

Notice of Clean Up Action

Section 91 Protection of the Environment Operations Act 1997



ORICA AUSTRALIA PTY LTD,
ABN 99 004 117 828,
16-20 BEAUCHAMP ROAD,
MATRAVILLE NSW 2036
STANDARD POST

Attention: Mr. Bruce E GOTTING

Notice Number 1030236
File Number HO1706/03
Date 26-Sep-2003

NOTICE OF CLEAN-UP ACTION

DEFINITIONS

In this notice:

“*the Act*” means the *Protection of the Environment Operations Act 1997*;

“*contaminant*” means one or more of the substances as defined in this notice;

“*contaminant containment*” means measures taken that result in the prevention, or reduction to the extent practicable, of the transport of contaminants in groundwater;

“*contaminant plumes*” means contaminated groundwater plumes as described by Figures 2.4 to 2.17 inclusive in the *Orica 2002 Annual Report to the EPA*;

“*defined area*” means the area described as Groundwater Protection Zone 1 on the *Botany Basin Groundwater Management Map [Edition 4]* published by the Department of Infrastructure, Planning and Natural Resources (“DIPNR”), dated August 2003;

“*DNAPL*” means dense non-aqueous phase liquids;

“*hydraulic containment*” means measures taken to lower the potentiometric surface and/or water table and effect hydraulic capture of a contaminant plume;

“*Orica 2002 Annual Report to the EPA*” means the document *Orica Botany Groundwater Remediation Project Annual Report to the NSW Environment Protection Authority, Document No: EN1591-PPR-10-003*, dated 28 February 2003, and prepared by Orica Engineering Pty Ltd;

“*practicable*” means reasonably practicable having regard, amongst other things, to local conditions and circumstances, and to the current state of technical knowledge;

“*Orica premises*” means the premises described as Botany Industrial Park, including Lots 2, 4 and 8 of DP1016112 and located at 16-20 Beauchamp Road, Matraville, NSW.

“*Orica Southlands premises*” means the Orica-owned vacant land as at the date of this notice, on either side of Nant Street, Banksmeadow and with its southern boundary on McPherson Street, Banksmeadow, being Lot 2 of DP 528680, Lot 1 of DP 85542 and Lot 11 of DP 109505;

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“*primary containment area*” means Lot 2 of DP 528680, being the area known as Block 2 of the Orica Southlands premises;

“*secondary containment area*” means the location where the EPA approved contaminant containment works upgradient of Botany Bay and Penrhyn Estuary, for the interception and containment of contaminant plumes that have migrated or may migrate beyond the primary containment area, are carried out;

“*substances*” means the following chemical compounds:

Volatile Chlorinated Hydrocarbons	Semi-volatile Chlorinated Hydrocarbons
<i>Chlorinated Methanes:</i>	
Carbon Tetrachloride (CTC)	1,2-Dichlorobenzene
Methylene Chloride	1,3-Dichlorobenzene
Chloroform	1,4-Dichlorobenzene
Chloromethane	1,2,4-Trichlorobenzene
<i>Chlorinated Ethanes:</i>	1,3,5-Trichlorobenzene
1,1,1,2-Tetrachloroethane	1,2,4,5-Tetrachlorobenzene
1,1,1-Trichloroethane	Pentachlorobenzene
1,1,2-Trichloroethane	Hexachlorobenzene
1,1,2,2-Tetrachloroethane (PCA)	Hexachlorobutadiene
1,2-Dichloroethane (EDC)	Hexachlorocyclopentadiene
Chloroethane	Hexachloroethane
<i>Chlorinated Ethenes:</i>	Hexachloropropylene
cis-1,2-Dichloroethene	
Tetrachloroethene (PCE)	
trans-1,2-Dichloroethene	
Trichloroethene (TCE)	
Vinyl Chloride (VC)	

“*voluntary agreement*” means the voluntary investigation and remediation agreement number 19014/26030 #3048 with Orica Australia Pty Ltd under sections 19 and 26 of the *Contaminated Land Management Act 1997*, dated 21 May 2002.

BACKGROUND

- A. The Environment Protection Authority (“the EPA”) is the appropriate regulatory authority under the Act for the Orica premises and all activities carried on at those premises.
- B. The EPA is the appropriate regulatory authority because the Orica premises are subject to a licence under the Act to carry on scheduled activities relating to chemical processing.
- C. Orica Australia Pty Ltd (ACN 004 117 828) (“Orica”) is the occupier of part of the Orica premises and of the Orica Southlands premises, and is the holder of environment protection licence number 2148. Section 258(2) of the Act effectively provides that the holder of a licence under the Act is taken to be the occupier of those premises. Orica has advised the EPA that it has accepted responsibility, via contracts of sale to other occupiers of the Orica premises, for groundwater contamination by the substances listed in this notice.
- D. The EPA reasonably suspects that a series of pollution incidents has occurred and is occurring at the Orica premises and also beyond the Orica premises, including at the Orica Southlands premises. The pollution incidents consist of leaks, spills or other escapes of substances at and from the premises and the continuing pollution of the groundwater by the

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substances. The EPA reasonably suspects that the location of the leaks, spills or other escapes of the substances to include the following sources on the Orica premises:

- The former Solvent Plant
 - The former EDC storage tanks
 - The former TCE Plant
 - The former CTC/PCE storage tanks
 - The former Open Heavy Ends Drums Storage Area
 - The former Effluent Treatment Plant overflow area
 - The former re-drumming areas adjacent to the Heavy Ends Drums Storage Area
- E. The EPA has a voluntary agreement with Orica in relation to contamination of soil and groundwater (including plumes extending beyond the Orica premises) by the substances resulting from pollution at the Orica premises. The work under the most recent agreement (Stage 4) is due to be completed by 31 December 2004.
- F. The EPA expects the remediation and investigation actions currently underway or planned for Stage 4 of the voluntary agreement to continue, but issues this notice -
- (a) to ensure additional measures are taken for the more immediate containment of the contaminant plumes prior to the implementation of the treatment measure required by this notice and under the voluntary agreement; and
 - (b) in the light of the results of the more recent monitoring data, to set revised targets for the reduction in the concentrations of the substances in the contaminant plumes.

DIRECTION TO TAKE CLEAN-UP ACTION

1. This notice is issued under section 91 of the Protection of the Environment Operations Act 1997.
2. It is an offence against the Act not to comply with a clean-up notice unless you have a reasonable excuse.

Preparation of groundwater clean-up plan

3. The Environment Protection Authority directs ORICA AUSTRALIA PTY LTD to take the following clean-up action -
 - A. By 30 September 2003 commence preparation of a groundwater clean-up plan as specified in this notice for the containment and remediation of the substances in the contaminant plumes.
 - B. By 31 October 2003 prepare and submit the groundwater clean-up plan in writing to the Contaminated Sites Section of the EPA for its consideration and approval. The EPA may require changes to the plan before giving or as part of its approval. The groundwater clean-up plan must include works and strategies to ensure the following matters are carried out within the timeframes specified in condition 4 of this notice –

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- (a) Contaminant containment within the primary containment area so as to prevent or minimise the further migration of the substances from that area. This must include hydraulic containment;
- (b) The identification of the locations of the DNAPL sources of the substances in the subsurface at the Orica premises and the Orica Southlands premises, and removal of such sources to the maximum extent practicable;
- (c) The reduction of the concentration of the substances in the groundwater at the primary containment area to the maximum extent practicable. This must include the use of *ex situ* treatment technology;
- (d) The preparation of appropriate plans to establish a secondary containment area to intercept and contain any parts of the contaminant plumes that have migrated or may migrate beyond the primary containment area;
- (e) The implementation of a comprehensive monitoring program within the defined area to:
 - i. monitor changes in concentrations of the substances in the contaminant plumes; and
 - ii. monitor changes in the spatial distribution of contaminant plumes in the subsurface; and
 - iii. gauge groundwater levels to assess the effectiveness of the hydraulic containment; and
 - iv. monitor contaminant concentrations in groundwater and surface water discharges to Botany Bay and Penrhyn Estuary for comparison against the *Australian and New Zealand Guidelines for Marine and Fresh Water (2000)* trigger values for protection for slightly to moderately disturbed ecosystems.

Implementation of groundwater clean-up plan

4. The EPA further directs ORICA AUSTRALIA PTY LTD to take the following clean-up action:
 - A. Within 14 days of the EPA giving its written approval of the groundwater clean-up plan, commence work on the implementation of the approved plan and at all times ensure the implementation of the plan in accordance with the EPA's approval;
 - B. Commence works for contaminant containment in the primary containment area, including hydraulic containment on the southern boundary of that area, within 14 days of obtaining all necessary planning and other statutory approvals, and complete such work within 90 days;
 - C. Complete the identification of the locations of the DNAPL sources of the substances on the Orica premises and Orica Southlands premises by 31 May 2004;
 - D. Complete contaminant containment of identified DNAPL sources of the substances on the Orica premises and Orica Southlands premises by 30 November 2004, and remove such sources to the maximum extent practicable by 31 October 2005;
 - E. Reduce the concentration of the substances in the contaminant plumes within the primary containment area to the maximum extent practicable using *ex situ* treatment by 31 October 2005, with a target of an 80 per cent reduction on the levels set out in the Orica 2002 Annual Report to the EPA;



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- F. Install all works necessary to establish a secondary containment area for the interception and containment of any parts of the contaminant plumes that have migrated or may migrate beyond the primary containment area by 31 October 2004.
- G. Implement the monitoring program referred to in condition 3.B.(e) of this notice, and provide the results of such ongoing monitoring to the EPA at least every 90 days from the date of its giving written approval for the groundwater clean-up plan.

General requirements

- 5. Without limiting what is required by any other condition of this notice, measures implemented under this notice must ensure that any discharge of the substances whether through groundwater or surface water flows into Botany Bay and Penrhyn Estuary achieve protection for slightly to moderately disturbed ecosystems using the *Australian and New Zealand Guidelines for Marine and Fresh Water (2000)*.
- 6. Any emissions to the environment from works and measures required by this notice must be strictly controlled through the adoption of best practice, including the adoption of specific measures to minimise air emissions. All works and operations must be carried out in a controlled and competent manner at all times.
- 7. If any works or monitoring is required to be carried out on premises other than those occupied by Orica or its related companies, Orica must make reasonable attempts to obtain the consent of the occupier for such works or monitoring to be carried out on those premises. If consent is refused, the EPA must be notified in writing within 7 days of that refusal being given and be provided with details of the attempts made to obtain consent.

Relationship between this notice and the voluntary agreement

- 8. The works and measures in the voluntary agreement must be carried out in a way that does not compromise the efficacy of the measures required by this notice. The EPA acknowledges that changes to the voluntary agreement may be needed to take account of actions required under this notice. In particular the location of the iron reactive barrier and bioremediation trial may need to be reconsidered as part of these changes.

FEE TO BE PAID

- 9. You are required by law to pay a fee of \$320 for the administrative costs of issuing this notice.
- 10. It is an offence not to pay this fee. However you can apply for an extension of time to pay the fee or for the fee to be waived. At the end of this notice there is information about how and when to pay the fee and how to apply for an extension or a waiver of the fee.

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Ms Carolyn Strange
Director
Contaminated Sites
(By Delegation)

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INFORMATION ABOUT THIS NOTICE

- Details provided in this notice will be available on the EPA's Public Register in accordance with section 308 of the Protection of the Environment Operations Act 1997.
- The maximum penalty for a corporation is \$250,000 and a further \$120,000 for each day the offence continues. The maximum penalty for an individual is \$120,000 and a further \$60,000 for each day the offence continues.
- If you comply with this clean-up notice but you are not the person who caused the pollution incident to which the notice relates, you have a right to go to court to recover your costs of complying with the notice from the person who caused the incident.
- The fee must be paid by **no later than 30 days after the date of this notice**.
- Any application should be made in writing to the Environment Protection Authority and sent to PO Box A290, Sydney South, NSW, 1232. The application should set out clearly why you think your application should be granted.
- The Protection of the Environment Operations Act allows the Environment Protection Authority to recover from you reasonable costs and expenses it incurs in monitoring action taken under this notice, ensuring the notice is complied with and associated matters. (If you are going to be required to pay these costs and expenses you will later be sent a separate notice called a "Notice Requiring Payment of Reasonable Costs and Expenses").