

ASSESSMENT REPORT

Orica HCB Repackaging Facility Enclosed HCB Storage Section 75W Modification 06_0028 Mod 6

1. BACKGROUND

Orica Australia Pty Ltd (Orica) is an Australian-based global company that produces mining, chemical and consumer products. Since 1941, Orica has been manufacturing chemicals at the Botany Industrial Park (BIP) located in Matraville (see **Figure 1**).

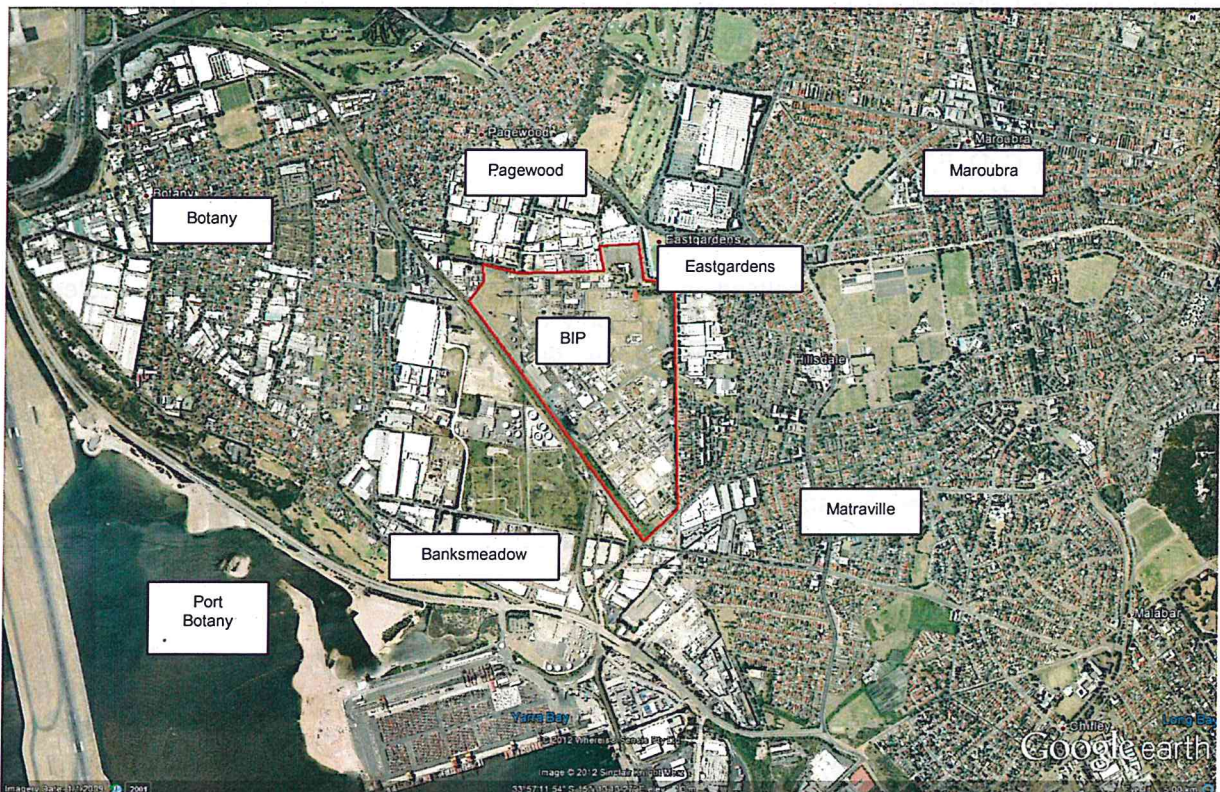


Figure 1: Botany Industrial Park, Matraville

Between 1960 and 1991, Orica produced chlorinated solvents at the site for use as dry cleaning fluids and refrigerants. Solid waste from the solvents plant contained hexachlorobenzene (HCB) which is classified as a persistent organic pollutant. HCB waste is bioaccumulative, very resistant to degradation and difficult to destroy. Orica has stored approximately 14,600 tonnes of HCB waste at various locations across the BIP while it seeks suitable option for the destruction of the waste.

Current Strategy

While recent applications to export the HCB waste for treatment overseas have been unsuccessful to date (Germany 2007 and Denmark 2010), Orica has confirmed that it remains committed to finding a solution for the treatment of its HCB waste.

As part of this, Orica has confirmed that it is currently investigating various treatment options. However, Orica has indicated that it will only pursue an option which uses a commercially proven technology and has a demonstrated record of safe environmental performance in terms of the treatment of HCB waste.

Furthermore, Orica has also confirmed that this current modification application would not impact on or preclude Orica from pursuing any proposed treatment options including disposal overseas if approved.

HCB Repackaging

The majority of HCB waste has been stored in drums. However, the waste storage drums deteriorate over time, therefore Orica has had to 'repackage' the waste to maintain its integrity. In the past, repackaging of the waste was undertaken manually, approximately every 5 years.

On 12 August 2006, the then Minister for Planning granted approval under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act) for the construction and operation of a mechanised repackaging plant. The new plant automated the manual repackaging process, enabling the waste to be transferred from the deteriorating drums into new drums which were then stored in shipping containers, secure for safe international transport.

The 2006 approval has subsequently been modified five times. These modifications were all of a minor nature and allowed additional storage locations, construction of enclosures and the relocation of waste within the BIP. Under the 2006 approval, Orica is permitted to store HCB waste at the locations shown on Figure 2. Some of the locations have never been used for the storage of HCB waste as initially envisaged, these are indicated in grey shading. The locations currently being used to store HCB waste include:

- Stores A, B, C, D, F, G, H, I;
- Store J (includes the repackaging plant); and
- Depots 11/50, 11/51, 11/52, 11/54.

The repackaging works were completed in April 2011, with the repackaged waste expected to maintain its integrity for up to 20 years. The majority of repackaged HCB drum waste was stored within shipping containers (approximately 600 in total across the site), as Orica had envisaged that the waste would be progressively exported off site for destruction. However, recent applications to export this waste (Germany in 2007 and Denmark in 2010) have been unsuccessful. This means the waste will need to be stored on site for longer than anticipated, until an export or treatment solution is secured. Therefore, Orica is seeking to improve the existing storage facilities by consolidating waste drums within a centralised storage shed. This would also enable the shipping containers to be returned to suppliers.

2. PROPOSED MODIFICATION

On 8 February 2012, Orica lodged an application requesting a further modification (Mod 6) to its project approval under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Orica is seeking to improve the storage facilities for HCB waste at the BIP by:

- constructing an enclosed shed and consolidating storage of HCB drum waste at a centralised depot (11/51); and
- transferring all HCB drum waste out of shipping containers into the new shed at depot 11/51.

The modification would:

- improve access to the drum waste for routine inspections to identify any deterioration of the drums;
- allow Orica to transfer HCB waste around the site and conduct maintenance work on other existing stores, such as re-roofing works whilst the stores are empty; and
- allow Orica to return all 600 shipping containers to its suppliers.

The proposed modification is shown on **Figures 3 to 5** and described in full in the Environmental Assessment (Appendix E).

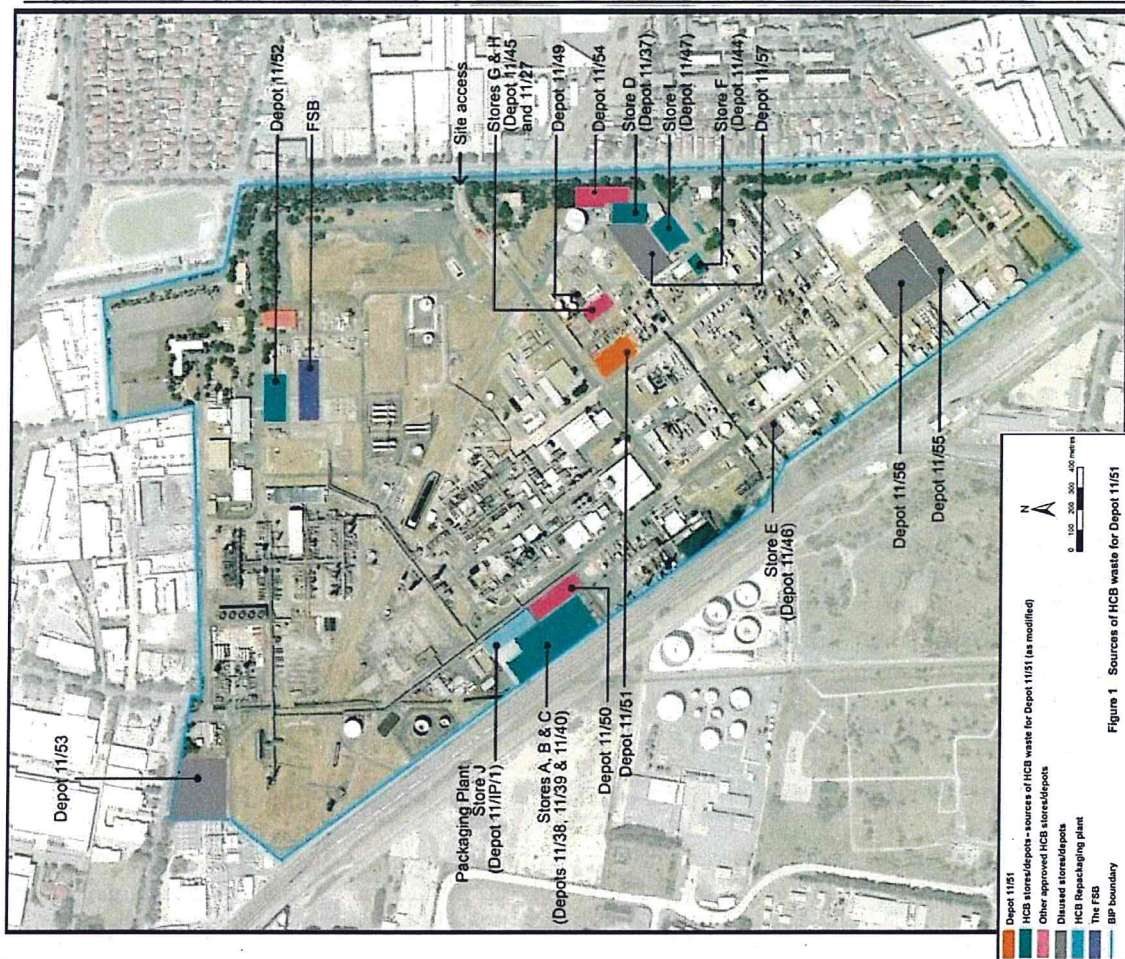


Figure 2: Existing HCB waste storage locations

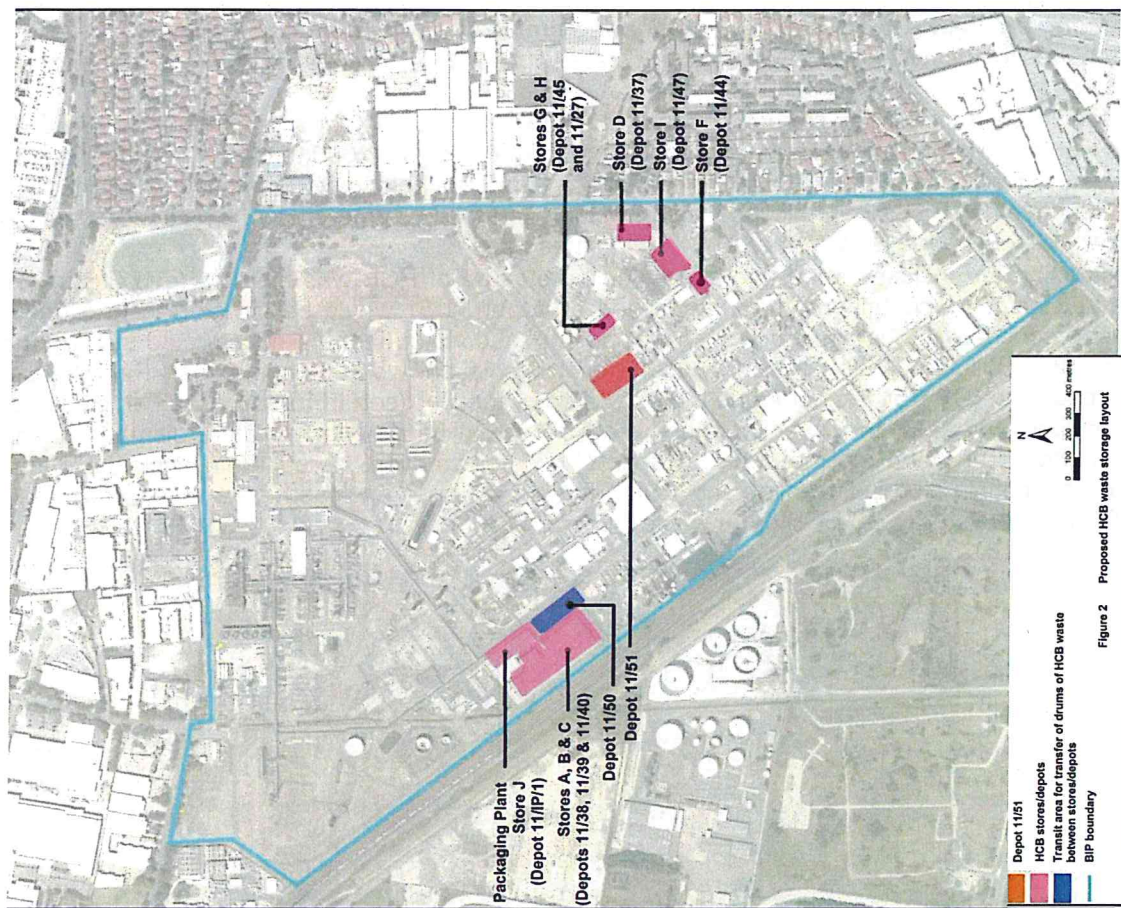


Figure 3: Modified HCB waste storage locations

Constructing an enclosed shed and consolidating storage at a centralised depot (11/51)

Orica proposes to consolidate HCB waste storage at depot 11/51. The consolidation of storage would be achieved by:

- increasing the footprint and storage capacity of the existing storage depot (as shown in **Figure 4**). This would enable an increase in storage volume from 6,000 to 11,000 tonnes. The classification of wastes stored at depot 11/51 would not change, with Orica able to store both low level and high level contaminated waste in this location. Similarly, the total volume of HCB waste stored at the BIP would not change (approximately 14,600 tonnes); and
- constructing an enclosed shed and annex for the storage of HCB waste drums (see **Figure 5**). The 222 shipping containers currently located at depot 11/51 would be transferred to Store A whilst a concrete slab is constructed. An enclosed shed would then be constructed utilising the Feed Soil Building (FSB) currently used for remediation works for the Car Park Waste Encapsulation (CPWE) Project in the northern area of the BIP (see **Figure 2**). On completion of remediation works for the CPWE project, the FSB would be de-contaminated, dismantled and transported 400 metres to the south to depot 11/51 for erection. A separate enclosed annex would be constructed adjacent to the FSB; forming a larger enclosed area of approximately 5,800m² for the storage of HCB drum waste.



Figure 4: Proposed increase in footprint of depot 11/51

Transferring all HCB drum waste out of shipping containers into the new shed at depot 11/51

To consolidate HCB waste drums within the new shed and annex at depot 11/51, a number of movements would occur across the site, including:

- temporary transfer of shipping containers from depot 11/51 to store A during shed construction;
- transfer of HCB waste drums from the containers at Store A to the new shed at depot 11/51;
- transfer of some HCB waste drums from other locations on the BIP (Stores B, C, D, F, I and depots 11/52 and 11/54) to the new shed at depot 11/51.

The storage locations following completion of the modification are shown in **Figure 3**.

The drums would be transported entirely on internal roads within the BIP. The empty shipping containers would be inspected, cleaned and progressively returned to their suppliers. It is anticipated that the shipping containers from depot 11/51 (222 in total) would be removed from the site over a

period of four months. The remainder (approximately 380 containers) would be progressively removed from the site as HCB drum waste is transferred to the new shed.

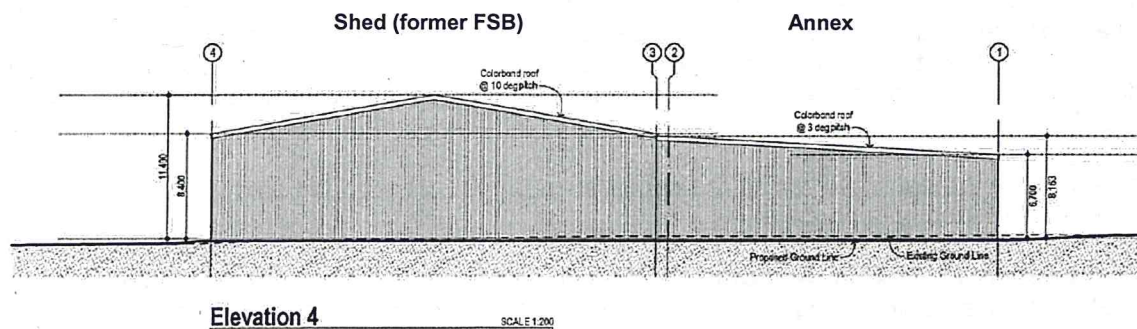


Figure 5: Proposed enclosed shed and annex at depot 11/51

3. STATUTORY CONTEXT

3.1 Legislative Framework and Approval Authority

Part 3A of the EP&A Act, as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the Act, continues to apply to the modification application, since the 2006 project approval was granted in respect of "transitional Part 3A projects" for the purposes of Schedule 6A.

Consequently, the 2006 project approval must be modified under the previous section 75W of the EP&A Act. Under section 75W, the Minister for Planning and Infrastructure is the approval authority for this modification application. However, the Executive Director, Major Projects Assessment may determine the application under the Minister's delegation of 14 September 2011, as:

- less than 10 public submissions were received that were in the nature of an objection;
- Orica has not made any reportable political donations; and
- the City of Botany Bay Council does not object to the modification.

3.2 Modification

The proposed modification involves changes to the way HCB waste is stored on site, moving it from shipping containers to an enclosed building. The modification does not involve changes to approved storage volumes, repackaging of the HCB waste or the classification of the waste. Consequently, the Department is satisfied that it can be properly characterised as a modification to the original project approval, rather than a new project in its own right, and can therefore be assessed and determined under section 75W of the EP&A Act.

3.2 Other Approvals

A number of other approvals and licences are required for the storage of HCB waste at the BIP, including:

- an environmentally hazardous chemicals licence (EHC no. 26) administered by the Environment Protection Authority under the *Environmentally Hazardous Chemicals Act 1985*;
- an environment protection licence (EPL 2148) administered by the Environment Protection Authority under the *Protection of the Environment Operations Act, 1997*; and
- notification of dangerous goods on premises administered by WorkCover NSW under the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2011*.

The Department consulted the Environment Protection Authority (EPA) and WorkCover NSW (WorkCover) in relation to the modification. The EPA noted that no additional conditions would be necessary for the modification. Orica has indicated that amendment of the EPL and EHC licence is not likely to be required.

WorkCover requested that the Proponent consult with them prior to commencement of work. Orica has confirmed that it would amend its notification of dangerous goods on premises to reflect the amended storage volume at depot 11/51.

4. CONSULTATION

Under Section 75W of the EP&A Act, the Department is not required to notify or exhibit the application. However, after accepting the Environmental Assessment for the proposed modification, the Department referred the application to the EPA, the City of Botany Bay Council and WorkCover for comment. Consultation with other government agencies and neighbouring properties was considered unnecessary as the environmental impacts of the modification would essentially remain unchanged.

A summary of the issues raised during the consultation process is provided below and a copy of all submissions is included in Appendix D.

The **Environment Protection Authority (EPA)** did not raise any concerns and noted that no additional conditions would be required. However, the EPA highlighted the importance of managing fugitive air emissions from storing HCB waste through appropriate controls, inspections and monitoring.

The **City of Botany Bay (Council)** requested a number of clarifications on the modification relating to cumulative hazard risks, handling of the shipping containers during construction and the process for treating the shipping containers if they are contaminated. Council also requested a long-term management solution for HCB waste. Council recommended conditions relating to construction management, truck movements, and a restriction on the storage timeframe to 5 years.

WorkCover NSW (WorkCover) did not object to the modification, but recommended that Orica consult with WorkCover prior to commencement of any work, to ensure that the modification is incorporated into Orica's Safety Report and complies with the *Work Health and Safety Regulation, 2011*.

Orica provided a response to the issues raised in submissions (see Appendix C).

5. ASSESSMENT

In assessing the merits of the modification the Department reviewed:

- the EA for the original project and project approval 06_0028;
- the EA and response to submissions (RTS) for the modification (see Appendix E and C);
- submissions from government agencies (see Appendix D);
- relevant environmental planning instruments, policies and guidelines; and
- relevant provisions of the EP&A Act, including the objects of the Act.

The key issue associated with the modification is the potential hazards and risks. Other issues, including contamination, traffic, noise, air quality, visual and waste are considered in Table 1.

5.1 Hazards and Risks

A Preliminary Hazard Analysis (PHA) was carried out for the HCB repackaging project prior to approval in 2006. The PHA for the repackaging operations assessed potential incidents such as spills, on-site fires, explosions and failure of pollution control equipment and determined that fatality, injury and irritation risk were below the Department's land use safety criteria.

As repackaging operations are complete and the HCB waste has been repackaged into secure drums, the potential hazards and risks associated with the project have been substantially reduced.

In relation to hazards and risks, the key elements of the modification include:

- consolidation of HCB waste storage at depot 11/51, increasing the storage volume at this depot from 6,000 to 11,000 tonnes;
- moving HCB waste drums out of shipping containers into an enclosed shed;
- transferring HCB waste from a container store close to Denison Street and moving it further from residences to depot 11/51 (the container store at depot 11/54 holds approximately 1,500 tonnes of HCB waste); and
- no change to the total storage volume or classification of HCB waste at the BIP.

Orica concluded that as there would be no change to the volume or classification of waste to be stored on the site, a PHA was not necessary for the modification.

The Department agrees with this conclusion and notes that the project approval contains a number of conditions for managing hazards associated with the project, including requirements for a Fire Safety Study and a Safety Management System. As the quantity of HCB waste to be stored at depot 11/51 would increase, the Department recommends that Orica review and if necessary, update the Fire Safety Study for the project. WorkCover has also requested that Orica consult with them prior to construction to ensure that Orica's safety report is updated. The Department has recommended an additional condition requiring Orica to review all management plans and studies following a modification to the project approval.

The Department is satisfied that a review of the existing hazard related studies required by the project approval is adequate for managing any hazards associated with the modification.

5.2 Other Issues

The Department's consideration of other issues is provided in Table 1.

Table 1 – Assessment of other issues

Issue	Potential Impacts	Conclusion and Recommendation
Contamination	<ul style="list-style-type: none"> The shipping containers are unlikely to be contaminated as the HCB waste is stored in lined and sealed drums, secure for international shipping. Irrespective, once the drums are removed, Orica conducts an inspection of the containers including vacuuming to remove dust. The containers are then inspected by an independent company that carries out chemical testing and cargo inspections, before a release is issued for their return to suppliers. In the unlikely event that contamination is found, Orica would clean the containers using high pressure water within Store J, which has water collection and treatment systems in place. 	<ul style="list-style-type: none"> The Department notes that the HCB drum waste was secured for safe international shipping, hence the potential for the drums to be damaged or to have leaked is minimal. Therefore, the potential for contamination of the shipping containers is highly unlikely. However, the Department notes that inspections of the containers would be conducted by Orica and an independent company, ensuring that any contamination would be identified and appropriately managed.
Traffic	<ul style="list-style-type: none"> The majority of traffic generated would be on internal roads associated with moving the FSB, the shipping containers and the transfer of HCB drum waste. Vehicle movements to and from the site would include the delivery of construction equipment and concrete over a 10 week period. Removal of empty shipping containers would be carried out progressively, generating a maximum of 2 heavy vehicle movements a day. The estimated heavy vehicle movements are minor in the context of traffic in the Botany industrial area. However, given the site access on Denison Street is opposite a residential area, vehicle movements should be restricted to standard construction hours. 	<ul style="list-style-type: none"> Council requested the restriction of truck movements to 10am-3pm weekdays and 10am-1pm on Saturdays to limit traffic impacts on residences. The Department concludes that the low traffic volumes do not warrant such a restriction and is satisfied that movements during standard construction hours would not adversely affect residences. The existing conditions limit construction works to standard construction hours. Orica has also committed to prepare and implement a Construction Environmental Management Plan (CEMP) for the modification. The Department is satisfied that traffic associated with the modification can be appropriately managed via the CEMP and existing conditions.
Noise	<ul style="list-style-type: none"> The EA identified truck movements and construction of the FSB and annex as the primary noise sources but did not quantify noise levels. 	<ul style="list-style-type: none"> The Department concludes that construction and traffic noise from the modification would be minor, of limited duration and unlikely to lead to unacceptable noise impacts.

Issue	Potential Impacts	Conclusion and Recommendation
	<ul style="list-style-type: none"> Irrespective, the Department considers that construction activities would be consistent with surrounding industrial noise emissions and further would be limited in duration. Construction activities would be concentrated at depot 11/51, some 250m from the nearest residences. 	<ul style="list-style-type: none"> The existing conditions limit construction hours, and include noise limits for operation. The Department is satisfied that the existing conditions are sufficient for managing the minor noise impacts resulting from the modification. No additional conditions are recommended.
Air quality	<ul style="list-style-type: none"> The EA did not include an assessment of air quality impacts. However, the Department notes that there would be no change to the quantity of HCB waste stored on site, the manner in which it is stored (within drums). Air emissions would be limited to dust generation during construction, and vehicle emissions. In its submission, the EPA noted the importance of routine inspections and monitoring to ensure fugitive emissions are appropriately managed. 	<ul style="list-style-type: none"> In its response to submissions, Orica confirmed that the storage of HCB waste within sealed drums would not generate fugitive emissions. However, Orica conducts routine inspections on the integrity of the drums and notes that inspections will be easier once the drums are transferred from shipping containers to the shed. Orica maintains a local air quality monitoring program for site operations. The Department concludes that the air quality impacts of the modification would be minor and can be adequately managed via existing conditions.
Visual	<ul style="list-style-type: none"> The shed and annex would be restricted from view from residences on Denison Street through intervening structures and a mature landscape mound that runs between the BIP and Denison Street. A large container storage area close to Denison Street (depot 11/54) would be removed and consolidated into the centre of the site at depot 11/51 thereby minimising visual impacts as viewed from Denison Street. 	<ul style="list-style-type: none"> The Department concludes that views of the site from the nearest residences may slightly improve as a result of the modification.
Waste	<ul style="list-style-type: none"> The modification would generate some construction wastes including concrete and scrap metal. HCB waste would not change. Orica has committed to regularly inspecting the drums and dealing with any leakages in accordance with approved procedures. 	<ul style="list-style-type: none"> The Department concludes that the modification would generate small quantities of construction waste which would be managed in accordance with the existing conditions.
Environmental management	<ul style="list-style-type: none"> The existing conditions require Construction and Operational Environmental Management Plans, Air Quality Management Plan, Fire Safety Study, Emergency Plan and a Safety Management System. 	<ul style="list-style-type: none"> The Department has recommended that the modified conditions include a requirement for Orica to review and update any relevant plans following modifications to the approval to ensure they remain up to date and accurately cover current operations.

6. CONCLUSION

The Department has assessed the merits of the modification in accordance with the requirements of the EP&A Act.

The assessment has found that the proposed modification would:

- not change the hazards or risks associated with the storage of HCB waste at the BIP;
- lead to minor traffic and noise impacts during construction; and
- improve the storage facilities for HCB waste and enable easy access to inspect the drums.

The Department concludes that the modification can be carried out with minimal environmental impact and would improve the storage facilities for HCB waste. The Department has recommended a condition requiring Orica to review, and if necessary, update relevant management plans following a

modification to the project or to implement the recommendations of an audit. In addition, Orica has committed to preparing a Construction Environmental Management Plan for the modification to manage the minor traffic and noise impacts during construction. Orica will also update the Operational Environmental Management Plan for the storage of HCB waste.


The Department considers that the modified conditions of approval and the commitments made by Orica are adequate for managing the minor and short-term impacts associated with the modification.

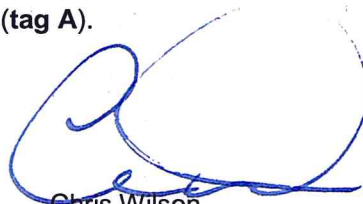
The Department believes the modification should be approved subject to minor changes to the existing conditions of approval (see Appendix A).

7. RECOMMENDATION

It is RECOMMENDED that the Executive Director, Major Projects Assessment:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification is within the scope of section 75W of the EP&A Act;
- **approve** the application subject to conditions; and
- **sign** the attached notice of modification (**tag A**).


Chris Ritchie
Manager
Industry Projects
31/7/12

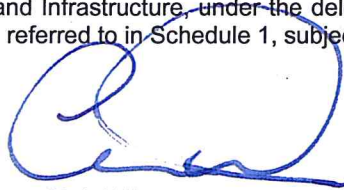

Chris Wilson
Executive Director
Major Projects Assessment
31.7.12

APPENDIX A NOTICE OF MODIFICATION

Notice of Modification

Section 75W of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure, under the delegation executed on 14 September 2011, I hereby modify the project approval referred to in Schedule 1, subject to the conditions in Schedule 2.



Chris Wilson
Executive Director
Major Projects Assessment

Sydney

31 July

2012

SCHEDULE 1

Project approval 06_0028 granted by the Minister for Planning on 12 August 2006 for the Hexachlorobenzene (HCB) Waste Repackaging Plant Project.

SCHEDULE 2

1. In Schedule 2, delete condition 1.1h) and replace with the following:
 - h) Modification application (06_0028 Mod 6) with supporting documentation titled *Request to Modify Major Project 06_0028: HCB Waste Repackaging Plant – Modification 6*, prepared by Parsons Brinckerhoff, dated February 2012, and *Response to Submissions*, prepared by Parsons Brinckerhoff, dated 27 April 2012; and
 - i) conditions of this approval.
2. In Schedule 2, insert new condition 1.12 immediately after condition 1.11 as follows:

Management Plans/Monitoring Programs

- 1.12 Within 3 months of:
- a) a modification to this approval; and/or
 - b) an audit under conditions 3.7 and 3.8 of Schedule 2,
- the Proponent must review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

APPENDIX B CONSOLIDATED APPROVAL

See separate file titled "Consolidated Approval"

APPENDIX C RESPONSE TO SUBMISSIONS

See separate file titled "Response to Submissions"

APPENDIX D SUBMISSIONS

See separate files under folder titled "Submissions"

APPENDIX E ENVIRONMENTAL ASSESSMENT

See separate file titled "Environmental Assessment"