



ASSESSMENT REPORT

Section 75W Modification Orica's Hexachlorobenzene (HCB) Waste Repackaging Facility

1. BACKGROUND

Orica Australia Pty Ltd (Orica) has been manufacturing chemicals at the Botany Industrial Park (BIP) since 1941. The BIP covers 74 hectares and is located in the suburb of Banksmeadow, in the Botany Bay local government area. Three industrial facilities share the BIP including Orica, Huntsman and Qenos, see Figure 1.

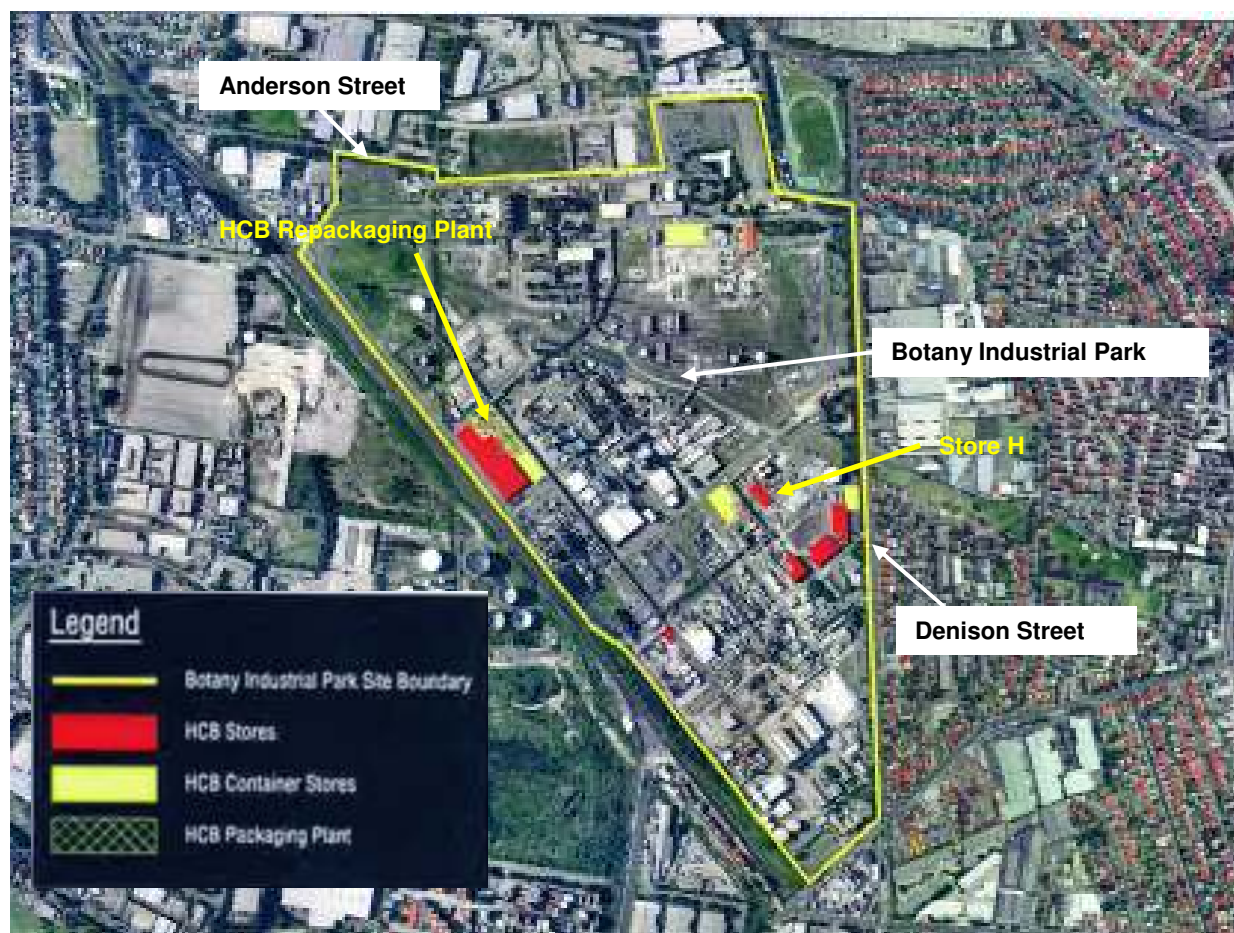


Figure 1: Location Map

Between 1960 and 1991, Orica operated a solvents plant producing chlorinated solvents for use as dry cleaning fluids and refrigerants. Hexachlorobenzene (HCB) waste was generated as a by-product of the solvents plant. Since 1960, the HCB waste has been stored at various locations across the Orica site with the intention of treating it in the future, once a suitable technology and site became available. Since the storage of HCB material, Orica have had to

repackage the waste approximately every 5 years, as the waste storage drums deteriorate over time and regular repackaging campaigns are necessary to ensure safety. Each repackaging campaign results in a larger volume of contaminated waste as the deteriorated drums form part of the waste. In addition, Orica needs to prepare the waste for eventual transport off-site for destruction.

Previous repackaging operations were conducted manually, however, on 12 August 2006, Orica was granted approval under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act) to construct and operate a mechanical HCB repackaging plant at Botany. A total of 12,500 tonnes of HCB waste is stored on the site in approximately 50,000 drums and numerous tanks. The waste material ranges from concentrated HCB waste to low level HCB waste. The repackaging project repackages the HCB waste and stores it within shipping containers making the waste secure and ready for export.

Repackaging operations commenced in 2007 and to date, approximately 45% of the waste has been repackaged into shipping containers, ready for export. Figure 1 shows the HCB repackaging facility (yellow hatching), existing HCB stores (red) and the HCB material that has been repackaged into containers (yellow).

At the time of the project approval, Orica envisaged that repackaged HCB waste would be progressively exported off site for destruction and estimated that the total volume of waste stored on site at one time would be in the order of 300 shipping containers, being the volume that would comprise one shipment. However, applications to export the waste have been delayed, with an application to Germany in 2007 unsuccessful and a 2008 application to the Danish government currently pending. Therefore, all repackaged waste, being approximately 600 shipping containers, must be stored on site until a final export destination is secured.

Repackaging operations are on-going and are soon due to commence at the existing HCB waste Store H. Store H comprises 32 concrete tanks containing polymerized tars and lights, including vinyl chloride (VC) and ethylene dichloride (EDC). The tanks will be demolished with the contents and tank materials transferred to the repackaging plant. Demolition of the tanks is expected to take approximately 18 months.

2. PROPOSED MODIFICATION

Orica is seeking to modify the project approval under Section 75W of the EP&A Act for:

- storage of a total of 600 shipping containers containing repackaged HCB waste at four additional storage locations on the BIP; and
- construction of a temporary enclosure over Store H for the duration of works associated with repackaging in this location, being approximately 18 months.

Additional Container Storage Locations

As the export applications have been delayed, Orica is proposing to store all repackaged HCB waste, being a total of 600 shipping containers, on the site until an export location is secured.

The total volume of waste to be repackaged would not change as a result of the modification. It should also be made clear that the total volume of waste stored on the site would not change from the existing situation; however, Orica had envisaged that repackaged HCB waste would be progressively exported off-site whilst repackaging operations were on-going, thereby reducing the volume of waste stored on site over time. Given the delay in the export applications, this would no longer occur, therefore resulting in the need to store all repackaged waste on the site. This would result in up to 600 shipping containers of repackaged HCB waste being stored on the site until export can commence.

Given the time taken to secure an export destination, Orica is seeking approval for storage of all HCB waste on site for a maximum of 5 years.

The project approval included three container storage locations, as shown in yellow on Figure 2. A further four container storage locations are proposed as part of this modification, these are shown in green on Figure 2. The proposed new storage locations are also described in Table 1 below.

Table 1: Proposed container storages for repackaged HCB waste

Name	Location
Depot 11/53	North end of site adjacent to Anderson Street
Depot 11/54	Car park area adjacent to Denison Street
Depot 11/55	Southern end of site at former ChlorAlkali plant
Depot 11/56	Southern end of site at former ChlorAlkali plant

Temporary Enclosure over Store H

Orica proposes to construct a temporary enclosure over Store H for the duration of repackaging works in this location, being approximately 18 months (shown in orange on Figure 2). The enclosure would provide protection from wind and rain during tank emptying and demolition works, negating the need to use waterproof equipment and ensuring the comfort of workers.

The project approval involved the use of temporary enclosures over each tank during emptying works to manage air emissions. This process would still be undertaken, irrespective of the proposed enclosure over the entire Store H area.

The enclosure over Store H would be constructed in a galvanised / Colorbond material with removable soft walling at ground level. The enclosure would be approximately 40 metres long, 20 metres wide, 8 metres tall at the apex and 6 metres tall at the sides. A similar structure is shown in Figure 3.

The soft lower walls would allow access to each of the tanks situated along the perimeter of the store and would provide flexibility for moving the tank emptying equipment from tank to tank. The structure would be demolished within 6 months of completion of works associated with repackaging at Store H.

The proposed modification does not require any change to the method for repackaging the contents of Store H or demolition of the tanks. The total volume of waste to be repackaged would not change.

The procedure for managing air emissions during tank emptying and demolition works would not change as a result of the modification. As detailed in the project approval, temporary enclosures would be constructed over each tank during emptying works with air extracted via the existing vapour emission control system on the Steam Stripping Unit. This process would still be undertaken irrespective of the proposed temporary enclosure over Store H.



Figure 3: Similar structure to be constructed over Store H

3. STATUTORY CONTEXT

The Minister was the approval authority for the original project application and is consequently the approval authority for this application. However, on 4 March 2009, the Minister delegated her powers and functions as an approval authority to modify certain project approvals under section 75W of the EP&A Act to the Deputy Director-General. This modification application meets the terms of this delegation. Under these circumstances, the Deputy Director-General may determine the application under delegated authority.

The proposed modifications would not result in an increase in the quantity of material to be repackaged; and they form part of the necessary repackaging process to ensure safety and to prepare the material for export. The Department has reviewed the extent of the proposed modifications and considers that the scale of the development would not increase and environmental impacts would be adequately managed. Therefore, the proposed modifications to the project are not considered to be a 'radical transformation' from what was originally approved.

Consequently, the Department considers that the application should be assessed and determined under Section 75W of the EP&A Act rather than requiring a new development or project application to be lodged.

4. CONSULTATION

Under Section 75W of the EP&A Act, the Department is not required to notify or exhibit the application. Following a review of the application, the Department sought comments from the City of Botany Bay Council (Council) on both modifications; and the Department of Environment and Climate Change (DECC), on the modification for additional container storage locations. Consultation with other government agencies and neighbouring sites was considered unnecessary as the environmental impacts of the proposal would essentially remain unchanged.

In summary, the DECC indicated that the current licensing regime is sufficient to control any environmental impacts associated with the additional container storage locations, including any air quality impacts. The DECC noted that storage of waste in shipping containers is not prohibited by the current licences and recent ambient air monitoring at the site showed HCB below levels of concern.

Council raised concerns about the proximity of container storages to residential areas and requested more stringent air quality monitoring, further risk assessment and consideration of visual screening of the containers located nearest to Denison Street. Council also identified the need for Orica to obtain the relevant certificates for existing and proposed structures in accordance with the Building Code of Australia.

The Department has considered comments received from Council and the DECC in the assessment provided below. Copies of the submissions are provided in Appendix C.

5. CONSIDERATION

Storage of repackaged HCB waste on the Botany site was assessed as part of the original project approval. This modification considers storage of repackaged HCB waste in additional locations on the site. Construction and demolition of a temporary enclosure over Store H is also assessed.

Table 2 details the Department's assessment of the key issues associated with the modifications to allow additional container storage locations and construct a temporary enclosure over Store H.

Table 2: Consideration of Impacts

Issue	Additional Container Storage Locations	Temporary Enclosure over Store H
Land Use Safety	<ul style="list-style-type: none"> • Orica has notified WorkCover NSW of the additional storage locations and has registered the sites as dangerous goods stores. • The proximity of the proposed additional storage locations to residents are: <ul style="list-style-type: none"> • Depot 11/54 ~15m to Denison Street residents; • Depot 11/55 and 11/56 ~150m to Denison Street residents; • Depot 11/53 ~300m to Anderson Street residents. • Council requested that a risk assessment be carried out for the modification. • The Department's Major Hazards Unit has considered the proposed locations from a land use safety perspective and concludes that the increased risk from storing HCB waste at the proposed locations is minimal. • The Department notes that Depot 11/54 adjacent to Denison Street is the closest depot to residential premises and would store low-level HCB waste, dangerous goods class 9. • Therefore, the Department recommends that the modified conditions of approval allow only low-level, dangerous goods class 9 waste to be stored in this location. • The project approval contains a number of conditions for managing hazards associated with the project and the Department concludes that these are adequate for managing any hazards associated with the modification. 	<ul style="list-style-type: none"> • No changes to land use or repackaging operations at Store H, therefore no impacts on land use safety.
Air quality	<ul style="list-style-type: none"> • Storage of HCB waste has the potential to generate fugitive emissions of HCB. • Council raised concerns about the proximity of storages to residential areas and requested that more stringent air quality monitoring be undertaken. • The DECC notes that air emissions from the HCB repackaging facility and storage depots are currently regulated via two licences; an Environment Protection Licence (EPL) under the <i>Protection of the Environment Operations Act, 1997</i> and a licence under the <i>Environmentally Hazardous Chemicals Act, 1985</i>. These requirements are mirrored in the project approval and include routine air quality monitoring at all HCB storage locations. The DECC notes that neither licence prohibits the storage of wastes in shipping containers and also indicates that recent ambient air monitoring showed HCB below levels of concern. • The DECC is satisfied that the existing licences are sufficient to control any environmental impacts associated with the proposed modification. • The Department concludes that the existing air quality monitoring program provides extensive and adequate monitoring of air quality emissions and is sufficient for monitoring any emissions associated with the modification. • The modified conditions require Orica to provide a copy of air quality monitoring reports to Council. 	<ul style="list-style-type: none"> • The procedure for managing air emissions during tank emptying and demolition works would not change, with emissions directed through the existing vapour emission control system on the Steam Stripping Unit; • Construction and demolition of the structure may generate minor dust emissions; • Air emissions are currently regulated via two licences, an EPL under the <i>Protection of the Environment Operations Act, 1997</i> and a licence under the <i>Environmentally Hazardous Chemicals Act, 1985</i>. These requirements are mirrored in the project approval; • The Department considers the existing requirements for monitoring emissions are sufficient for managing any additional minor dust emissions.

Issue	Additional Container Storage Locations	Temporary Enclosure over Store H
Building Certification and Compliance	<ul style="list-style-type: none"> • Orica is currently storing repackaged HCB waste at Depot 11/54 located adjacent to Denison Street. This area was envisaged as a potential storage location in the major project application for the HCB repackaging facility (as shown in Figure 1); however it was not formally included in the application. Hence the modification is also seeking to regularise this storage area. • Orica has notified WorkCover NSW of all storage locations as registered dangerous goods stores. • In December 2008, Council requested Orica provide copies of construction and occupation certificates for the HCB repackaging building. Orica had not obtained these certificates and therefore were not compliant with the EP&A Act or the project approval in terms of building certification under the Building Code of Australia (BCA). • Orica has agreed with Council to seek a building certificate for the HCB repackaging building to ensure compliance and lodged an application with Council on 2 April 2009. • The Department requires, via the modified conditions of approval, that a copy of the building certificate be provided within one month of the date of the modification, in order to rectify compliance matters. 	<ul style="list-style-type: none"> • The temporary enclosure is considered a structure under the BCA. • Therefore, a construction certificate would be required from a Principal Certifying Authority. • The modified conditions of approval reflect the requirement to comply with the BCA.
Noise	<ul style="list-style-type: none"> • Noise would be generated by transport and positioning of the shipping containers and from minor surfacing and grading activities at Depot 11/55 and 11/56. • Noise impacts are consistent with those expected of working industrial sites and works would be carried out in accordance with the existing noise limits specified in the EPL. • No additional conditions are considered necessary for managing noise. 	<ul style="list-style-type: none"> • Construction and demolition of the enclosure may generate noise, however this would be short term as the structure would take one month to erect and less time to demolish. • Noise emissions from the BIP are regulated via the EPL with cumulative emissions from all activities on the BIP required to achieve the EPL noise limits. • The Department considers that the existing EPL provides adequate measures for managing noise emissions from the modification.
Waste	<ul style="list-style-type: none"> • There would be no waste generated by the additional container storage locations. 	<ul style="list-style-type: none"> • The structure would be demolished following completion of works at Store H. • All demolished building materials would be on-sold for reuse; therefore, avoiding waste generated by construction and demolition of the structure.
Visual	<ul style="list-style-type: none"> • Containers at Depot 11/54 would be partially visible to residences in Denison Street. • The visual impacts are considered to be consistent with those of an industrial site, however the storage of shipping containers close to residents in Denison Street was a specific concern raised by Council. • A well established landscaped mound exists along the site boundary in this location which supports mature trees. This provides adequate screening of the containers, see Figure 4. • Therefore, the Department considers that visual amenity impacts are sufficiently mitigated. 	<ul style="list-style-type: none"> • The temporary enclosure is a large structure with a reflective roof surface that may be partially visible to residents on Denison Street; • The maximum height of the structure is 8 metres; • The structure would be partially screened by existing industrial structures such as HCB Store D; and the mature landscape mound along the site boundary with Denison Street; • As the structure would be partially screened, and would only remain in place for 18 months, the visual impacts would be minor and short term; • The Department considers that the design and scale of the structure is consistent with the industrial setting and does not propose any alterations to reduce its visual impact.



Figure 4: Landscaping along Denison Street

The Department is satisfied that the proposed container storage locations and temporary enclosure over Store H present no discernable change in environmental impacts associated with the project. The proposed modifications are necessary for continued repackaging to prepare the material for export. Given that a final destination for the HCB waste is yet to be secured, the Department recommends approval for Orica to continue storing HCB waste on site for a maximum of 5 years from the date of the modified approval.

The Department recommends seven minor amendments to the project approval (see notice of modification in Appendix A). A copy of the consolidated approval is provided in Appendix B.

7. RECOMMENDATION

It is RECOMMENDED that the Deputy Director-General:

- approve the proposed modification under the Minister's delegation of 4 March 2009; and
- sign the attached notice of modification (**Tag A**).

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Signed 25/06/09

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Signed 29/06/09

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Richard Pearson
Deputy Director-General

APPENDIX A – NOTICE OF MODIFICATION

See Instrument of approval (separate document)

APPENDIX B – CONSOLIDATED PROJECT APPROVAL
