

AGREEMENT NOT TO ISSUE ORDER DURING COMPLIANCE WITH A VOLUNTARY PROPOSAL

(Section 26 of the Contaminated Land Management Act 1997)

Agreement No.: 26109

Agreement Date: 19 November 2008

Area No.: 3183

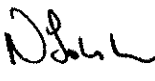
This agreement relates to the attached proposal, which comprises three Parts: Part 1 – Preliminary Details; Part 2 – Undertakings; and Part 3 – Performance Schedule.

Proponent: Orica Australia Pty Limited (ABN 99 004 117 828)

Site: Lot 3, DP 234288 (15 Greenleaf Road, Kooragang Island)

Proposal Date: 25 August 2008

1. The EPA is satisfied that the terms of the proposal are appropriate.
2. The EPA notes for the purposes of section 26 of the *Contaminated Land Management Act 1997* (CLM Act) that the proponent has undertaken in writing to the EPA not to recover contributions under Part 3, Division 6 of the CLM Act in respect of implementation of the proposal.
3. The EPA agrees, in accordance with the provisions of Part 3 of the CLM Act, that it will not issue a remediation order against the proponent if and for so long as the proposal is complied with.
4. The EPA may issue a remediation order against the proponent in accordance with the CLM Act if the EPA is not satisfied that the proposal is being or has been complied with.
5. The EPA is not prevented by this agreement from making a remediation order against persons (whether or not they were originally parties to the proposal and including public authorities) other than the proponent.
6. The EPA is not prevented by this agreement from exercising its powers under the *Protection of the Environment Operations Act 1997* in relation to activities conducted in association with or under the proposal.
7. Each component of the proposal, as described in the proposal is to be completed by the date specified in the proposal. Failure to satisfactorily complete any component by the due date for that component may be taken as a failure to carry out the terms of the proposal for the purposes of section 27 of the CLM Act.
8. This agreement takes effect on the "Agreement Date" specified above and continues in effect subject to satisfactory performance and progress with implementation of the proposal.

Signed:  19/11/2008

Niall Johnston
Manager Contaminated Sites
Department of Environment and Climate Change (NSW)

VOLUNTARY REMEDIATION* PROPOSAL UNDER CONTAMINATED LAND MANAGEMENT ACT 1997

Part 1

Preliminary Details

1. Proponent's Details

(a) Name and contact details

Trading as: **Orica Australia Pty Ltd**
ACN/ABN: **ACN: 004 117 828**

If a registered company, company name:

Trading as: **Orica Australia Pty Ltd**
ACN/ABN: **ACN: 004 117 828**

Phone: (02) 4908 9300

Fax: (02) 4908 9110

Email:

Postal address: PO Box 80, Mayfield, NSW

Postcode: 2304

EPA licence number (if applicable): 828

(b) Who the EPA should contact with technical enquiries about the proposal

Employer/Company: **Orica Australia Pty Ltd**

Type of business: **Ammonium Nitrate Manufacturing**

Phone (business): (02) 4908 9129

Fax: (02) 4908 9110

***please strike out as appropriate**

Proponent: Orica Australia Pty Ltd

Site: Kooragang Island Works

Proposal Date: 15 August 2008

2. Site to which proposal applies

The site to which the proposal applies ("the site") is:

Lot 3 in DP234288 (15 Greenleaf Rd, Kooragang Island) in the local government area of Newcastle, New South Wales and adjoining land.

3. The contamination

Soil and/or groundwater at the site are contaminated with substances in such a way as to present a significant risk of harm. The substances of concern ("the contaminants") include:

- Arsenic in groundwater and soil

4. The investigation/remediation* proposal

The investigation/remediation* proposal ("the proposal") comprises:

- a) the information set out above;
- b) the actions, works and other components set out in the following documents:
 - Stage 3 – Voluntary Remediation Proposal for the Orica Facility, Kooragang Island (URS, 15 August 2008)
- c) the undertakings set out in Part 2 of this document; and
- d) the performance schedule set out in Part 3 of this document.

Signed by the proponent 25 August 2008

Part 2

Undertakings Included in Voluntary Investigation/Remediation* Proposal

Explanatory Note:

Before the EPA can agree with one or more parties to a voluntary investigation or remediation proposal not to issue orders against them under section 17 or 23 of the Contaminated Land Management Act 1997, it has a statutory obligation to satisfy itself that the terms of the proposal submitted to it under section 19 or 26 are appropriate. In addition to including an appropriate investigation or remedial action plan, to be acceptable to the EPA a proposal must include the undertakings set out below. These undertakings are important. They must be complied with in order for the EPA to be satisfied that the terms of the proposal have been carried out.

THE PROPOSAL INCLUDES THE FOLLOWING UNDERTAKINGS:

General

1. All activities carried out in connection with the proposal including sampling and preparation of associated reports ("the activities") will be carried out in accordance with applicable provisions of *State Environmental Planning Policy 55 – Remediation of Land* and any requirements imposed under it in relation to the works.
2. All matters listed as relevant to a remediation action plan by the EPA's *Guidelines for Consultants Reporting on Contaminated Sites* (1997) will be taken into account in the carrying out of the activities.
3. All the activities will be carried out consistently with guidelines made or approved under section 105 of the CLM Act.
(See <http://www.environment.nsw.gov.au/clm/guidelines.htm>)
4. All the activities will be carried out in compliance with applicable NSW environmental legislation, and in particular:
 - i) All the activities, including:
 - (1) the processing, handling, movement and storage of materials and substances used to carry out the activities; and
 - (2) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activitieswill be carried out in a competent manner;
 - ii) All plant and equipment installed at the site or used in connection with the activities:
 - (1) will be maintained in a proper and efficient condition; and
 - (2) will be operated in a proper and efficient manner.
5. All the activities at the site will be carried out in a manner that prevents or minimises the emission of dust, odour and noise from the site.
6. Waste generated or stored at the Site will be assessed and classified in accordance with the DECCs *Waste Classification Guidelines Part 1: Classifying Waste*.
(See <http://www.environment.nsw.gov.au/waste/envguidlms/index.htm>)

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6. All waste transported from the Site that is required by the *Protection of the Environment (Waste) Regulation 2005* to be tracked must be tracked using the DECCs on-line tracking system or an alternative tracking system approved in writing by the DECC.

(See <http://www.environment.nsw.gov.au/waste/wastetracking.htm>)

7. The proponent will, and acknowledges that the EPA may, make all documents and information relating to the activities available to the public free of charge.
8. The proponent will:
- i) prior to the implementation of the proposal provide for the EPA's approval a strategy for communicating about that implementation, particularly the actual remediation works, with members of the public who are likely to have a real interest in or be affected by that implementation and
 - ii) implement the strategy as approved by the EPA.

Monitoring, Record Keeping & Reporting

9. At least until the EPA has notified the proponent that the EPA no longer considers that the contamination poses a significant risk of harm, record and retain all monitoring data and information and provide this record to the EPA at any reasonable time if so requested by the EPA and as specifically provided under the proposal.

[Note: Specific details of monitoring and data reporting requirements, requirements for progress reports, etc are to be set out in the performance schedule in Part 3 of this document.]

10. The EPA will be informed in writing within 7 days of the proponent becoming aware of information or data indicating a material change in conditions at the site or in its surrounding environment which could adversely affect the prospects of successful investigation or remediation of the site or result in harm to the environment.
11. The EPA will be informed in writing within 7 days of the proponent becoming aware of any failure, either by the proponent or any other person, to comply with any component or aspect of the proposal.
12. The EPA will be informed in writing as soon as practicable of any notification by the proponent, its employees or its agents to an appropriate regulatory authority other than the EPA of any pollution incident at the site within the meaning of the *Protection of the Environment Operations Act 1997*.

(See <http://www.environment.nsw.gov.au/licensing/dutytonotify.htm>)

Performance Schedule

13. The performance schedule which is in Part 3 of this document will be adhered to.

Signed by the proponent 25 August 2008

*please strike out as appropriate

Proponent: Orica Australia Pty Ltd

Site: Kooragang Island Works

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Part 3

Performance Schedule

Explanatory Notes:

The performance schedule required must provide a clear and concise list of:

- key milestones and dates by which they are to be achieved and
- the objectives and principal features of the investigation or remedial action plan.

The performance schedule is very important because it provides a concise set of performance indicators which will be used, along with an evaluation of compliance with the undertakings in Part 2 of this document, to assess whether or not the terms of the proposal have been carried out.

To be acceptable to the EPA, the performance schedule **must** include precise, measurable and time-bounded performance indicators. Where it is appropriate for the investigation or remediation to be done in stages, performance measures for each stage must be provided, and approval for later stages will be dependent on the completion and/or performance of earlier stages being demonstrated to the EPA's satisfaction.

The performance schedule should adhere to the structure set out in the following table.

PART 3 - PERFORMANCE SCHEDULE	
The schedule should concisely set out:	
1. Objectives of the proposal	
2. Principal features of the proposal	
	a. <u>Capital works</u>
	b. <u>Remediation and/or Investigation</u>
	c. <u>Monitoring</u>
3. Reporting requirements and timeframes for submission of reports	
4. Key milestones for investigation or remediation activities	

An example of a performance schedule is set out on the next page.

Proponent: Orica Australia Pty Ltd

Site: Kooragang Island Works

Proposal Date: 15 August 2008

PERFORMANCE SCHEDULE

1. Objectives of the proposal

Orica Kooragang Island has undertaken remediation activities at the Kooragang Island site in accordance with Stage 1 and Stage 2 Voluntary Remediation Agreements (VRA). The Stage 1 VRA involved the implementation of source control activities to address ammonia contamination of groundwater and arsenic contamination of soil and groundwater. The Stage 2 VRA involved the further investigation of the stability of the residual arsenic in the soil remaining after the completion of the Stage 1 VRA.

The Stage 2 VRA confirmed that arsenic migration within the aquifer is attenuated by naturally occurring amorphous iron and to a lesser extent organic carbon, clay and other minerals. However, laboratory, bench scale testing and geochemical modelling suggested that a small portion of the arsenic may be remobilised over time, with the potential for the arsenic to migrate further westward. The extent of this remobilisation is unclear as some of the conditions required within the aquifer for this migration to occur have not been observed in the field.

Given the uncertainty regarding the long-term stability of the arsenic in the aquifer Orica considers that the implementation of a further management strategy is warranted. The design of this management system, including the installation of a hydraulic containment line and associated water treatment plant, is the subject of the proposed Stage 3 VRP works.

The main objectives of the Stage 3 VRP are to achieve the following outcomes within the timeframes specified in the proposal:

- O1. Design of a hydraulic containment and groundwater treatment system to reduce the transport of arsenic in groundwater;
- O2. Commence discussions with stakeholders to obtain approval for installation of the hydraulic containment system with landowners, land users and regulators.
- O3. Implementation of biannual groundwater monitoring for arsenic;
- O4. Commencement of preliminary investigations into long-term remedial options;
- O5. Ongoing communication with stakeholders in accordance with a Communication Plan

If during the implementation of the Stage 3 VRP works it is determined that the proposed hydraulic containment and/or groundwater treatment system is unlikely to meet the objective of reducing the transport of arsenic in groundwater down-gradient of the containment line, an alternate strategy (likely to be the long-term remedial option being assessed as part of the Stage 3 VRP) would be implemented. If this occurs, the proposed works on the hydraulic containment will cease in consultation with the DECC.

2. Principal features of the proposal

The principal features of the Stage 3 VRP include, but are not limited to:

a) Design of hydraulic containment and groundwater treatment system

A conceptual design for the hydraulic containment and groundwater treatment system will be developed to enable identification of key parameters that require investigation prior to finalising the system design.

Included in the programme of works is the undertaking of the following activities:

- Further investigation of system hydrogeology, including extended aquifer pump testing to establish aquifer characteristics such as hydraulic conductivity, sustainable extraction rates and drawdown.

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- Definition of compliance requirements for the system.
- Testing of groundwater treatment options to assess the effectiveness of the options and final water quality parameters.
- Determination of system operation and management requirements in line with Orica's engineering standards.
- Development of contingency plans for system operation.

b) Commencement of discussions with stakeholders for installation of system

Stakeholders, such as landowners, land users and regulators, will be approached regarding obtaining approvals for the installation of the hydraulic containment line, associated infrastructure and management of the treatment plant products.

c) Groundwater monitoring

Biannual monitoring of the arsenic contaminated groundwater will be undertaken to assess fluctuations in concentration and allow comparison against the modelled concentration changes.

d) Long-term Remedial Strategy

Preliminary investigations of long-term remedial options will commence during the Stage 3 VRP. The options considered will be based on possible options as discussed in the Stage 2 VRA Completion Report.

e) Communication Strategy

A Communication Plan will be developed to ensure that stakeholders are kept informed on the progress of the remediation agreement activities.

3. Reporting requirements and timeframe for submission of reports

The EPA will be provided with the following reports by the deadlines specified below. The VRP details actual deliverables for each reporting milestone:

Report	Deadline
R1 Biannual Groundwater Monitoring	31 August 2008
R2 Conceptual Design Factual Report	31 August 2008
R3 Biannual Groundwater Monitoring	28 February 2009
R4 Detailed Design Final Report	30 June 2009
R5 Preliminary Report on Long-term Remedial Options	30 June 2009

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Key milestones for investigation, remediation and other actions

All works set out in the proposal will be completed by the deadlines specified below:

Works	Deadline
T1. Biannual Groundwater Monitoring	28 February 2009
T2. Design of hydraulic containment and treatment system	30 June 2009
T3. Preliminary review of long-term remedial options for arsenic in soil	30 June 2009

Upon completion of the Stage 3 VRA it is expected that, if all approvals are obtained for the hydraulic containment and groundwater treatment system, Orica will enter into a Stage 4 VRA for the installation of the designed system.

Signed by the proponent 25 August 2008