

ASSESSMENT REPORT

Orica Ammonia Nitrate Emulsion Project, Richmond Vale MP 09_0090 MOD 2

1. INTRODUCTION

This report is an assessment of a request to modify the Project Approval for an Ammonium Nitrate Emulsion (ANE) production facility at Richmond Vale.

The request has been lodged by Umwelt (Australia) Pty Ltd on behalf of Orica Australia Pty Ltd (the Proponent) pursuant to section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The application seeks approval to install a cooling tower and a heat exchanger to improve the production process of ANE.

2. SUBJECT SITE

The subject site is located on the southern side of George Booth Drive at Richmond Vale, approximately 26 kilometres (km) east of Cessnock and 24 km south of Maitland in the Cessnock local government area (see **Figure 1**). The location of the ANE production facility is illustrated in **Figure 2** below.

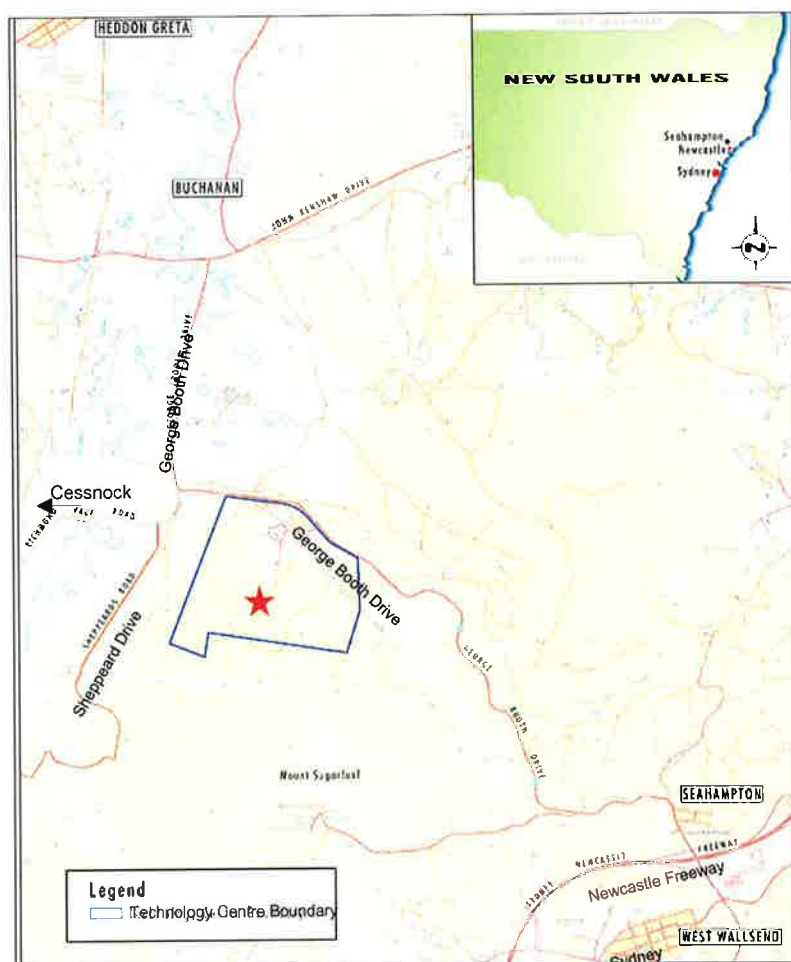


Figure 1: Regional context of site location

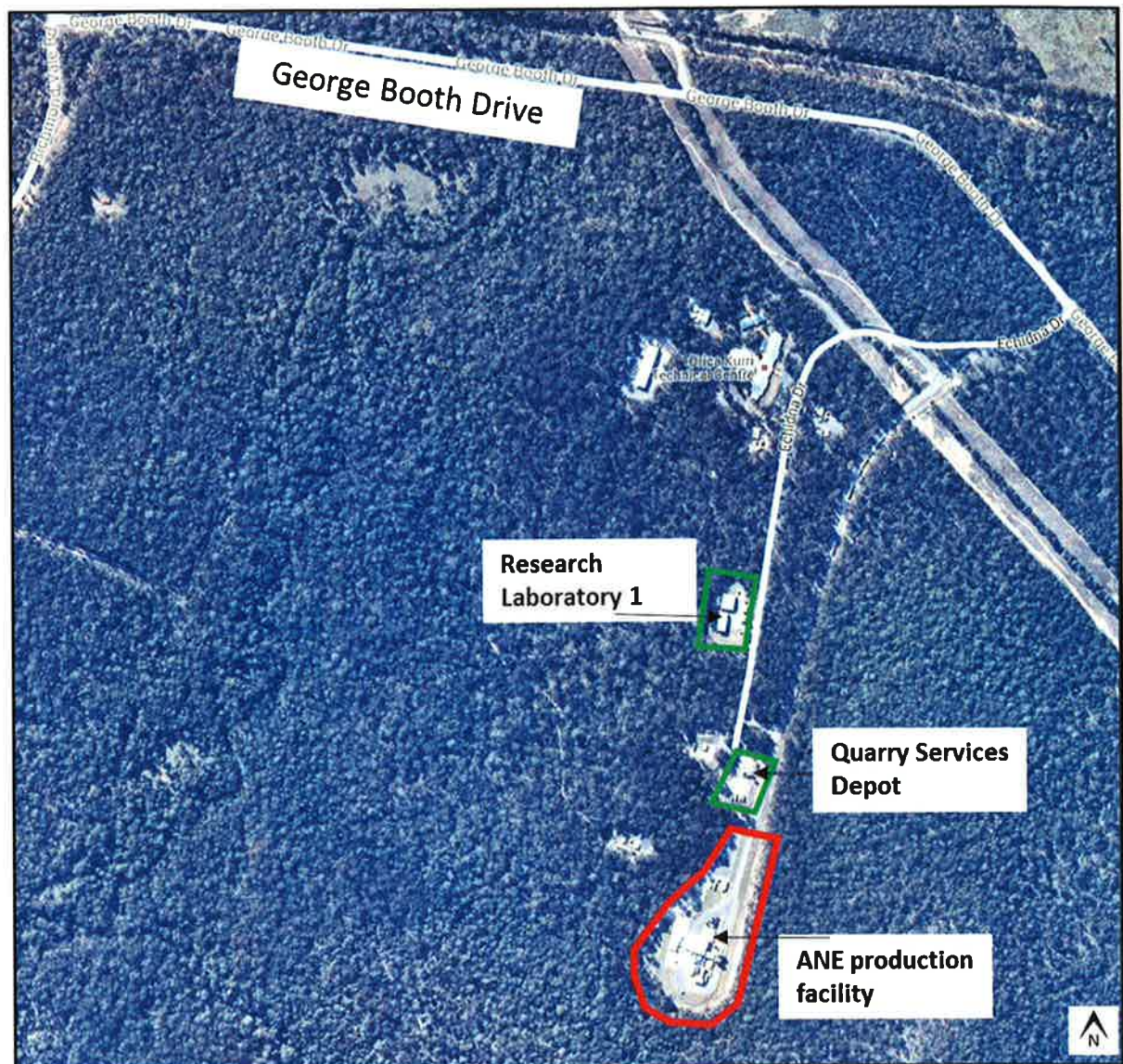


Figure 2: Location of ANE production facility within the site

3. APPROVAL HISTORY

On 26 July 2010, the then Minister for Planning granted Project Approval for the continued use and existing operations of the Technology Centre (TC) which is used as an explosive research and production facility. The approval included construction of new plant to manufacture and distribute up to 250,000 tonnes per annum of ANE, which is sold primarily to the mining industry.

The production process involves mixing ammonium and nitrate into an emulsion, which is used as an ingredient for explosives. This type of emulsion is marketed as 'fume risk reduction', which is used by the mining industry to reduce the impact of fumes from blast explosions.

The project approval also included:

- chemical storage tanks;
- an ANE manufacturing plant;
- truck loading facilities including a weighbridge;
- a new internal access road to the ANE manufacturing plant;
- utilities and stormwater infrastructure; and
- an office with control switch rooms and laboratories.

The proposal has been modified on one occasion (MP 09_0090 MOD 1) to construct:

- a water storage tank located to the north of the existing oil tanks; and
- a new storage shed (approximately 132 m²) to the south of the existing office.

4. PROPOSED MODIFICATION

On 22 February 2016, the Proponent lodged a section 75W modification application (MP 09_0090 MOD 2) seeking approval to install a cooling tower and a heat exchanger. The cooling tower is approximately 4.2 metres high and 3.5 cubic metres in size. The heat exchanger is approximately 5 metres long and 1 metre in diameter. Each piece of infrastructure is proposed to be installed within the existing ANE facility site, refer to **Figure 3**.

The proposed infrastructure would enable the cooling of the ANE at a lower temperature than it currently is, in order to meet the design product specification for the 'fume risk reduction' ANE product. The current facilities (fin-fan air cooling heat exchanger) on the site do not have the capability to cool the emulsion to the required temperature and therefore the new infrastructure would provide an improved process for the production of ANE.

No change is proposed to the production capacity of the ANE produced on the site.

The Department also notes that the proposed infrastructure would be built within the existing ANE footprint and the proposal would not impact on any undisturbed areas or vegetation surrounding the site.

5. STATUTORY CONSIDERATION

5.1 Section 75W

The project was originally approved under Part 3A of the EP&A Act. Although Part 3A was repealed on 1 October 2011, the project remains a 'transitional Part 3A project' under Schedule 6A of the EP&A Act, and hence any modification to this approval must be made under the former section 75W of the Act.

The Department is satisfied that the proposed changes are within the scope of section 75W of the EP&A Act, and do not constitute a new application.

5.2 Approval Authority

The Minister for Planning is the approval authority for the application. However, the Acting Director, Modification Assessments may determine the application under delegation as:

- the relevant local Council has not made an objection;
- a political disclosure statement has not been made; and
- there are no public submissions in the nature of objections.



6. CONSULTATION

The Department made the modification application publicly available on its website, and consulted with Cessnock City Council, Safework Australia (Work Cover), the NSW Environment Protection Authority (EPA) and the Office of Environment and Heritage (OEH) about the proposed modification. Surrounding landowners were also notified of the application in writing.

Council does not object to the proposal and noted that the cooling tower will need to be registered with Council under the *Public Health Act 2010* (Division 2 – Legionella Control) to ensure it is chemically dosed and serviced regularly.

Safework NSW does not object to the proposal but made the following comments:

- the proposal increases opportunity for pipe blockages within a pressurised system which could increase the likelihood for the ANE to be subject to high pressures and potential disastrous consequences; and
- the proponent should update safety details previously provided to Safework NSW to include the process safety implications of the proposed modifications, in accordance with the *Workplace Health and Safety Regulation 2011*.

Safework NSW recommended conditions of consents to mitigate the above issues.

The **EPA** does not object to the proposal and is satisfied the proposed modification will not impact on the current Environment Protection Licence conditions.

OEH did not raise an objection to the proposal.

No **public** submissions were received.

The application was also referred to the Department's internal hazard team. The Hazards team advised the risks associated with the proposal would not significantly change the overall risks from the facility.

7. ASSESSMENT

The key issues associated with the proposed modification are considered in **Table 1** below.

Table 1: Assessment of Key Issues

Issue	Consideration	Recommendation
<i>Visual Impact</i>	• The proposed cooling tower and heat exchanger would be located within the existing ANE facility which is approximately one km from George Booth Drive (see Figure 2) and 1.8 km from the nearest residence. • The existing facility is not visible from the road or any nearby properties, as it is screened by dense bushland. • The proposed plant would have a height of 4.2 metres, which is similar in height to the existing plant on the site and below the height of the surrounding trees. The plant itself would therefore not result in any visual impacts on the surrounding area. • As a result of the additional cooling process of the emulsion, a cloud (plume) of water vapour may occur 3 to 4 metres above the cooling tower and could potentially be visible at irregular weather events, for example at night and in cold winter mornings. • However, given the irregular frequency of the plume, its limited height above the surrounding tree line and the significant separation distance to the nearest residences, the Department's assessment concludes the proposal would not result in any unacceptable visual impacts.	No additional conditions or amendments necessary

Issue	Consideration	Recommendation
Hazard and Risk	- The Proponent prepared a hazard and operability study to assess the potential hazards and risks associated with the new infrastructure and cooling process of the ANE. The Department referred the application to its technical hazard experts and SafeWork NSW for comment. - SafeWork NSW raised concern that the proposal could increase the likelihood for the ANE to be subject to high pressures, with the potential for disastrous consequence. - SafeWork NSW suggested the inclusion of a new condition requiring the safety systems associated with the new plant to be designed in consultation with the Major Hazards unit of SafeWork NSW prior to finalising the detailed design of the plant. Safework NSW also recommended the Proponent update the required safety documentation to reflect the physical changes on the site in accordance with the requirements of the <i>Workplace Health and Safety Regulation 2011</i>. - The Department has incorporated Safework NSW's recommended conditions into the notice of modification, and strengthened one of the conditions requiring the safety measures to be incorporated to the satisfaction of SafeWork NSW to ensure all potential on-site risks associated with the proposal would be appropriately minimised. - The Department's hazards specialists also reviewed the proposed modification and associated hazard report and were satisfied the risks associated with the proposed new infrastructure would: - not significantly impact the overall risks from the facility; or - result in further risks off-site to surrounding land uses. - The Department also notes the original approval includes a suite of conditions to appropriately manage the hazards and risks associated with the facility. The Department has recommended additional conditions to ensure all potential hazards and safety aspects associated with the proposed new infrastructure are included. - Subject to the new conditions the Department is satisfied the risks associated with the proposal would be appropriately mitigated and managed.	The Department recommends five new conditions of the approval regarding hazards and risks.
Operational Noise	- The proposal outlines the sound level associated with the proposed new plant would be consistent with the existing plant on the site, with no discernible impact on the nearest residential properties. - The Department is therefore satisfied that the proposal would not result in any additional noise impacts beyond those already assessed and approved. - The Department also notes an existing condition of approval (Condition 18) sets operational noise limits, which would adequately manage operational noise impacts associated with the proposal.	No additional conditions or amendments necessary
Environmental Protection Licence	- The site operates under an existing Environmental Protection Licence (EPL) which includes conditions to manage potential environmental impacts associated with the facility. The EPA confirmed the proposed modification would not affect compliance with the existing EPL. - The Department is therefore satisfied the modified facility would continue to operate in accordance with the requirements of the EPL.	No additional conditions or amendments necessary
Water	- The proposed cooling infrastructure would increase the total water usage by approximately 4.5% at peak production levels. However, all waste water from the cooling tower would be recycled through the plant equipment and no additional water discharge is required. - The Department is therefore satisfied the proposal would not result in any adverse impacts as a result of the increased water usage. - Further, existing conditions and commitments under the existing approval include measures to appropriately manage water usage on the site.	No additional conditions or amendments necessary
Traffic	- The proposed modification would result in one additional truck movement per day to supply additional water to the cooling tower. - The Department's assessment concludes the additional traffic movement is minor and the proposal would not result in any adverse traffic impacts.	No additional conditions or amendments necessary

8. CONCLUSION

The Department has assessed the modification application and supporting information in accordance with the relevant requirements of the EP&A Act. The Department's assessment concludes that the proposed modification is appropriate on the basis that:

- the proposal would not result in any adverse visual or other environmental impacts beyond those already assessed and approved; and
- the Department has recommended the inclusion of the conditions suggested by SafeWork NSW to ensure any potential risks associated with the proposal are appropriately minimised.

Consequently, it is recommended that the modification be approved subject to the recommended conditions.

9. RECOMMENDATION

It is RECOMMENDED that the Acting Director Modification Assessments, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **approves** the application under section 75W, subject to conditions; and
- **signs** the notice of modification (**Appendix A**).



Fiona Gibson
Acting Team Leader
Modification Assessments



Anthony Witherdin
Acting Director
Modification Assessments

APPENDIX A: NOTICE OF MODIFICATION

A copy of the notice of modification can be found on the Department of Planning and Environment's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7519

APPENDIX B: SUPPORTING INFORMATION

The following supporting documents and supporting information to this assessment report can be found on the Department of Planning and Environment's website as follows:

1. Modification request

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7519

2. Submissions

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7519

3. Response to Submissions

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7519