



CASE STUDY

PROJECT TITLE: **WASTE POSTING FACILITY**
CLIENT: **HEALTHCARE**



AIMS AND OBJECTIVES



Aquila was engaged to design, build and commission two Waste Posting Facilities (WPF). This included compliance with legislations and meeting essential safety requirements.

ABOUT THE CLIENT



The market of nuclear healthcare provides transformational medical technologies and services with expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solution services.

SCOPE AND PROJECT SOLUTION

Aquila was awarded the contract to design, manufacture and assemble two Waste Posting Facilities (WPF). A fully shielded containment system designed and manufactured for the removal of decommissioning waste from the existing plant in a safe, controlled and quantified manner.

The plant consists of a stainless steel containment, enclosed within 100mm of lead shielding, joining the existing plant and the LLW Glovebox. Transfer tunnels containing sliding trays allow transfer of items between areas, controlled by safety system interlocked shielding doors.

A port in the base of the containment allows a VIP Can to dock within the plant for waste removal. This port also features a tong-operated shield door interlocked with the control system. The VIP Cans are presented in a shielded Cask, set on a transport frame that allows the Cask to be handled and transferred between the WPF and the MHC. The frame is handled and loaded with a fork truck onto the WPF Trolley.

A VIP Can lid unlocking and lifting mechanism is provided within the WPF, allowing operator access to load ILW into the can.

Using the transfer tunnel sliding tray, Overpack cans are posted into the WPF and assayed on a shelf below an AMP-100 gamma monitor. A small Cable Winch allows the operator to collect the Overpack cans and lower them into the docked VIP Can using a fixed video camera system for assistance. Two Canberra G64 area gamma monitors are also included and are linked in to the control system to ensure safe operation.

The WPF is ventilated via the existing plant extraction system. A depression is maintained with air being supplied through a HEPA filter into the WPF LLW Glovebox before cascading in to the WPF and onwards into the existing plant. The internal shield doors are designed to allow sufficient flow when they are in the shut position. A damper is provided on the inlet to adjust the flow.

WPF INTERNAL FEATURES:

- Transfer Shield Doors
- Lid Lift
- Cable Winch

ADDITIONAL FEATURES:

- WPF Containment Depression Monitoring
- Pneumatic Line Monitoring
- Gamma Monitors
- Camera System
- Lighting
- Outlet Sockets

WPF EXTERNAL FEATURES:

- Trolley
- Flask Shield Doors

SUMMARY

During the production of the technical specification, Aquila engineers worked with the user's technical team and assisted with the development of a pragmatic functional specification. This functional specification effectively reduced the containment category classification, resulting in a reduced cost and timescale. In preparation of the solution, Aquila provided a 3D concept model demonstrating all design and operating features which were incorporated into the pricing on an open book basis.



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ACCREDITATIONS



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