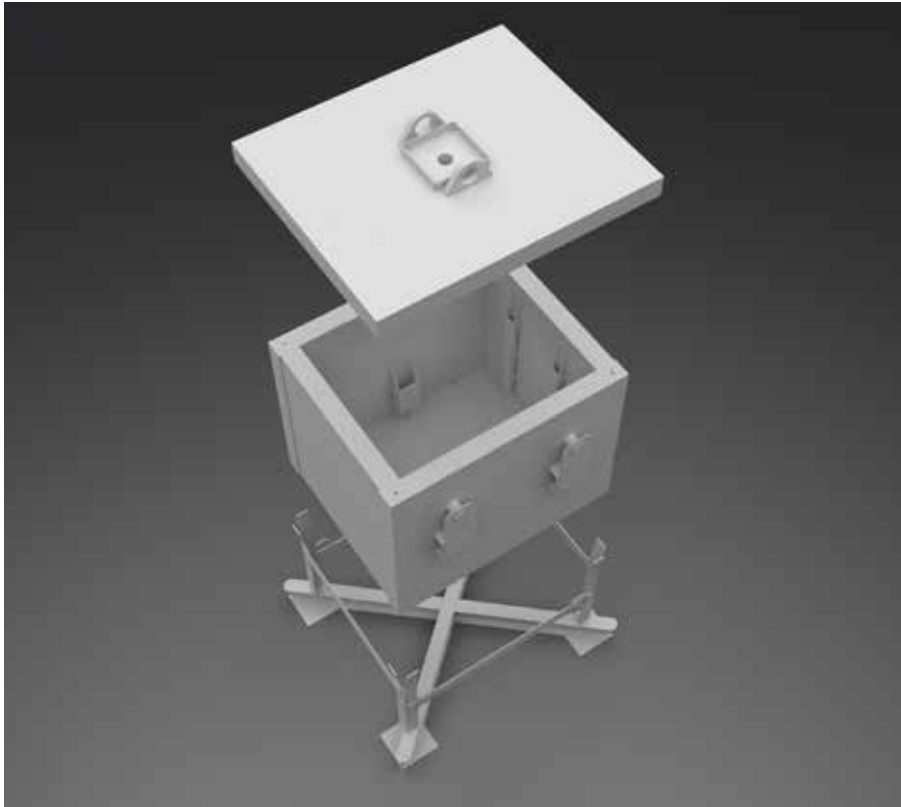


**Continuing its support of the nuclear industry with bespoke fabrications, ECS Engineering Services has produced 50 shielded overpacks for Magnox Ltd. These will allow the recovery and storage of intermediate level waste from the cooling ponds at Chapelcross Power Station as part of its ongoing decommissioning.**

Since its shutdown in 2004, Magnox, working with the Nuclear Decommissioning Authority, has been responsible for the safe and secure recovery of waste from Chapelcross Power Station. One aspect of the project is the clean-up of the cooling ponds at the site. As is typical at nuclear facilities, intermediate waste has been held underwater in zeolite skips, which reduces local radiation levels. Recovering the waste involves moving the zeolite skips into shielded overpacks underwater. The assembly is then removed, drained and lowered into a 6 m<sup>3</sup> concrete box for storage.

## ECS fabricates shielded overpacks for nuclear decommissioning

# ECS fabricates shielded overpacks for nuclear decommissioning



When the first overpack was complete, it was subjected to a thorough factory acceptance test and a detailed dimensions inspection by Magnox. ECS provided calibration certificates for all inspection equipment. Surface finish and coatings were also assessed. To prove the overpacks would be suitable, a 'Russian doll' assembly trial was conducted using an equivalent zeolite skip and concrete box using Magnox's specially designed lifting equipment. Having successfully passed these tests, ECS employed its large in-house fabrications facility to produce the remaining overpacks and furniture. Every overpack was supplied with a complete set of LTQR (lifetime quality record) documentation for viewing by Magnox.

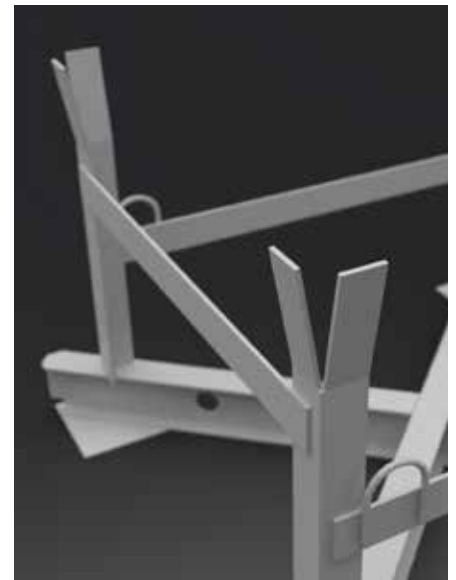
"We are proud to be supporting Magnox and this landmark nuclear decommissioning project," says Steve. "Our quality, in-house engineering capacity and experience in fabrications for the nuclear sector ensured we could deliver an optimal solution to help recover and store waste safely and securely."

ECS Engineering Services is an electromechanical engineering expert, with a proven track record of supplying high-quality fabrications for nuclear applications. This is evidenced by its steelwork accreditation to Execution Class 4 (EXC4) under BS EN 1090-2 and its Fit4Nuclear status. The business was invited to tender for the project due to its placement on the Magnox fabrication services framework, which it achieved in 2017 as one of six suppliers, after ranking highest in the assessment process.

Upon winning the tender, Magnox tasked ECS with producing 50 shielded overpacks, with 50 sets of accompanying 'furniture' frames to allow secure storage within the encapsulating concrete boxes. The specification called for

boxes measuring 1.5 m x 1.2 m x 1.2 m, each with a lid and all manufactured from 120 mm thick mild steel plate. The boxes and furniture would also require coating to protect against the highly alkaline cooling pond water. Each completed overpack would weigh in excess of 10 tonnes.

"Fabrication quality was exceptionally important for this project, especially in terms of tolerances, machining and welding," says Steve Crapper, Precontracts Director at ECS. "To ensure this, Magnox carried out stringent inspections during the manufacturing process. We provided full traceability for materials and welding, while carrying out rigorous non-destructive testing (NDT) on the overpacks throughout the process to provide assurance."



Engineering Services ■■

Water Control ■■ Site Services ■■  
 Environmental ■■ Fabrications ■■