Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning under delegation from the Minister dated 14 September 2011, the Planning Assessment Commission of New South Wales approves the development application referred to in Schedule A, subject to the conditions specified in Schedules B to D.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Brian Gilligan
Member of the Commission

Alan Coutts
Member of the Commission

Sydney 16 December 2014

SCHEDULE A

Application No:	SSD-4986
Applicant:	Incitec Pivot Limited
Consent Authority:	Minister for Planning
Land:	39 Heron Road, Kooragang Island

Part Lot 3 DP 1117013	Lot 94 DP 1191913 *
Lot 7 DP 262783	Lot 4 DP 1191912 *
Lot 4 DP 573972	Lot 3 DP 1184514 *

Note: The land descriptions that are highlighted with a single asterix are those where the land descriptions have been updated from those listed in the EIS being Lot 361 DP 1104196, Lot 28 DP 775776 and Lot 6 DP 1104199.

Development:	Continuation of the existing fertiliser and chemicals storage and distribution operation and the construction and operation of an ammonia import and ammonium nitrate manufacturing facility and associated plants and infrastructure
Preamble	This instrument applies to the *development* which is comprised of the *existing operation* and the *project* on the land (see definitions). It does not apply to any other operations being carried out on the land and does not alter or affect any development consents applying to these operations

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DEFINITIONS

AHD	Australian Height Datum
AN	Ammonium Nitrate
ANSOL	Ammonium Nitrate Solution
ANZECC Guidelines	*Australian and New Zealand Guidelines for Freshwater and Marine Water Quality (Australian Government 2000)*
Applicant	Incitec Pivot Limited, or its successor
AS	Australian Standard
BCA	Building Code of Australia
Blue Book	*Managing Urban Stormwater: Soils and Construction Volumes 1 and 2 (Landcom 2004)*
BHAF	Bulk High Analysis Fertiliser
Construction	The construction of the project, including the demolition of buildings and/or structures, or the carrying out of works including excavation works and the erection of other infrastructure covered by this consent
Council	The City of Newcastle Council
DA	Development Application
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The existing operation and the project
EIS	Environmental Impact Statement titled *Proposed Ammonium Nitrate Facility Heron Road Kooragang Island – Environmental Impact Statement*, prepared by URS Australia Pty Ltd and dated September 2012, as modified by the RTS
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning & Assessment Act 1979*
EP&A Regulation	*Environmental Planning & Assessment Regulation 2000*
EPL	Environment Protection Licence
Evening	The period from 6pm to 10pm
Existing Operation	The continuation of the existing fertiliser and chemicals storage and distribution operation, as described in the EIS and RTS, and as generally depicted on the plans in Appendix A
Feasible	Feasible relates to engineering considerations and what is practical to build
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage Item	An item as defined under the *Heritage Act 1977,* and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974*
HWC	Hunter Water Corporation
ICNG	Interim Construction Noise Guideline (DEC, 2009)
Incident	An incident causing or threatening material harm to the environment, and/or an exceedence of the limits or performance criteria in this consent
Land	In general, the definition of land is consistent with the definition in the EP&A Act
LGA	Local government area
Material harm to the environment	Harm to the environment is material if it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning (or nominee)
Mitigation	Activities associated with reducing the impacts of the development
NA	Nitric Acid
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays

NOW	NSW Office of Water in the Department of Primary Industries
NPC	Newcastle Port Corporation, or its successor
OEH	Office of Environment and Heritage
Operation	The operation of the development, once construction works for the project have been fully completed, but does not include commissioning trials of equipment or temporary use of parts of the site during construction
POEO Act	*Protection of the Environment Operations Act 1997*
Premises	The premises described in Condition A2.1 of the EPL11781
Privately-owned Land	Land not owned by the Applicant or where a private agreement does not exist between the Applicant and the land owner
Project	The construction and operation of an ammonia import and ammonium nitrate manufacturing facility and associated plants and infrastructure, as described in the EIS and RTS, and as generally depicted on the plans in Appendix A
Reasonable	Reasonable relates to the application of judgment in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
RM	Roads and Maritime
RTS	Response to Submissions report titled *Proposed Ammonium Nitrate Facility, Heron Road, Kooragang Island - Response to Submissions*, prepared by URS Australia Pty Ltd and dated October 2013.
SA	Sulphuric Acid
Secretary	Secretary of the Department of Planning and Environment (or nominee)
Sensitive Receiver	Residence, education institution (e.g. school, university, TAFE College), health care facility (e.g. nursing home, hospital), religious facility (e.g. church) and children's day care facility.
Site	The land listed in Schedule A, and as depicted by the red line on the plan in Appendix A
TGAN	Technical Grade Ammonium Nitrate
Tpa	Tonnes per annum

SCHEDULE B

ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

B1. The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the development.

TERMS OF CONSENT

B2. The Applicant shall carry out the development generally in accordance with the:
(a) EIS;
(b) RTS;
(c) plans of the development (see Appendix A);
(d) management and mitigation measures for the project (Appendix C); and
(e) conditions of this consent.

B3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.

B4. The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of:
(a) any reports, plans or correspondence that are submitted in accordance with this consent; and
(b) the implementation of any actions or measures contained within these reports, plans or correspondence.

LIMITS OF CONSENT

Fertiliser and Chemicals Storage and Distribution Facility

B5. The Applicant must ensure that the existing operation does not:
(a) store, handle, blend and distribute more than 350,000tpa of fertiliser (excluding AN); or
(b) store, handle and distribute more than 20,000tpa of SA.

B6. At any one time on the site, the Applicant must not store more than:
(a) 75,000 tonnes of BHAF in Sheds 1, 2 and 3;
(b) 2,000 tonnes of TGAN in Shed 4;
(c) 2,060 tonnes of TGAN in Shed 5; or
(d) 11,000 tonnes of SA.

Ammonium Nitrate Manufacturing Facility

B7. The Applicant must ensure that the project does not produce more than:
(a) 350,000tpa of AN; or
(b) 280,000tpa of NA.

Note: These production values are based on dry or 100% concentration.

B8. At any one time on the site, the Applicant must not store more than:
(a) 30,000 tonnes of Ammonia in the Ammonia storage tank;
(b) 3,000 tonnes of NA in the NA storage tank;
(c) 5,000 tonnes of TGAN in the bulk store;
(d) 6,000 tonnes of bagged TGAN in container storage and Shed 4;
(e) 1,650 tonnes of ANSOL in the ANSOL storage tank; or
(f) 145 tonnes of waste ANSOL.

Other Limits

B9. Prior to the commencement of construction of any component of the project that is located on land that is owned by NPC, the Applicant shall enter into a commercial agreement with NPC for those aspects of the project that will be located on NPC owned land.

LASPING OF CONSENT

B10. This consent shall lapse 5 years from the date of this consent unless any part of the project is physically commenced (within the meaning of Section 95 of the EP&A Act) on or before that day, in accordance with any consent or development consent, on the land to which the consent relates.

SURRENDER OF EXISTING DEVELOPMENT CONSENTS

B11. No later than 3 months prior to the commencement of construction of the project, or within an alternative timeframe agreed to in writing by the Secretary, the Applicant shall surrender all existing development consents for the site listed in Appendix B in accordance with Clause 97 of the EP&A Regulation.

Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or approval should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used.

B12. Nothing in this consent alters or affects the following development consents that apply on the site:
(a) DA423/92;
(b) DA342/93;
(c) DA444/93;
(d) DA94/339;
(e) DA10/0594;

Note: These development consents apply to the existing Chemtrans operation being carried out on the site.

STATUTORY REQUIREMENTS

B13. The Applicant must ensure that all licences, permits and approval/consents are obtained as required by law and maintained as required throughout the life of the development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approval/consents.

ENVIRONMENT PROTECTION LICENCE (EPL) REQUIREMENT

B14. Prior to the commencement of construction of the project, the Applicant must apply to the EPA to vary its existing EPL for the premises (Licence No. 11781) to include the project, generally in accordance with the letter from the EPA to the Department dated 28 August 2013 – Proposed Ammonium Nitrate Facility, Kooragang (SSD-4986) Draft Response to Submissions.

STRUCTURAL ADEQUACY

B15. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures are constructed in accordance with the relevant requirements of the BCA.

Note: Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for all building works.

DEMOLITION

B16. The Applicant shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601:2001: The Demolition of Structures*, or its latest version.

OPERATION OF PLANT AND EQUIPMENT

B17. The Applicant shall ensure that all plant and equipment is:
(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.

PROTECTION OF PUBLIC INFRASTRUCTURE

B18. Prior to the commencement of construction of the project, the Applicant shall:
(a) prepare a dilapidation report of the public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
(b) submit a copy of this report to the Secretary and NPC.

B19. The Applicant shall:
(a) repair, or pay the full costs associated with repairing any public infrastructure in the vicinity of the site that is damaged by the project; and

(b) relocate, or pay the full costs associated with relocating any public infrastructure in the vicinity of the site that needs to be relocated as a result of the project.

DEVELOPMENT STAGING

B20. The Applicant may elect to construct and/or operate the project in stages. Where staging is proposed, the Applicant shall submit a Staging Report to the Secretary at least 1 month prior to the commencement of the first stage. The Staging Report shall provide details of:
(a) how the project will be staged, including general details of work activities associated with each stage and the general timing of when each stage will commence; and
(b) details of the relevant conditions of consent that will apply to each stage and how these shall be complied with across and between the stages of the project.

B21. Where staging of the project is proposed, these conditions of consent are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).

B22. The Applicant shall ensure that an updated Staging Report (or advice that no changes to staging are proposed) is submitted to the Secretary prior to the commencement of each stage, identifying any changes to the staging or applicable conditions.

Note: These conditions do not relate to staged development within the meaning of section 83B of the EP&A Act.

STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS

B23. With the approval of the Secretary, the Applicant may:
(a) submit any strategy, plan or program required by this consent on a progressive basis; and/or
(b) combine any strategy, plan or program required by this consent.

Notes:
- *If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program shall clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages and the trigger for updating the strategy, plan or program.*
- *There must be a clear relationship between the strategy, plan or program that are to be combined.*

COMPLIANCE

B24. The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.

B25. The Applicant shall be responsible for any environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.

WATER SUPPLY INFRASTRUCTURE UPGRADE WORKS

B26. Prior to the commencement of construction of the project, or within an alternative timeframe agreed to in writing by the Secretary, the Applicant shall make an application to HWC under Section 50 of the *Hunter Water Act 1991* to provide the necessary water supply infrastructure upgrade works required to adequately service the development.

B27. Prior to the commencement of operation of the project, the Applicant must obtain a Section 50 Certificate from HWC and substantially complete these water supply infrastructure upgrade works to the satisfaction of the Secretary.

B28. In the event of a dispute relating to the provision of the water supply infrastructure upgrade works required under Conditions B26 and B27, either party may refer the matter to the Secretary for resolution under the requirement of Condition B31.

INFRASTRUCTURE SERVICES

B29. Prior to the commencement of construction of any utility works associated with the project, the Applicant shall obtain the necessary approvals from all relevant utilities and services providers.

DEVELOPMENT CONTRIBUTIONS

B30. Prior to commencement of operation of the project, the Applicant shall pay Council $396,105 in contributions.

Note: This contribution is subject to indexation to reflect quarterly variations in the Consumer Price Index All Group Index Number for Sydney, as published by the Australian Bureau of Statistics.

DISPUTE RESOLUTION

B31. In the event that a dispute arises between the Applicant and Council or a public authority other than the Department, in relation to a specification or requirement applicable under this consent, the matter must be referred by either party to the Secretary, or if not resolved, to the Minister, whose determination of the dispute shall be final and binding to all parties. For the purpose of this condition, 'public authority' has the same meaning as provided under Section 4 of the EP&A Act.

SCHEDULE C

ENVIRONMENTAL PERFORMANCE AND MANAGEMENT

HAZARDS AND RISKS

Stack Separation Distances

C1. The Applicant shall maintain the appropriate AN stack separation distance, as recommended by *SAFEX International Good Practice Guide: Storage of Solid Technical Grade Ammonium Nitrate* or better.

Pre-construction

C2. At least 1 month prior to the commencement of construction of the project (except for construction of those preliminary works that are outside the scope of the hazard studies), or within such further period as the Secretary may agree, the Applicant shall prepare and submit for the approval of the Secretary the studies set out under subsections C2(a) to C2(d) (the pre-construction studies). Construction, other than of preliminary works, shall not commence until approval has been given by the Secretary and, with respect to the Fire Safety Study, approval has also been given by Fire and Rescue NSW.

(a) Fire Safety Study

A Fire Safety Study for the development. This study shall cover the relevant aspects of the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines'*, the New South Wales Government's *'Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'* and address all relevant findings and recommendations from all official investigation report/s (if available) on the accident at West, Texas in April 2013. The study shall also be submitted for approval to Fire and Rescue NSW.

The study must demonstrate that the control measures to be implemented for the storage of AN are consistent with the ones outlined in the SAFEX Guideline.

(b) Hazard and Operability Study

A Hazard and Operability Study for the project, chaired by a qualified person, independent of the development, approved by the Secretary prior to the commencement of the study. The study shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'*. The study report must be accompanied by a program for the implementation of all recommendations made in the report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

(c) Final Hazards Analysis

A Final Hazard Analysis of the development, consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'*. The FHA shall:

- address all relevant findings and recommendations from all official investigation report/s (if available) on the accident at West, Texas in April 2013;
- re-evaluate and confirm all relevant data and assumptions from the Preliminary Hazard Analysis;
- confirm that the design of the bulk ammonia tank will comply with the highest level of importance (defined in AS 1170 as Level 4) for earthquake and wind forces;
- report on the implementation of the recommendations of the Preliminary Hazard Analysis for the development; and
- re-evaluate and confirm all control measures proposed for the prevention and mitigation of incidents, particularly those controls relevant to AN.

(d) Construction Safety Study

A Construction Safety Study for the project, consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety'*. For developments in which the construction period exceeds 6 months, the commissioning portion of the Construction Safety Study may be submitted two months prior to the commencement of commissioning.

Pre-commissioning

C3. The Applicant shall develop and implement the plans and systems set out under subsections C3(a) to 3(c). No later than 2 months prior to the commencement of commissioning of the project, or within such further period as the Secretary may agree, the Applicant shall submit, for the approval of the Secretary, documentation describing those plans and systems. Commissioning shall not commence until approval has been given by the Secretary.

(a) Transport of Hazardous Materials

Arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the development. The routes shall be selected in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 11, 'Route Selection'* guidelines. Suitable routes identified in the study shall be used except where departures are necessary for local deliveries or emergencies.

(b) Emergency Plan
A comprehensive Emergency Plan and detailed emergency procedures for the development. This plan shall include consideration of the safety of all people outside of the development who may be at risk from the development. The plan shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*.

(c) Safety Management System
A document setting out a comprehensive Safety Management System for the development, covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. The procedures shall ensure that the testing frequency of relevant equipment is consistent with the frequencies applied in the fault tree analysis enclosed in the Appendix D of the EIS. Records shall be kept on-site and shall be available for inspection by the Secretary upon request. The Safety Management System shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'*.

Pre-Startup

C4. Pre-Startup Compliance Report
1 month prior to the commencement of operation of the project, the Applicant shall submit to the Secretary, a report detailing compliance with Conditions C2 and C3, including:
(a) dates of study/plan/system submission, approval, commencement of construction and commissioning;
(b) actions taken or proposed, to implement recommendations made in the studies/plans/systems; and
(c) responses to each requirement imposed by the Secretary under Condition C7.

Post-Startup

C5. Post-Startup Compliance Report
3 months after the commencement of operation of the project, the Applicant shall submit to the Secretary, a report verifying that:
(a) transport routes specified under Condition 3(a) are being followed;
(b) the Emergency Plan required under Condition 3(b) is effectively in place and that at least one emergency exercise has been conducted; and
(c) the Safety Management System required under Condition 3(c) has been fully implemented and that records required by the system are being kept.

On-going

C6. Hazard Audit
12 months after the commencement of operations of the project and every 3 years thereafter, or at such intervals as the Secretary may agree, the Applicant shall carry out a comprehensive Hazard Audit of the development and within 3 months of each audit submit a report to the Secretary.

The audits shall be carried out at the Applicant's expense by a qualified person or team, independent of the development, approved by the Secretary prior to commencement of each audit. Hazard Audits shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'*.

The first audit report and any further report (if applicable), in addition to the requirements provided in HIPAP No. 5 shall:
(a) report on the compliance of the ammonia storage tank with relevant parts of AS 1170.4 and in particular, confirm that the design of the tank is Level 4 for earthquake and wind forces;
(b) address all relevant findings and recommendations from all official investigation report/s (if available) on the accident at West, Texas in April 2013, and make recommendations if necessary; and
(c) report on the findings of the audit in relation to compliance with the current version of AS 4326 and the relevant provisions of the current version of the *SAFEX International Good Practice Guide: Storage of Solid Technical Grade Ammonium Nitrate*.

The audit report must be accompanied by a program for the implementation of all recommendations made in the audit report as well as any outstanding recommendations from previous Hazard Audit reports (if applicable). If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

Further Requirements

C7. The Applicant shall comply with all reasonable requirements of the Secretary in respect of the implementation of any measures arising from the reports submitted in respect of Conditions C1 to C6 inclusive, within such time as the Secretary may agree.

NOISE AND VIBRATION

Operational Noise Criteria

C8. The Applicant shall ensure that the operational noise generated by the development does not exceed the criteria defined in Table 1 below.

Table 1: Operational Noise Criteria (dB(A))

Location	Day	Evening	Night	
	$L_{Aeq\ (period)}$	$L_{Aeq\ (period)}$	$L_{Aeq\ (period)}$	$L_{A1\ (1\ min)}$
R1 – Corroba Oval Ground at 306 Fullerton Street, Stockton	41	41	40	60
R2 – 324 Fullerton Street, Stockton	41	41	40	59

Notes:

- *To identify a residential receiver location, refer to Appendix F of the EIS.*
- *Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*

Ports Precinct Noise Management

C9. The Applicant shall use its best endeavours to participate in the development and implementation of a precinct-wide noise map for the Port of Newcastle should one be developed to the satisfaction of the Secretary.

Note: The aim of a noise map is to establish an efficient, equitable and cumulative noise management, monitoring and reporting framework across the precinct.

Hours of Construction and Operation

C10. The Applicant shall comply with the hours of construction and operation for the development in Table 2.

Table 2: Construction and Operation Hours

Activity	Day	Hours
Construction	Monday – Friday	7:00am to 6:00pm
	Saturdays	8:00am to 1:00pm
	Sundays and Public Holidays	Nil
Operation	All Days	24 Hours

C11. Construction works outside of the work hours identified in Table 2 above may be undertaken in the following circumstances:

(a) works (excluding piling) that generate airborne noise that is no more than 5 dB(A) above rating background level at any residence in accordance with the ICNG;
(b) works that are consistent with the Applicant's existing maintenance procedures and are in accordance with the existing EPL;
(c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons;
(d) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or
(e) exceptional circumstances with the written agreement of the Secretary.

Noise Management Plan

C12. The Applicant shall prepare and implement a Noise and Vibration Management Plan for the development to the satisfaction of the Secretary. The plan shall:

(a) be prepared by a suitably qualified and experienced expert whose appointment has been agreed to in writing by the Secretary;
(b) be approved by the Secretary (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements);
(c) describe the measures that will be implemented to prevent and minimise adverse construction and operational noise and vibration impacts from the development, including:

- reasonable and feasible measures being employed on site;
- plant and equipment being maintained to ensure that it is in good order;
- how the noise and vibration impacts of the development will be minimised during any adverse meteorological or extraordinary events;
- identification of high emission generating construction and operational activities, including proposed times when these works will be carried out (including respite periods if required) and mitigation measures to minimise adverse impacts from these activities; and
- compliance with the relevant conditions of this consent.

(d) include a noise monitoring program for reporting ongoing compliance and evaluating the performance of the development. The monitoring program shall:
- show the receiver sites at Stockton and the locations on Kooragang Island that will be monitored and identify reference points that will be used to demonstrate compliance;
- include both attended and unattended monitoring;
- verify that the noise levels from the development are consistent with the predictions in the EIS; and
- investigate the opportunity to carry out collaborative noise monitoring with the adjacent Orica facility with the aim of gaining more accurate and meaningful data.

(e) include a protocol for determining exceedence/s of the relevant conditions of this consent and responding to complaints; and

(f) set out the procedures for implementing additional reasonable and feasible noise and vibration mitigation measures for the development in response to any exceedence/s of criteria and/or noise complaints.

AIR QUALITY

Design of Emission Control Measures

C13. Prior to the commencement of operation of the project, the Applicant shall implement the emission control measures identified in Section 4 of Appendix E of the EIS or other technologies that achieve equivalent or superior environmental outcomes.

C13a. The Proponent shall ensure that the ammonia flare is operated in a proper and efficient manner in accordance with the requirements of the EPL for the premises.

C14. Where other technologies are proposed, the Applicant shall first need to provide clear evidence to the Secretary that these technologies will have equivalent or superior environmental outcomes, prior to the commencement of construction of the project.

Air Quality Verification Study

C15. The Applicant shall carry out an Air Quality Verification Study for the project to the satisfaction of the Secretary. The study shall:

(a) be prepared by a suitably qualified expert whose appointment has been agreed to in writing by the Secretary;

(b) be based on a minimum of 12 months of monitoring data and be completed during the initial 18 months of operation or as otherwise agreed to in writing by the Secretary;

(c) include a verification of actual monitored emissions performance against the assumptions adopted within the EIS, including:
- point source pollutant concentrations;
- point source pollutant mass emission rates; and
- point source emission parameters as relevant to plume dispersion.

(d) confirm, through direct measurement, that applicable EPL requirements are being complied with; and

(e) confirm, using reasonable means, the effectiveness of the implemented emission controls in minimising air quality impacts.

C16. Should the Air Quality Verification Study indicate that the development has not complied with applicable EPL requirements, or where the verification indicates that greater impacts than predicted in the EIS may arise, a detailed investigation and an outline of any management measures necessary to prevent exceedances must be submitted to the Department and the EPA, as part of the study.

Dust Mitigation Measures

C17. The Applicant shall carry out all reasonable and feasible mitigation measures to minimise dust generated by the development.

C18. During construction, the Applicant shall ensure that:

(a) all trucks entering or leaving the site with potentially polluting material have their loads covered;
(b) trucks associated with the development do not track dirt onto the public road network; and
(c) public roads used by these trucks, in the vicinity of the site, are maintained in an appropriately clean state, free of tracked dirt or material from the site.

Air Quality Management Plan

C19. The Applicant shall prepare and implement an Air Quality Management Plan for the development to the satisfaction of the Secretary. The plan shall:
(a) be prepared by a suitably qualified and experienced expert whose appointment has been agreed to in writing by the Secretary;
(b) be approved by the Secretary (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements);
(c) describe the measures that will be implemented to minimise the potential risks to adverse air quality in the regional airshed including:
- reasonable and feasible measures being employed on site;
- plant and equipment being maintained to ensure that it is in good order;
- how the air quality impacts of the development will be minimised during any adverse meteorological conditions or extraordinary events;
- identification of high emission generating construction and operational activities, including proposed times when these works will be carried out (including respite periods if required) and mitigation measures to minimise adverse impacts from these activities; and
- compliance with the relevant conditions of this consent.

Air Quality Risk Management Strategy

C20. The Applicant shall consult with the operators of the adjacent Orica facility, with the objective of developing an Air Quality Risk Management Strategy suitable for incorporation into the Air Quality Management Plan. The objective of this strategy is to minimise the potential for cumulative air quality impacts from any air emissions from the project and the adjacent Orica facility. This strategy is expected to include protocols for the communication and planning of planned non-routine operations such as plant start-up, shutdown and commissioning events between the development and the adjacent Orica facility.

C21. Prior to the commencement of operation of the project, the Applicant shall provide evidence to the Secretary that it has made genuine and reasonable attempts to consult with the neighbouring Orica facility in order to develop a suitable Air Quality Risk Management Strategy for both it and the neighbouring Orica facility to follow.

TRANSPORT AND ACCESS

Design and Operating Conditions

C22. The Applicant shall ensure that:
(a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the project are constructed and maintained in accordance with the relevant versions of AS 2890.1 and AS 2890.2;
(b) the swept path of the longest vehicle entering and exiting the site from Greenleaf Road, as well as manoeuvrability through the site, is in accordance with *AUSTROADS – Guide to Road Design*;
(c) all vehicular traffic movements to and from the site are made in a forward direction;
(d) the project does not result in any vehicles parking or queuing on the public road network;
(e) heavy vehicles associated with the project do not park or stand on local roads or footpaths in the vicinity of the site;
(f) all vehicles are wholly contained on site before being required to stop;
(g) all loading and unloading of materials is carried out on site; and
(h) all parking areas, services bays, truck docks, driveways, vehicular ramps and turning areas are:
- kept clear of any obstruction, including parked cars, at all times; and
- are to be used for these purposes and are not to be used for the storage of goods or waste materials.

Parking Requirements

C23. The Applicant shall provide all parking on site for light vehicles, heavy vehicles, motorbikes and push bikes in accordance with the rates set out in *Table 1 – Parking Rates* of the *Newcastle Development Control Plan 2012*.

Traffic Management Plan

C24. The Applicant shall prepare and implement a Traffic Management Plan for the development to the satisfaction of the Secretary. The plan must:
(a) be prepared in consultation with Council and RM by a suitably qualified and experienced person;
(b) be approved by the Secretary and RM (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements);
(c) detail the measures that will be implemented to ensure road safety and network efficiency including (but not limited to):
- installation of signage and implementation of maximum speeds limits on internal roads;
- final details of all traffic control measures; and
- measures to ensure that vehicles associated with the project access the site via the on-load and off-load ramps on Teal Street and Greenleaf Road to minimise traffic impact on the operation of the Cormorant Road/Teal Street roundabout.

(d) include a plan showing the route/s to be used by heavy vehicles;
(e) detail the final access and parking arrangements for the site;
(f) include final details of the proposed park and ride facility to be operated during the construction of the project including details of pick-up and drop-off locations, timing schedule/s and identification of suitable car parking;
(g) include a Driver Code of Conduct that details the traffic management measures to be implemented:
- minimise the impacts of the development on the local and regional road network;
- minimise conflicts with other road users; and
- ensure truck drivers use specified routes.

(h) describe the measures that will be implemented to ensure:
- the nominated heavy vehicle route is used;
- drivers adhere to the code of conduct; and
- compliance with the relevant conditions of this consent.

(i) include a program to monitor the effectiveness of these measures; and
(j) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

SOIL AND WATER

Discharge of Water

C25. The development shall comply with Section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided in an EPL.

Groundwater Interception and Extraction

C26. Prior to the commencement of construction of the project, the Applicant shall obtain the necessary water related approvals from NOW in the event that groundwater is likely to be intercepted or extracted during construction.

Groundwater Reinjection

C27. The Applicant shall ensure that any reinjection of groundwater dewatered during construction is conducted in accordance with the relevant provisions of the POEO Act.

Bunding

C28. The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, EPL requirements and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participants Handbook*.

Erosion and Sediment Control

C29. During construction of the project, the Applicant shall implement suitable erosion and sediment controls in accordance with the Blue Book and the relevant management and mitigation measures contained within Appendix C.

Water Management Plan

C30. The Applicant shall prepare and implement a Water Management Plan for the site to the satisfaction of the Secretary. This plan shall:
(a) be prepared in consultation with the EPA, NPC and NOW by a suitably qualified and experienced expert;

(b) be approved by the Secretary (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements) and include:

- a Surface Water Management Plan that:
  - includes final detailed design specifications of the stormwater management and collection system consistent with the EIS and the Blue Book;
  - details how stormwater run-off from the site will be conveyed, treated, re-used or discharged;
  - demonstrates that stormwater run-off from the site will be restricted to pre-project rates or less;
  - demonstrates that any stormwater discharged off-site meets the relevant EPL discharge limits; and
  - outlines the measures that will be implemented to monitor stormwater quality and maintain stormwater infrastructure for the life of the development.
- a Wastewater Management Plan that:
  - includes final detailed design specifications of the wastewater management and collection system consistent with the EIS;
  - details how wastewater will be conveyed, treated, re-used or discharged;
  - demonstrates that any treated wastewater discharged off-site will meet the relevant EPL pollutant limits or will disposed of at suitably licensed waste facility; and
  - outlines the measures that will be implemented to monitor wastewater quality and maintain wastewater infrastructure for the life of the development.
- a Groundwater Management Plan that:
  - outlines all measures that will be implemented to prevent, minimise and manage the potential groundwater impacts of the development; and
  - includes a groundwater monitoring program for the site that incorporates, where possible, Orica's monitoring wells MW53, MW55, MW21/21A and BP6.

Flood Risk Management

C31. The Applicant shall ensure that the pavement level for the project is 3.5 metres AHD or greater.

C32. The Applicant shall prepare and implement a Flood Evacuation Management Plan for the development to the satisfaction of the Secretary. The Plan shall:

(a) be prepared in consultation with Council by a suitably qualified and experienced expert;
(b) be approved by the Secretary (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements);
(c) be prepared in accordance with Council's *Newcastle City-wide Floodplain Risk Management Study and Plan 2012* and the *NSW Floodplain Development Manual*;
(d) identify the procedures that will be implemented to ensure that employees are given sufficient warning regarding an impending flood event;
(e) identify the procedures to be followed and contingency actions to be implemented in the event that the site is inundated during a flood event to protect:
  - the integrity of structures on site to prevent the release of harmful substances into floodwaters and the local environment; and
  - human safety.
(f) identify emergency evacuation routes, flood warning alarms, and evacuation procedures; and
(g) include a staff training program to be implemented to ensure existing and future employees are well trained and drilled in executing the flood emergency response procedures detailed within this plan.

Acid Sulphate Soils Management

C33. The Applicant shall prepare and implement an Acid Sulfate Soils (ASS) Management Plan for the project to the satisfaction of the Secretary. The Plan shall:

(a) be prepared in consultation with Council by a suitably qualified and experienced expert;
(b) be approved by the Secretary prior to the commencement of excavation works (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements);
(c) outline the investigations that have be undertaken to test for the presence of ASS in accordance the NSW State Government's *Acid Sulphate Soils Manual* (ASSMAC 1998);
(d) detail the protocols to be put in place and followed during construction of the project to manage potential impacts from ASS;
(e) detail how the ASS will be tested, handled and stockpiled;
(f) detail measures to prevent erosion and sedimentation of ASS; and, if necessary
(g) outline how the ASS will be disposed of off-site (e.g. at a licensed facility).

Contamination Management

C34. The Applicant shall prepare and implement a Contamination Management Plan for the project to the satisfaction of the Secretary. The Plan shall:
(a) be prepared in consultation with Council;
(b) be approved by the Secretary prior to commencement of excavation works (see Conditions D1 and D2 for scope and timing and Condition D3 for management plan requirements);
(c) outline all measures for managing potentially contaminated soil and groundwater during construction, including soil testing, classification, handling, storing and disposal;
(d) detail the measures that will be employed to prevent erosion and sedimentation of contaminated soil;
(e) detail measures for periodically testing surface water run-off that may accumulate during excavation works for elevated levels of contamination; and
(f) outline how contaminated soil and water will be classified and disposed of in accordance with the *EPA's Waste Classification Guidelines*.

HERITAGE

Unexpected Finds

C35. If during the course of construction the Applicant becomes aware of any previously unidentified heritage object(s), all work likely to affect the object(s) shall cease immediately and the Heritage Council of New South Wales shall be notified immediately in accordance with section 146 of the *Heritage Act 1977*. Relevant works shall not recommence until written authorisation from the Heritage Council of NSW is received by the Applicant.

C36. If during the course of construction the Applicant becomes aware of any previously unidentified Aboriginal object(s), all work likely to affect the object(s) shall cease immediately and the OEH informed in accordance with section 89A of the *National Parks and Wildlife Act 1974*. Relevant works shall not recommence until written authorisation from OEH is received by the Applicant.

WATER AND ENERGY EFFICIENCY AND GREENHOUSE GAS EMISSIONS

Operating Conditions

C37. The Applicant shall implement all reasonable and feasible measures to minimise:
(a) energy use from the development; and
(b) greenhouse gas emissions from the development,
to the satisfaction of the Secretary.

Water Efficiency

C38. The Applicant shall incorporate rainwater tanks into the design of the project to capture clean stormwater and rainwater that falls onto the site for re-use in on-site amenities.

C39. The Applicant shall prepare and implement a Water Efficiency Plan for the project to the satisfaction of the Secretary. The plan must:
(a) be approved by the Secretary (see Condition D2 for scope and timing and Condition D3 for management plan requirements);
(b) be prepared in accordance with the *Guidelines for Water Savings Action Plans* (DEUS, 2005);
(c) investigate and identify additional reasonable and feasible measures to reduce potable water use and re-use and/or recycle of process water at the site, in particular for the cooling towers;
(d) make recommendations in order of priority (including timeframes) for the implementation of the reasonable and feasible measures identified in accordance with subsection (c) of this condition; and
(e) include a program to monitor the effectiveness of the measures, implement the additional reasonable and feasible measures identified in subsection (c) in order of priority (with timeframes) and to periodically review the plan.

Energy Efficiency & Greenhouse Gas Reduction

C40. Prior to the commencement of the operation of the project, the Applicant shall implement the emissions reduction technology identified in the EIS including:
(a) N_2O abatement technology on the nitric acid plant; and
(b) energy efficiency improvements to the process plant.

Energy Savings Action Plan

C41. The Applicant shall prepare and implement an Energy Savings Action Plan for the development to the satisfaction of the Secretary. The plan shall:

(a) be approved by the Secretary (see Conditions D2 for scope and timing and Condition D3 for management plan requirements);
(b) be prepared in accordance with current best industry practice guidelines including *Guidelines for Energy Savings Action Plans* (DEUS, 2005);
(c) investigate and identify additional reasonable and feasible measures to be implemented to minimise energy use and greenhouse gas emissions on the site including energy consumption levels, predicted energy savings and options for alternative energy sources;
(d) make recommendations in order of priority (including timeframes) for the implementation of the reasonable and feasible measures identified in accordance with subsection (c) of this condition; and
(e) include a program to monitor the effectiveness of these measures, implement the additional reasonable and feasible measures identified in subsection (c) in order of priority (with timeframes) and to periodically review of the plan; and
(f) submit annual reports to the EPA if required to do so on the progress of the Plan to ensure suitable effort is being taken to further minimise energy use and greenhouse gas emissions on the site.

WASTE

On-Site

C42. The Applicant shall:
(a) implement all reasonable and feasible measures to minimise the waste generated on site by the development; and
(b) ensure that the waste generated by the development is appropriately stored, handled and disposed of,
to the satisfaction of the Secretary.

C43. The Applicant shall ensure that any waste generated on the site during construction of the project is classified in accordance with the *EPA's Waste Classification Guidelines* and disposed of to a facility that may lawfully accept the waste.

Off-Site

C44. The Applicant shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the POEO Act, if such a licence is required in relation to that waste.

Waste Management Plan

C45. The Applicant shall prepare and implement a Waste Management Plan for the site to the satisfaction of the Secretary. This Plan shall:
(a) be approved by the Secretary (see Conditions D1 and D2 for timing and Condition D3 for management plan requirements);
(b) detail the type and quantity of waste to be generated by the development;
(c) detail the materials to be reused or recycled, either on or off site; and
(d) detail the procedures for handling, storage, collection of recycling and disposal of waste.

VISUAL

Lighting

C46. The Applicant shall ensure that the lighting associated with the project:
(a) complies with the latest version of *AS 4282(INT) – Control of Obtrusive Effects of Outdoor Lighting*; and
(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

Landscaping and Vegetation Management

C47. All existing landscaped areas on the site are to be kept clear of parked vehicles, stored goods, garbage or waste material and are to be permanently maintained to the satisfaction of the Secretary.

C48. The Applicant shall prepare and implement a Landscaping and Vegetation Management Plan for the site to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with Council by a suitably qualified and experienced expert;
(b) be approved by the Secretary prior to the commencement of construction (see Condition D3 for management plan requirements);

(c) detail the measures that will be implemented to minimise the visual impact of the project, particularly from residences and public vantage points including the foreshore areas of Stockton and the northern arm of the Hunter River;
(d) include a program to replace and compensate all trees over 2 metres in height that are required to be removed as a result of the project;
(e) ensure native plant species that emulate to local communities are used for landscaping and vegetation compensation; and
(f) describe the on-going monitoring and maintenance scheme for landscaping and vegetation management on the site.

Signage

C49. The Applicant must not install any advertising signage on site without the written consent of the Secretary.

SITE SECURITY

Site Security

C50. The Applicant shall ensure that:
(a) the site is secured by a perimeter fence and security gates; and
(b) the security gates on site are patrolled at all times.

AVIATION SAFETY

C51. Prior to the commencement of construction of the project, the Applicant must obtain all necessary approvals from the Air Base Command Post of RAAF Base Williamstown and the Directorate of External Land Planning within the Defence Support Group of the Department of Defence for the erection of all structures that constitute transient/temporary or permanent obstructions in accordance with the *Operation of cranes and tall Structures in the vicinity of Newcastle Airport* (Department of Defence, 2013).

SCHEDULE D

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Construction Environment Management Plan

D1. The Applicant shall prepare and implement a Construction Environmental Management Plan for the construction of the project to the satisfaction of the Secretary. The Plan must:

(a) be prepared by a suitably qualified and experienced expert or team of experts;
(b) be submitted to the Secretary for approval no later than 4 weeks prior to the commencement of construction or demolition of the project, or within an alternative timeframe agreed to in writing by the Secretary (see Condition D3 for management plan requirements);
(c) identify the statutory licences, permits and approval/consents that apply to the project;
(d) include a copy of all relevant management plans and monitoring programs relevant under this consent;
(e) incorporate all relevant management and mitigation measures outlined in Appendix C of this consent;
(f) outline all environmental management practices and procedures to be followed during construction and demolition works associated with the project;
(g) describe all activities to be undertaken on the site during construction of the project, including a clear indication of construction stages;
(h) detail how the environmental performance of the construction of the project will be monitored, and what actions will be taken to address identified adverse environmental impacts and issues, including (but not limited to):
- Noise and Vibration (see Conditions C8 to C12);
- Air Quality (see Conditions C17 to C19);
- Transport (see Conditions C22 to C24);
- Soil and Water (see Conditions C25 to C34);
- Waste (see Conditions C42 to C45);
- Visual (see Conditions C46 to C49);
- Landscaping and Vegetation Management (see Conditions C47 and C48);
- Site Security (see Condition C50); and
- Aviation Safety (see Condition C51).

(i) describe the roles and responsibilities for all relevant employees involved in construction and demolition works associated with the project;
(j) include arrangements for community consultation at key stages of the project;
(k) include a complaints handling procedure during construction; and,
(l) include appropriate procedures to allow the regular review of the requirements of each plan to ensure that they are effective and allow for adaptive management to address contingencies that may arise over the life of the project.

The approval of a Construction Environmental Management Plan does not relieve the Applicant of any requirement associated with this consent. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this consent, the requirements of this consent prevail.

Note: Construction of the project shall not commence until the written consent is received from the Secretary.

Operational Environmental Management Plan

D2. The Applicant shall prepare and implement an Operational Environmental Management Plan for the development to the satisfaction of the Secretary. This Plan must:

(a) be submitted to and approved by the Secretary prior to the commencement of operation of the project (see Condition D3 for management plan requirements);
(b) provide the strategic framework for environmental management of the development;
(c) identify the statutory licences, permits and approval/consents that apply to the development;
(d) include a copy of all relevant management plans and monitoring programs under this consent;
(e) consolidate all relevant management and mitigation measures for the existing operations that will continue to be implemented on site together with those outlined in Appendix C of this consent;
(f) outline all environmental management practices and procedures that will followed during the operation of the development, including those that will continue to be implemented by the Applicant in respect of the existing operations;
(g) include a description of all activities to be carried on the site during the operation of the development;
(h) detail how the environmental performance of the operation of the development will be monitored, and what actions will be taken to address identified adverse environmental impacts, including (but not limited to):
- Noise and Vibration (see Conditions C8 to C12);

- Air Quality (see Conditions C13 to C21);
- Transport (see Conditions C22 to C24);
- Soil and Water (see Conditions C25 to C34);
- Water and Energy Consumption and Greenhouse Gas Emissions (see Conditions C38 to C41);
- Waste (see Conditions C42 to C45);
- Visual (see Conditions C46 to C49);
- Landscaping and Vegetation Management (see Conditions C47 and C48);
- Site Security (see Condition C50); and
- Aviation Safety (see Condition C51).

(i) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;

(j) describe the procedures that will be implemented to:
- keep the local community and relevant agencies informed about the operation and environmental performance of the development;
- receive, handle, respond to, and record complaints;
- resolve any disputes that may arise during the course of the development;
- respond to any non-compliance; and
- respond to emergencies; and

(k) include:
- copies of any strategies, plans and programs approved under the conditions of this consent; and
- a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

Management Plan Requirements

D3. The Applicant shall ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:

(a) detailed baseline data;

(b) a description of:
- the relevant statutory requirements (including any relevant approval, licence or lease conditions);
- any relevant limits or performance measures/criteria; and
- the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(c) a description of the measures that will be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;

(d) a program to monitor and report on the:
- impacts and environmental performance of the development; and
- effectiveness of any management measures (see (c) above);

(e) a contingency plan to manage any unpredicted impacts and their consequences;

(f) a program to investigate and implement ways to improve the environmental performance of the development over time;

(g) a protocol for managing and reporting any:
- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedences of the impact assessment criteria and/or performance criteria; and

(h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

D4. Within 1 year of the commencement of operations of the project, and annually thereafter, or as otherwise agreed in writing by the Secretary, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:

(a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;

(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against:
- the relevant statutory requirements, limits or performance measures/criteria;
- the monitoring results of previous years; and
- the relevant predictions in the EIS;

(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;

(d) identify any trends in the monitoring data over the life of the development;

(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
(f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.

Revision of Strategies, Plans & Programs

D5. Within 3 months of the submission of an:
(a) annual review under Condition 4 of this Schedule;
(b) incident report under Condition 6 of this Schedule;
(c) audit report under Condition 8 of this Schedule; and
(d) any modifications to this consent,
the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

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 development.

REPORTING

Incident Reporting

D6. The Applicant shall notify the Secretary and any other relevant agencies of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment associated with the development immediately after the Applicant becomes aware of the incident. Within 7 days of the date of this incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident.

Regular Reporting

D7. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

INDEPENDENT ENVIRONMENTAL AUDIT

D8. Within a year of the commencement of operation of the project, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
(b) include consultation with the relevant agencies;
(c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant statutory licences, permits and approval/consents that apply to the development (including any assessment, plan or program required under these approvals);
(d) review the adequacy of any approved strategy, plan or program required under these approvals; and
(e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

D9. Within 3 months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

D10. The Applicant shall, unless otherwise agreed to in writing by the Secretary:
(a) make the following information publicly available on its website:
- the EIS;
- current statutory approvals for the development;
- approved strategies, plans or programs;
- a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
- a complaints register, updated on a quarterly basis;
- copies of any annual reviews (over the last 5 years);

- any independent environmental audit, and the Applicant's response to the recommendations in any audit; and
- any other matter required by the Secretary; and

(b) keep this information up-to-date.

APPENDIX A – PLANS OF THE DEVELOPMENT


HUNTER RIVER SOUTH ARM
Lot 17
Lot 16
HUNTER RIVER NORTH ARM
Source: Base maps from IPL, drawing AUG-00-131-PP-0000.dwg, received 20 April 2012. Aerial Imagery supplied by NearMaps.
Existing Structures
1 Shed 1
2 Shed 2
3 Shed 3
4 Shed 4 - DG Store
5 Office/Seminar Center
6 Bagging/Storage Warehouse
7 Redundant Wax Tanks
8 Sulphuric Acid Loadout
9 Sulphuric Acid Storage Tanks
10 Existing Entrance
11 Operations Office
12 Existing Weighbridge
13 Sulphuric Acid Inland Pipe
14 Existing Amenities Building
Project Components
1 Ammonia Tank
2 NA Plant
3 AN Plant
4 TGAN Prill Store & Bagging
5 NH3 Flare
6 Cooling Tower Package
7 NA Storage
8 ANSOL Storage and Handling
9 Administration Building
10 Workshop/Warehouse
11 Control Room
12 Substations
13 Contaminated Water Retention Pond
14 Waste Water System
15 Proposed Entrance
16 Proposed Weighbridge & Security
17 TGAN Container Store
18 Emergency Exit
19 Ammonia Ship Berth
20 Modified Truck Parking
21 Waste Water Discharge
N
W
E
S
0 40 80 160 240 320
Meters
Datum: GDA94
Grid: MGA Zone 56
Legend
Site_Boundary
Existing Drainage
Lot Boundaries
Proposed Structure
Proposed Waste Water Discharge
Proposed Drainage
Proposed Internal Roads
Proposed Pipelines
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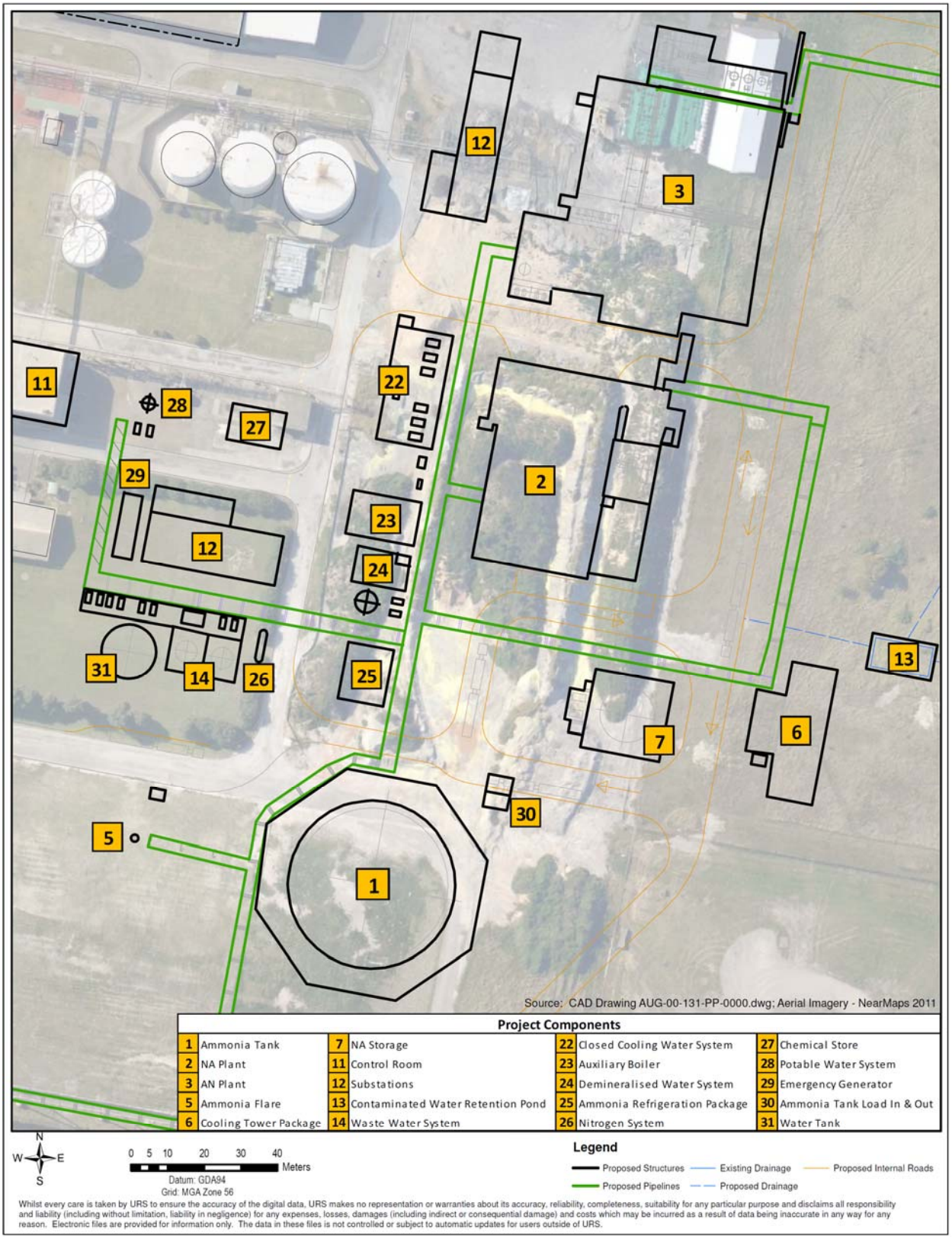
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Source: CAD Drawing AUG-00-131-PP-0000.dwg; Aerial Imagery - NearMaps 2011
Project Components
1 Ammonia Tank
2 NA Plant
3 AN Plant
5 Ammonia Flare
6 Cooling Tower Package
7 NA Storage
11 Control Room
12 Substations
13 Contaminated Water Retention Pond
14 Waste Water System
22 Closed Cooling Water System
23 Auxiliary Boiler
24 Demineralised Water System
25 Ammonia Refrigeration Package
26 Nitrogen System
27 Chemical Store
28 Potable Water System
29 Emergency Generator
30 Ammonia Tank Load In & Out
31 Water Tank
N
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0 5 10 20 30 40
Meters
Datum: GDA94
Grid: MGA Zone 56
Legend
Proposed Structures
Existing Drainage
Proposed Internal Roads
Proposed Pipelines
Proposed Drainage
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APPENDIX B – DEVELOPMENT CONSENTS TO BE SURRENDERED

Development Consent	Description	Date Granted
DA07/0686	Demolition of change house, office/training building, workshop, compressor house, blower house, administration building, turbine house and control room	24/08/2007
DA06/2260	Subdivision of 1 lot into 3	3/06/2007
DA05/1111	Demolition of building & external equipment	21/11/2005
DA01/2514	Absent	22/08/2002
DA01/2513	Erection of a heavy vehicle filling & repackaging plant for existing aqueous ammonia storage	22/11/2002
DA00/1570	Upgrade of the distribution and packaging of fertilisers, erection of a weigh bridge and additions to existing buildings	3/11/2000
DA99/0901	Alterations and additions to existing fertiliser manufacture factory comprising new covered wax storage area and loading bay, new baghouse and extension of coating area building	1/11/1999
DA95/203 MOD	Erection of an additional bulk storage shed (fertilizers) with 9000 tonnes capacity	30/11/1995
DA95/203	Erection of an additional bulk storage shed (fertilizers) with 9000 tonnes capacity	23/08/1995
DA121/94	Use of portion of existing industrial premises for the fabrication of topside modules	21/04/1994
DA114/94	Installation of additional 5,000 tonne capacity sulphuric acid storage tank and construction of bund wall	20/04/1994
DA85/91 MOD	Erection of bulk fertilizer truck loading facility on Pt Lot 5, DP 262783, No. 39 Heron Road, Kooragang Island	31/12/1991
DA85/91	Erection of bulk fertilizer truck loading facility on Pt Lot 5, DP 262783, No. 39 Heron Road, Kooragang Island	27/03/1991
DA426/89	Alterations and additions to existing industrial premises to provide for automatic fertiliser blending plant and supplementary storage	1/10/1989
DA352/86 MOD	Erection of additional warehouse to store bagged fertiliser on Part Lot 5, DP 262783, No.39 Heron Road, Kooragang Island	17/02/1987
DA352/86	Erection of additional warehouse to store bagged fertiliser on Part Lot 5, DP 262783, No.39 Heron Road, Kooragang Island	11/11/1986

APPENDIX C – MANAGEMENT AND MITIGATION MEASURES FOR THE PROJECT

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
	General			
A1	IPL would carry out construction and operation generally in accordance with the EIS and approval conditions	✓	✓	✓
A2	IPL would implement all practicable measures to avoid, or minimise, any impacts to the environment that may arise from the construction and operation of the Project.	✓	✓	✓
A3	Should the Project approval be granted, IPL would make a separate application to the NSW EPA for an amended Project specific Environment Protection Licence prior to construction of the Project.	✓		
A4	IPL would ensure that the Contractor prepares and implements a Construction Environmental Management Plan (CEMP) that would be reviewed and approved by an Environmental Management Representative (EMR).		✓	
A5	IPL would appoint a part-time EMR to monitor the implementation of all environmental management measures, The EMR would ensure that all mitigation measures are being effectively applied during construction and that the work is being carried out in accordance with the CEMP and all environmental approval and legislative conditions.		✓	
A6	IPL personnel and construction staff would undergo training in accordance with the CEMP and any other training commitments agreed as part of the Project Approval.		✓	
A7	Community consultation would be maintained throughout the design, construction and operation phase of the Project.	✓	✓	✓
	Hazard and Risk			
B1	An inspection, testing and preventative maintenance program would be developed, implemented and maintained to ensure the reliability and availability of key safety critical equipment.	✓	✓	✓
B2	Safety Integrity Level (SIL) allocation and verification studies would be undertaken in accordance with IEC 61508 / 61511 as part of final design stage to ensure the probability of failure on demand of the following key safety critical equipment is consistent with the data estimates used in the PHA: • The overfill protection systems for the bulk Ammonia storage tank and Ammonia road tankers. • The automatic water quench system on the ANSOL tank. • The overheating protection system on the AN pumps. • The water quench system and overheating protection system on the Neutraliser vessel. • Level control and feedwater systems for the Absorber. • The ammonia road tanker driveaway protection system. A safety requirement specification (SRS) would also be prepared for the safety instrumented systems.	✓		
B3	The cryogenic (i.e. liquid) piping for ammonia would be designated as critical equipment and inspected / maintained accordingly.			✓
B4	To ensure a low likelihood of small liquid ammonia leaks from flanged joints, spiral wound gaskets would be provided for all liquid ammonia pipework (cryogenic and pressurised).	✓	✓	✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
B5	The final design would include physical protection measures to ensure the bulk ammonia storage tank is protected from impact by vehicles (including cranes, trucks, etc.). Also, the tank would be subjected to a hydrostatic test and full radiography for all welds of the lower five strakes during construction. Alternative non-destructive testing methods may be used in any locations where radiography is not practicable.	✓	✓	
B6	Measures (e.g. Fire detection and protection systems; storage limits per stack / pile; separation distances between stacks / piles; etc.) would be implemented to reduce the likelihood of anAN explosion due to fire, contamination or high energy impact. All of the listed engineering measures would be incorporated into the final facility design and the procedural control measures would be incorporated into the Site safety management system.	✓	✓	✓
B7	The gas detection system would be designed to ensure isolation within 3 to 15 minutes of the incident. Assessment such performance would be evaluated as part of the assessment for the Final Hazard Analysis. Similarly, as this system relies on human intervention, human factors would be evaluated as part of the system design (e.g. warning systems in control room, etc.) and its ongoing operation (training, etc.).	✓		✓
B8	For isolation of the marine loading arms at the berth, the automatic emergency release system would isolate a release within 25 seconds (15 seconds to detect; 5 seconds to send the signal to the isolation valve; and 5 seconds for the isolation valve to close). The final design of this pipework would ensure that a pressure surge cannot cause subsequent failure of the pipework due to this relatively short isolation time.	✓		✓
B9	An emergency systems survivability analysis (ESSA) would be undertaken during the detailed design stage to ensure all emergency isolation systems would perform their designed function in the event of a potential explosion (on- or off-site).	✓		
B10	A detailed structural analysis would be undertaken on the final design of the ammonia storage tank to determine the potential for leaks from the tank and associated pipework due to earthquake or strong wind events and these events would be included in the final hazard analysis (as relevant).	✓		
B11	The owner/operator of the trucks or road tankers would implement and maintain a robust Safety Management System			✓
B12	IPL would undertake formal audits of the vehicle owner's/operator's Safety Management System to verify it is adequate in managing the safety risks.			✓
B13	The audits of the transport contractor's Safety Management System would incorporate how the system manages the risks and maintain the risk controls related to the Major Accident Events. These would include: • Random unannounced checks of the vehicles documentation to verify that the requirements for pre-use inspections are adhered to. • Scheduled audits of the maintenance program to verify it is adhered to and that it is effective.			✓ ✓ ✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
	• Scheduled physical inspections of the vehicles to establish if they appear to be well maintained and licensed as a dangerous goods vehicle. • An evaluation of the driver induction and compliance (including route familiarity).			✓ ✓
	• Evaluation of the driver competency and licence compliance, including product knowledge, emergency procedures, etc. • Adequate program for disciplinary action if drivers break the rules (e.g. speeding, drug and alcohol, etc.) and enforcement of this program. • Evaluation of the driver fatigue management program and its implementation. • Adequacy of, and adherence to, secure parking. • Inclusion of duress and GPS tracking systems in the vehicles • Planned maintenance schedule.			✓ ✓ ✓ ✓ ✓ ✓
B14	If not already in place, the vehicle owner/operator would ensure that all vehicles have speed recording/limiting devices installed.			✓
B15	IPL would undertake random checks of the quality of the product restraining systems (for bags of TGAN) and record this as part of their Safety Management System			✓
B16	Adequate loading procedures would be implemented to ensure overloaded tankers are not allowed to leave the Site.			✓
B17	IPL and the transport contractor would consider the Hunter Expressway, once operational (planned for 2013), as an alternate main route to the Hunter Region, instead of the existing route (New England Highway).			✓
B18	A "Route Plan and Risk Assessment" similar to those existing for the current routes would be conducted by the transport contractor prior to commencing the regular use of the Hunter Expressway.			✓
B19	IPL would consult with Major Hazard Facilities Unit of NSW WorkCover at the commencement of detailed design of the Project.	✓		
B20	IPL would consult with Workcover at least six months prior to the commencement of construction (except for construction of those preliminary works that are outside the scope of the pre-construction hazard studies), to prepare a programme for updating the Safety Case to incorporate the changes associated with the Project.	✓		
B21	The storage of AN in Shed 4 would be upgraded to comply with SAFEX recommended separation distances as part of the Project.			✓
	Air Quality and Odour			
C1	Dust suppression would be used during Project construction		✓	
C2	Ammonia would be refrigerated during import and storage to reduce the potential for external exposure to pollutant and odorous ammonia.			✓
C3	In the event of refrigeration failure within the ammonia storage facility, excess ammonia would be flared.			✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
C4	Catalytic control would be maintained throughout the operation to reduce the possible emissions of NOx and N_2O.			✓
C5	Bagging activities would be conducted within an enclosed area with sufficient filtering to remove suspended particles.			✓
	Noise and Vibration			
D1	Following detailed design, the Noise Model for the Project would be rerun to confirm the operational noise predictions for the Project and to ensure compliance with relevant limits.	✓		
D2	The CEMP for the Project would include a Noise Management Plan (NMP). The NMP would outline: • The locations of noise sensitive receptors; • Construction noise monitoring procedures; and • Construction equipment maintenance to ensure good working order.		✓	
D3	Low-noise plant and equipment would be selected, where practicable, in order to minimise potential for noise and vibration. All equipment would be regularly checked to ensure that the mufflers and other noise reduction equipment are working correctly.		✓	
D4	Equipment would be located to take advantage of the noise screening provided by existing site features and structures, such as embankments, storage sheds and/or boundary fences.		✓	
D5	Community consultation with local residents would be undertaken to assist in the alleviation of community concerns. A complaints register would be maintained.		✓	
D6	Any noise complaint(s) would be investigated immediately. Reasonable and feasible measures would need to be implemented to reduce noise impacts.		✓	
D7	General construction activities would be confined to between 0700-1800 Monday to Friday and 0800- 1300 Saturday. Construction work outside these hours would only take place if it was not audible at nearby residential receptors.		✓	
D8	Construction work would be scheduled to minimise the multiple use of the noisiest equipment or plant items near noise sensitive receptors.	✓	✓	
D9	Construction staff and contractors would undergo training in environmental noise issues including: • Minimising the use of horn signals and maintaining to a low volume. Alternative methods of communication should be considered; • Avoiding any unnecessary noise when carrying out manual operations and when operating plant; and • Switching off any equipment not in use for extended periods during construction work.		✓	
D10	Should any unexpected construction activities occur which could potentially generate significant noise not described in this report, monitoring would be undertaken to ensure equipment noise emission levels do not deteriorate.		✓	
D11	Where noise level exceedances cannot be avoided, consideration would be given to applying time restrictions and/or providing quiet periods for nearby residents.		✓	
D12	Heavy vehicle movements at night (22:00-07:00) would be limited to 175 per night.		✓	✓
D13	During operation a NMP would be produced as part of the OEMP for the Lot. This NMP would outline the monitoring programme for the Lot to ensure compliance with EPL limits.			✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
D14	The Project would operate within the acoustic limits recommended by the EPA. These operational limits are 41 dB (A) during the day and evening and 40 dB (A) during the night when measured from Stockton. These limits would apply at all times except under certain meteorological conditions, as agreed with the EPA.			✓
	Soil and Groundwater			
E1	A Soils and Erosion Management Plan would be developed as part of the CEMP to manage the excavation, testing, stockpiling, reuse and rehabilitation of soils. This plan would outline: • the areas where soil disturbance is likely; • soil testing procedures; • soil handling procedures; • locations where soil would be stockpiled onsite for either removal, treatment or reuse; • procedures to reduce erosion and the spread of dust; and • the rehabilitation of bare soil following completion of the construction works		✓	
E2	All materials would be stockpiled in accordance with 'The Blue Book' Managing Urban Stormwater – Soils and Construction Volume 1 and 2 (Landcom, 2004). Principal controls would include the following: • silt fences would be installed around stockpiles to reduce erosion as necessary; • stockpiles would be covered and wetted down in order to reduce dust creation; and • stockpiles would not be located in close proximity to any stormwater drainage systems.		✓	
E3	Excavated soils would be tested for both for contaminants and odour using standard practices (e.g. soil vapour and soil, leachate and water sampling etc.)		✓	
E4	Clean materials would be separated from contaminated materials for reuse as backfill where required.		✓	
E5	A Contamination Management Plan would form part of the CEMP for the Project. This plan would outline measures for testing, handling, storing and managing contaminated soils and contaminated groundwater.		✓	
E6	Suspected contaminated materials would be classified in accordance with NSW (2009) *Waste Classification Guidelines: Part 1: Classifying Waste*, batched, further tested (where required) and disposed by a licenced contractor.		✓	
E7	Disposal of any contaminated soils or groundwater would be in accordance with NSW DECCW's *Waste Classification Guidelines* and the Contamination Management Plan (CMP) for the Project. Contaminated materials would be sent to appropriately licensed facilities in accordance with the *Contaminated Land Management Act (1997)*.		✓	
E8	An Acid Sulfate Soil Management Plan would be developed prior to construction;the ASS Management Plan would be prepared in accordance with the ASS Manual (ASS Management Advisory Committee 1998).		✓	

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
E9	A Groundwater Management Plan (GWMP) would be developed and included within the CEMP. This plan would outline the measures that would be used to manage the discovery, testing, dewatering, storage, movement and treatment of any groundwater during the construction phase. Measures would include: • the use of appropriate drip trays and interception techniques for any liquids stored on the Site; • regular inspection of construction equipment to ensure any hydrocarbon or other leaks are minimised and rectified; • management of vehicles leaving the Site to reduce soil on roads, production of dust and the introduction of contamination to the groundwater and/or stormwater system; • appropriate and timely disposal of any contaminated spoil, water or waste generated during construction; • regular inspection of erosion control structures and bunded areas; and • regular inspection and testing of containment areas and drainage lines		✓	✓
E10	Aquifer interference approval under the 1912 Water Act would be sought prior to construction starting.	✓		
E11	Dewatering works would be appropriately licensed and carried out by suitably trained personnel. Additionally, monitoring will be undertaken at the following wells on the Project site: MW55, MW53, MW21/21A and BP6 (as identified in Orica's 2008 EMP) subject to approval by Orica.		✓	
E12	Groundwater removed by dewatering, and any runoff that may accumulate in excavations, would be periodically tested for elevated levels of contamination.		✓	
E13	Groundwater that is found to have elevated levels of contaminants, and cannot be either recharged into the groundwater or discharged via the stormwater system without impacting agreed EPA limits, would be treated on-site or stored and classified onsite before being transported offsite by a licensed contractor for appropriate treatment and disposal. Groundwater that is used for aquifer recharge would have to be the same or better than the quality of the existing groundwater in that part of the Site.		✓	
E14	No liquids or soils would be stored overnight within 100 m of arsenic plume affected area (as delineated by Figure 2 in the Orica EMP (2008)).		✓	
E15	Relevant monitoring wells would be fitted with data loggers to monitor any change in the direction or chemistry of the groundwater as construction progressed. This monitoring would be focused on the Orica arsenic plume.		✓	
E16	Where minor dewatering works are required, any potential change in groundwater gradient would be managed by locally recharging the aquifer with appropriate dewatered groundwater.		✓	
E17	Construction workers would be instructed in appropriate health and safety and handling protocols for minimising human contact with contaminated soils and groundwater.		✓	
E18	Stormwater runoff would be separated into wastewater, first flush and clean streams during operation to minimise contamination of soils, groundwater and surface water receptors. Stormwater considered to be contaminated would be retained and treated as required.	✓		✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
E19	Appropriate inspection, assessment, maintenance and repair programmes would be presented within the Operational Environmental Management Plan (OEMP) to reduce the likelihood for leaks or a loss of containment from the Project.			✓
E20	All dewatered groundwater would be managed in accordance with the provisions of the PoEO Act and only reinjected if it is of equal or better quality than the receiving environment.		✓	
	Surface Water and Waste Water			
F1	A Surface Water Management Plan (SWMP) would be developed as part of the CEMP to manage stormwater runoff during construction. This plan would be completed in line with 'The Blue Book' *Managing Urban Stormwater – Soils and Construction Volume 1 and 2* (Landcom, 2004). The plan would outline: • Measures to manage soils in line with the Soil and Erosion Management Plan; and • Measures to prevent the movement of contaminated run off to the Hunter River due to construction activities.		✓	
F2	A survey of the local drainage network relevant for the Project would be completed prior to detailed design.	✓		
F3	The quality of stormwater discharges would be monitored throughout the construction and operation of the Project to ensure that water quality levels are maintained within the limits of the EPL.		✓	✓
F4	Three stormwater management systems would be installed as part of the Project to manage stormwater quality. These systems include a contaminated water system, a first flush system and a 'clean' stormwater system.		✓	✓
F5	In order to minimise demands on the water supply, water would be reused and recycled within the Project process.	✓		✓
F6	Stormwater would be managed to ensure that there is no reduction in stormwater quality and that the current infrastructure is not operated over capacity			✓
F7	Fire water management would ensure that, in the event of a fire or ammonia leak on the Site, there is no loss of containment off the Site of potentially contaminated water.			✓
F8	Areas with a likelihood of containing potential contaminants would be appropriately bunded.	✓	✓	✓
F9	Soil stockpiles would be managed so as to reduce the impact from sediment during Project construction.		✓	
F10	Wastewater discharge will be continuously monitored with an automatic sampler and on-line for pH, temperature, volume and electrical conductivity.			✓
F11	IPL would capture and reuse stormwater for the toilets on Site, where possible.			✓
	Traffic and Transport			

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
G1	A Traffic Management Plan (TMP) would be produced as part of the CEMP for the Project. This TMP would outline: • hours of permitted vehicle activity; • designated routes for construction traffic and defined access points to the Site for each construction stage; • designated areas within the Site for truck turning movements, parking, loading and unloading to allow heavy vehicles to enter and leave the Site in a forward direction; • sequence for implementing traffic works and traffic management devices should these be required; and • procedures and/or principles for construction vehicle speed limits and the safe operation of construction vehicles.		✓	
G2	The TMP for the construction phase would include details of the construction personnel park and ride service. Details would include drop off and pick up locations and timings, as well as identification of an appropriate 'parking' location. The TMP would also stipulate that vehicular access to /from the site, particularly for heavy vehicles and in the AM peak periods, should be via the on−load and off−load ramps on Teal Street to /from Greenleaf Road.		✓	
G3	A Traffic Management Plan (TMP) would be produced as part of the OEMP for the Site. This TMP would outline: • hours of permitted vehicle activity; • designated routes for operation traffic and defined access points to the Site; • designated areas within the Site for truck turning movements, parking, loading and unloading to allow heavy vehicles to enter and leave the Site in a forward direction; • sequence for implementing traffic works and traffic management devices should these be required; and • procedures and/or principles for vehicle speed limits and the safe operation vehicles.			✓
G4	During construction, barge movements from the western berths to the CTB wharf would be discussed with NPC to ensure that any movements did not conflict with port operations.		✓	
G5	During construction, traffic movements along NPC managed roads would be managed in liaison with NPC. A licence to move modules from the CTB wharf to the Site would be sought from NPC.		✓	
G6	During operation all ship movements would be prescheduled for entry to the port and would undertake pilot assisted navigation to the appropriate berth with berthing movements assisted by tugs.			✓
	Waste Management			
H1	A Waste Management Plan (WMP) would be compiled as part of the Construction Environmental Management Plan (CEMP) prior to commencement of construction.		✓	
H2	A WMP would be included in the Operational Environmental Management Plan (OEMP) for the Project. This would be compiled prior to Project commissioning.			✓
H3	Existing management plans for the Site would be amended or amalgamated to include the Project.			✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
H4	The WMPs for the CEMP and OEMP would: • Identify requirements for waste avoidance, reduction, reuse and recycling; • Provide procedures for handling, stockpiling, and reuse of wastes; • Identify disposal routes and treatment options; • Set out procedures for meeting legislative requirements; and • Set out procedures for obtaining the required approvals for the management of waste.		✓	✓
H5	The WMP would incorporate principles of the waste management hierarchy and cleaner production.		✓	✓
H6	Waste produced on-site would be separated at source and stored in suitable containers and stored in designated waste management areas. All waste would be classified in accordance with Waste Classification Guidelines (DECC, 2008).		✓	✓
H7	A licensed waste management contractor would be used to remove waste from the Site for reuse, recycling or disposal.		✓	✓
H8	The WMPs would set out monitoring processes and scheduled inspections of waste management areas. The WMPs would be subject to regular audits and a system would be used to record and report types, volumes and management measures for all waste streams arising from the Project.		✓	✓
H9	Annual reporting would be undertaken on the wastes for the Project.			✓
	Visual and Landscape			
I1	Materials used in the construction of the Project would be generally dark in tone and where possible non reflective.	✓	✓	
I2	Lighting would avoid direct line of sight toward residences beyond the Site where possible.	✓	✓	✓
I3	Top of the stacks and towers would not have aviation obstacle lighting.	✓	✓	✓
I4	The use of large floodlights to be minimized where possible.		✓	✓
I5	Lighting would be focused on to work areas during construction and operation. Areas away from work areas would not be lit and light spill would be reduced where possible.		✓	✓
	Flora and Fauna (Ecology)			
J1	A Flora Management Plan would be developed to mitigate impacts on flora as a result of vegetation clearing associated with the Project. Mitigation measures would include strategies such as: • exclusion zones around areas that would not be impacted by the Project during the construction phase; • use of flagging tape or similar to denote exclusion zones or other sensitive areas during the construction phase; • rehabilitation/ landscaping works to incorporate native flora species (sourced locally) that have the potential to provide foraging resources for native fauna species and • no unnecessary vegetation clearance. The Project footprint to be fenced off to prevent damage. .	✓	✓	✓

Item	Management and Mitigation Measures	Implementation of mitigation measures		
		Design	Construction	Operation
J2	A Fauna Management Plan would be developed to mitigate impacts on fauna as a result of the Project, including the following: • wash down protocols to prevent the spread of amphibian chytrid disease chytridiomycosis; • use of 'ecologically friendly' herbicides; • low vehicle speed limits on and throughout the Site to reduce fauna road fatalities; • educate HSE specialists as to the appearance and location of any threatened species and pest species potentially and/or present on-site. Works to cease in the event threatened species be found in construction areas and • design lighting to reduce light spill into areas that are not required to be lit and may have potential for nocturnal fauna.		✓	✓
J3	A Weed and Pest Management Plan would be developed as part of the CEMP. This plan would include: • noxious weeds would be identified prior to construction commencing and would be managed in line with NCC and DPI control requirements. Noxious weed material would be carefully stockpiled and stored to ensure propagates, seeds and vegetative material do not spread prior to disposal. All declared noxious weeds would be removed from the Site, as per the NW Act, and would be disposed at an appropriate location; • brands that that are suitable for use around sensitive environments and waterways such as RoundUp® Biactive would be used to control weeds should chemicals be required. If in doubt, advice would be sought from suitably qualified personnel. • all plant and machinery would be free from mud, soil or root material to minimise the spread of any weeds, pathogens or diseases such as root-rot fungus (*Phytophthora cinnamomi*); • throughout construction, the Project work areas would be regularly monitored to ensure noxious weeds do not re-establish or spread on-site; and • control of pest fauna such as, Red Fox and European Rabbit.		✓	
J4	A mosquito management plan would be developed prior to the commencement of works associated with the Project.		✓	✓
J5	An Operational Environmental Management Plan (OEMP) would be developed to ensure appropriate mitigation measures are employed during the operation of the Project. The OEMP would address potential habitat and the implications of development for all threatened species identified as likely to occur or with potential habitat within the Lot, as outlined in Appendix L5.			✓
J6	All native and non-native trees that would be lost as a result of the new entrance off Greenleaf Road would be replaced with suitable native tree species where the line of trees and shrubs bordering Greenleaf Road includes gaps to the north of the Kooragang Island Bicycle Club Shed. Suitable replacement trees would be recommended by a suitably experienced and qualified ecologist.		✓	
	Heritage			
K1	Should any heritage items be discovered during the construction process, work shall cease until the discovery can be assessed by a qualified heritage consultant.		✓	