

Hexachloro Benzene Repackaging Plant



The Project

Orica were faced with a challenge to create a suitable repackaging facility for highly toxic Benzene Hexachloro (HCB) waste that had been stored for decades at the former ICI site at Matraville, Port Botany. Much of the HCB waste stored on-site was kept in old 44-gallon drums that had degraded and there was a high risk of toxic waste leaching into the environment and impacting on worker health and safety.

As Orica's personnel had limited experience of the materials handling requirements needed to repackage the HCBs, Australis were initially engaged in designing a solution, our aim was to minimise the human intervention during the repackaging process and thus reduce OHS and environmental risks. As consultants, Australis provided a detailed operational description to enable operational controls for all the equipment to be programmed and controlled electrically through a PLC system. Australis also designed, manufactured and installed materials handling equipment: at the site including:

- conveyors to handle drums and pallets,
- a pallet stacker and dispenser,
- drum weighers and a drum emptying system, and

Drum Decanting

Drum Palletiser

Pallet Conveyors



The Result

Australis provided some innovative solutions to decant the HCB product from the existing drums and provide operator assistance to secure the lids. A key element of the Australis' solution was our ability to provide or change the concepts to meet Orica's objectives. The features of Australis Engineering's system include the design, manufacture and installation of:

- a drum de-canting system using a track mounted fork mast, drum clamp and rotator unit. The operator using manual controls could remove the drum from a pallet lift, rotate and empty the contents and then place the empty drum on a high level conveyor.
- a drum palletiser to place four full drums on a pallet. The unit was capable of handling both 100 litre and 200 litre drums.
- a drum handling conveyor systems to move the drums through two filling lines and then merge them to one line for palletising.
- pallet conveyors with turn-tables to enable 90 degree transfers and the ability to turn the pallet 45 degrees to allow one drum to be picked by the drum de-cant unit.

Client:
Orica Australia

Location:
Matraville NSW
Australia

Palletiser

Pallet conveyors

Drum decanting

Check weigher

Automation

Design
consultancy

Hazardous
environment

Maintenance
contract

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(Continued on page 2)

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Innovation

A key element of the Australis solution was to design and manufacture a system to secure the drum lids to the new drums thereby preventing potential environmental contamination issues. The drum lids required a clamp ring to secure the lid. As the lids had an extra thick seal the clamps could not be closed without assistance. A unique hydraulic clamp was purpose designed and build for this application. Our solution is helping to protect the local environment from further contamination.



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