

ASSESSMENT REPORT

Orica Ammonium Nitrate Facility, Kooragang Island Modification to Increase Ammonia Production Limit (08_0129 MOD 3)

1. BACKGROUND

Orica Australia Pty Ltd (Orica) owns and operates an ammonium nitrate manufacturing facility at 15 Greenleaf Road on Kooragang Island in the Port of Newcastle (see **Figure 1**).



Figure 1: Site Location

1.1 Site Context

The site is located on Kooragang Island, which is located between the north and south arms of the Hunter River Estuary within the Port of Newcastle. The island was originally created during the 1950's and 1960's through extensive land reclamation activities and has grown steadily ever since. The southern part of the island supports heavy industrial uses, transport and distribution infrastructure, waste emplacement and a range of port-related facilities.

Orica's facility is located on Walsh Point, which covers the south eastern tip of Kooragang Island. Other industrial operators on Walsh Point include Cement Australia, Cargill, Graincorp and Incitec Pivot Limited (IPL). The Kooragang Island Berth No.'s 2 and 3 are located immediately west of Orica's facility and are used for the import and export of dry bulk products such as cement, grains and raw materials for the Tomago Aluminium Smelter, and for bulk liquids including fuel and vegetable oil. Orica utilises Kooragang Berth No. 2 for the export of ammonia. The site has good road connections with Heron Road to the west and Greenleaf Road to the east, both connecting with Cormorant Road to the north.

The IPL facility is located on Orica's northern site boundary and was a part of Orica until 2006 when Orica divested IPL. The western portion of the IPL site is currently used as a primary distribution facility for IPL's solid and liquid fertiliser product range and is also used to distribute relatively low volumes of certain industrial chemicals. In 2014, IPL obtained approval to build an ammonium nitrate manufacturing facility on the site, however at this stage construction has not commenced.

The nearest residential community to the Orica facility is in Stockton, which is located on a peninsula some 800 metres to the east. Other nearby residential areas include Fern Bay to the north-east, Carrington to the south-west and Mayfield to the west, which are located between 1 and 2 kilometres away.

1.2 Existing Facility

Orica manufactures ammonia, nitric acid and ammonium nitrate (AN). AN is predominantly used as a commercial explosive for the mining industry in the Hunter Valley. Small amounts of ammonia and nitric acid are also sold for industrial uses.

When the site first began operations in 1969, it included an Ammonia Plant, a Nitric Acid Plant (NAP1) and an Ammonium Nitrate Plant (AN1), producing around 150,000 tonnes per annum (tpa) of ammonium nitrate (AN) for agricultural industries. A second nitric acid plant (NAP2) and AN plant (AN2) were constructed in 1989 increasing the AN production to 365,000tpa. In 1998 a third nitric acid plant (NAP3) was approved, and was completed in 2004. This increased the approved AN production from the facility to 500,000tpa.

1.3 Expansion Project

On 1 December 2009, the then Minister for Planning approved a Major Project Application (08_0129) from Orica for a major expansion of the facility. The expansion also involved modernising some older plant and infrastructure and implementing a series of risk reduction measures. The 2009 approval permitted Orica to increase overall production levels from:

- 500,000 to 750,000tpa of AN;
- 295,000 to 360,000tpa of Ammonia; and
- 345,000 to 605,000tpa of NA.

The major items of infrastructure required to support the expansion are shown on **Figure 2** and include:

- modification of the existing Ammonia Plant to increase capacity and efficiency;
- installation of a fourth Nitric Acid Plant (NAP4);
- installation of a third Ammonium Nitrate Plant (AN3);
- additional storages for nitric acid, ammonium nitrate and ammonium nitrate solution; and
- upgrade of existing infrastructure including cooling towers, air compressors, loading facilities, electrical systems, effluent treatment systems and the steam system.



Figure 2: Orica's Existing Facility and Approved Infrastructure for the Expansion Project

The approved expansion project is being progressively implemented and is currently split into a series of phases, stages and sub stages, as summarised in Table 1 and illustrated in **Figure 2**.

Table 1: Expansion Project – Construction Phases

Phase	Stage	Description	Status
Ammonia Plant Upgrade			
1	1a	Plant air compressor building	Operational
	1b	Install new air compressor, process vessels, pipework and instruments in ammonia plant	Operational
Nitric Acid and Ammonium Nitrate Manufacture Increase			
2	2a	Installation of new site infrastructure and AN Solution product storage and despatch facilities	On hold
	2b	Construction of new AN Bag store, AN Despatch facilities and amenities, demolition of existing AN Bag store and despatch, construction of new AN Bulk Store, modification to existing AN bulk store, construction of WANS, construction of new control room and electrical infrastructure	On hold
3	3a	Construction of the NAP4/ ANS Plant and tie-ins. Construction of new Nitric Acid Storage, Ammonia Storage, Boiler, Cooling Tower, Demin Plant expansion, instrument air upgrades, new Ammonia pumps, pipebridges & transfer lines	On hold
	3b	Construction of ANP3 Dry Section plant and tie-ins	On hold
4	4	Construction of Nitric Acid Tank and scrubber	On hold
Ammonia Management Improvement Project			
5	5	Construction and operation of 3 ammonia Flares (MOD 2)	2 flares constructed and currently being commissioned.

1.4 Modifications to the Expansion Project

The expansion project (08_0129) has been modified twice. On 11 July 2012, the then Minister's delegate approved a request from Orica (MOD 1) to modify the existing layout of the expansion project and to carry out a series of risk reduction measures aimed at improving the handling and management of ammonia at the facility. Partway through the assessment of the modification and in response to the incident that occurred on 8 August 2011 (see Section 1.5), Orica made a commitment to implement further risk reduction measures which were subsequently approved as part of MOD 1.

On 17 December 2014, the then Minister's delegate approved a second modification (MOD 2) for Orica to install a higher capacity NA storage tank on the site and relocate it to the western part of the site. The modification enables Orica to increase AN production levels from 400,000tpa to around 505,000tpa, until such time as market conditions improve in the mining industry and Orica constructs the approved NAP4 and ANP3. MOD 2 also included further ammonia management improvement measures, including construction of three flares. The flares would be activated during plant upsets to safely manage ammonia and avoid releases to atmosphere (the flares have a destruction efficiency of 97%). Two of the flares have been constructed and are currently being commissioned.

1.5 Orica Incidents

Between October 2010 and December 2011, a series of incidents took place at Orica's facility. The most significant of these incidents occurred on 8 August 2011 when there was an airborne release of sodium chromate solution from a vent stack in the Ammonia Plant. This resulted in a diluted aqueous solution of sodium chromate being released into the atmosphere which dispersed as far as Stockton for a 15 to 20 minute period.

The Environment Protection Authority (EPA) immediately placed a notice on Orica's Environment Protection Licence (EPL) preventing the company from continuing to operate the facility, pending investigations into the incident, and established an 'Interagency Start-Up Committee' to determine when it was safe for Orica to recommence operations.

There were two independent investigations into the incident: one was undertaken by Mr Brendan O'Reilly for the then Premier of NSW and the second was carried out by a Select Committee on

behalf of the NSW Legislative Council. Following detailed consideration of the findings of these investigations, the Interagency Committee determined to lift the 'shut down' notice. Orica safely restarted its operation on 29 February 2012.

Orica was convicted and penalised in relation to charges brought by the EPA for these incidents, including a financial penalty for the 8 August 2011 incident which is being spent on environmental improvement works in Newcastle. The sentence hearing took place in the Land and Environment Court of NSW in December 2012 and the Court handed down the penalties judgment on 28 July 2014.

1.6 Ammonia Management Improvement Program

In 2012, Orica made a commitment to invest in a capital works program to improve and upgrade the Kooragang Island facility. As part of this program, Orica consolidated the ammonia improvement work carried out in response to the incidents during 2010-2011 and further developed this work into an Ammonia Management Improvement Program (AMIP).

The AMIP was specifically tasked with investigating and identifying further opportunities to reduce risks associated with the existing ammonia handling systems onsite and, since completing the AMIP review in early 2013, several ammonia handling, capture and treatment design improvements have been identified, which Orica has begun to implement.

The AMIP is made up of 4 key areas:

1. simplification of the ammonia distribution network;
2. improving the integrity of ammonia feed tanks;
3. improving the site's ammonia collection and scrubbing capability; and
4. installing 3 flare systems (2 ammonia and 1 nitrates flares) to safely manage large emergency releases of ammonia into the atmosphere during process upsets (MOD 2).

1.7 Ammonia Plant

Orica produces ammonia on the site and uses it as a feed source in the production of AN. The expansion project approved an uprate of the ammonia plant, which was undertaken as Phase 1 and was completed in 2012. Following commissioning of the modified ammonia plant, Orica has improved its reliability, with it now being able to operate continuously for a period of 18 months before being shut down for routine maintenance. Given the improved reliability, Orica now proposes to increase the annual production limit for ammonia as a result of these improvements in efficiency.

2. PROPOSED MODIFICATION

In May 2015, Orica lodged an application with the Department under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to modify the existing approval to increase the approved ammonia production rate from 360,000tpa to 385,000tpa.

Since the uprate of the ammonia plant in 2012, Orica has progressively improved the reliability of the plant, with it now capable of operating continuously for a period of 18 months before requiring routine maintenance.

In the Environmental Assessment (EA) for the original expansion project, Orica assessed the impacts of the ammonia plant operating at a daily production rate of 1,050 tonnes/day (t/day) for 365 days a year, which equates to 383,250tpa. However, in the project application, Orica sought and obtained approval for an annual production rate of 360,000tpa, which assumed that the plant would be shut down for an approximate period of 22 days each year for routine maintenance.

Following commissioning of the ammonia plant, it is now evident that the plant can run continuously at a rate of 1,050 t/day for a period of approximately 18 months before requiring maintenance. Hence, Orica is seeking to increase the annual production limit for ammonia, to reflect the improved plant

reliability. The daily production rate would remain at 1,050 t/day, which equates to an annual production limit of approximately 385,000tpa.

The modification does not require any physical works to the ammonia plant or any new infrastructure. There would be no corresponding increase in the production limits of nitric acid or ammonium nitrate. The modification would result in a temporary increase in ship exports (an additional 11 ships per year) from the Kooragang Island Berth No. 2 as surplus ammonia that is not used on the site would be exported to Orica's facility in Gladstone, Queensland. The environmental assessment (EA) submitted to support the modification application is included in Appendix D.

Orica has also requested a minor amendment to the flare activation reporting requirements included in the project approval as part of MOD 2, following amendment of its Environment Protection Licence (EPL) by the Environment Protection Authority (EPA) on 23 September 2015. The amendment would ensure that the project approval is consistent with the EPL.

3. STATUTORY CONTEXT

3.1 Section 75W

In accordance with Clause 12 of Schedule 6A of the EP&A Act, Section 75W of the Act as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A, continues to apply to transitional Part 3A projects.

Under Section 75W of the EP&A Act, the Minister is obliged to be satisfied that what is proposed is indeed a modification of the original proposal, rather than being a new project in its own right.

The Department notes that:

- the proposed modification represents a minor change to the annual ammonia production limit to reflect the improved efficiencies achieved in the uprate of the ammonia plant;
- the modification would not increase the approved nitric acid or ammonium nitrate production rates and would not require any physical works or new infrastructure;
- the primary function and purpose of the approved project would not change as a result of the proposed modification;
- the modification is of a scale that warrants the use of Section 75W of the EP&A Act; and
- any residual environmental impacts would be minimal and are able to be appropriately managed through the existing or modified conditions of approval.

Therefore, it is considered that the proposed modification is within the scope of Section 75W of the EP&A Act. Consequently, the Department considers that the application should be assessed and determined under Section 75W of the EP&A Act rather than requiring a new development application to be lodged.

3.2 Approval Authority

The Minister was the approval authority for the original project approval, and is consequently the approval authority for this application to modify it.

On the 16 February 2015, the Minister for Planning delegated responsibility for the determination of section 75W modification applications to Directors and Managers who report to an Executive Director in the Planning Services Division where:

- the relevant 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.

The modification complies with the terms of the delegation as Newcastle Council does not object to the proposal, a political disclosure statement has not been made in relation to the application, and no public submissions were received in the nature of objections. Accordingly, the Manager, Industry Assessments may determine the application in accordance with the Minister's delegation.

4. CONSULTATION

4.1 Consultation by the Proponent

On 25 May 2015, Orica briefed its Community Reference Group (CRG) on the proposed modification and provided an overview of the modification in its community bi-monthly newsletter which is distributed to over 6,000 households in surrounding areas including Stockton, Fern Bay, Mayfield East, Carrington, Maryville and Tighes Hill.

4.2 Consultation by the Department

Under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the Department is not required to notify or exhibit the modification application. However, following a review of the application, the Department:

- publicly exhibited the EA for a period of 15 days from **Tuesday 9 June 2015** until **Tuesday 23 June 2015**:
 - on the Department's website;
 - at the Department of Planning and Environment's Information Centre (Sydney);
 - at the Department of Planning and Environment's Newcastle Office;
 - at the City of Newcastle Council; and
 - at the Nature Conservation Council.
- advertised the public exhibition in the Newcastle Herald newspaper on Friday 5 June 2015; and
- consulted with Council and other relevant government agencies.

The Department received 4 submissions during the exhibition period, all from Government agencies. No submissions were received from the public or special interest groups. A summary of the issues raised in submissions is provided below.

The **City of Newcastle Council (Council)** did not object to the modification and raised only one matter for consideration. Council questioned whether the cost of the development would increase as a result of the modification and therefore whether an increased development contribution under Council's *Section 94A Contributions Plan* is warranted.

The **Environment Protection Authority (EPA)** did not object to the modification and noted that the ammonia plant is currently meeting concentration compliance limits and the modification would not increase local concentrations of nitrogen oxides (NOx) greater than predicted and approved in the original expansion project. The EPA noted that the only additional noise source as a result of the modification relates to the 11 additional ships docking annually at Kooragang Berth No. 2, however the EPA does not regulate ship noise. The EPA advised that the EPL would not need to be amended due to the modification and therefore did not recommend any additional or modified conditions.

WorkCover NSW (WorkCover) requested some minor clarifications regarding the calculations used in the hazard assessment, specifically in relation to the piping and transfer of ammonia to ships for export. Following clarification by Orica, WorkCover provided a recommended condition requiring risk reduction measures for shipping operations.

Roads and Maritime Services (RMS) did not object to the modification as it would have no impact on the classified road network. Maritime Operations advised that they envisage no impact to navigation and therefore raised no objection to the modification.

4.3 Response to Submissions

On 6 October 2015, Orica provided a response to submissions. The Department reviewed the response to submissions and requested some clarifications from Orica on the hazard assessment. Specifically the Department requested confirmation regarding the various scenarios modelled and the utilisation factors applied to the equipment associated with ammonia loading and unloading activities. Orica provided an updated assessment on 25 November 2015, which was reviewed and accepted by the Department.

5. ASSESSMENT

The Department has assessed the merits of the proposed modification and has considered the:

- EA and Director-General's assessment report for the original project application;
- existing conditions of approval (as modified);
- the EA supporting the proposed modification (Appendix D);
- submissions from government authorities (Appendix C);
- the Proponent's response to submissions (Appendix B);
- relevant environmental planning instruments, policies and guidelines; and
- requirements of the EP&A Act, including the objects of the Act.

The Department considers that the modification would have only minor impacts, with hazards and risks, noise and air quality the key issues. The Department's assessment of other issues is provided in **Table 4**.

5.1 Hazards and Risks

The production, handling and storage of AN and NA presents various hazards and risks. The modification has the potential to alter the existing hazard and risk profile of the facility, therefore a review of the preliminary hazard analysis (PHA) for the site was undertaken as part of the EA (see Technical Note contained in the EA in Appendix D).

The modification seeks to increase the production of ammonia at the site from 360,000tpa to 385,000tpa, which would result in a temporary increase in ship exports of ammonia from the site. There are currently 16 ships per year exporting ammonia to Orica's Queensland facility. This would increase to 27 ships per year until the approved nitric acid plant (NAP4) and ammonium nitrate plant (AN3) are constructed. The surplus ammonia would then be utilised on the site in the production of AN and ship movements would reduce to 5 ships per year. The loading/unloading ammonia pipeline from the site to the Kooragang Berth No. 2 has been considered in the assessment of hazards and risks for the modification as it is directly related to the modification, however the works have already been assessed and approved as part of the expansion project.

The Technical Note submitted to support the modification was reviewed by the Department's hazards specialist and WorkCover. Following requests for clarification, the hazard assessment was further updated and a revised Technical Note was issued by GHD on 2 July 2015. Further detail was also provided on 25 November 2015 on the utilisation factors applied to the equipment associated with the ammonia loading/unloading activities.

The hazard assessment estimated the overall risks from the facility for three cases. These included the base case (the current plant configuration including MODs 1 and 2), the current case (representing the increase in ammonia production and ship movements associated with MOD 3) and the future case (following construction of NAP4 and AN3 and a reduction in ship movements). All cases were modelled applying relevant utilisation factors. The risks from a theoretical worst-case were also estimated in order to calibrate the model to ensure that it appropriately estimated the risks associated with increased ammonia shipments.

The overall risks, including the risks from the modification itself, were estimated and risk contours were provided. The results show that the overall risks from the site are not significantly changed as a result of the proposed modification. Hence, the risks from the export of ammonia are very low and their impact on the overall risks is negligible. For the theoretical worst-case scenario, the model demonstrated that the fatality and injury risk contours were unchanged and there was a marginal increase in the irritation contour as a result of increased ammonia shipments, however the contour does not encroach onto any residential land use, hence it continues to comply with the relevant land use safety criterion.

The Department's assessment concluded that the risk assessment methodology is sound and well applied and that the risks related to all cases, including MOD 3, would not significantly impact the overall risks from the facility. Hence the risks from the site following implementation of MOD 3 would satisfy the risk criteria for land use safety planning.

Notwithstanding, the Department has recommended modifying the existing conditions to ensure that the hazard studies cover each stage of the project, as modified. In addition, the hazard audit condition has been modified to ensure that the audit scope includes the modified project.

WorkCover also reviewed the hazard assessment and noted that the risks associated with ship loading would be highest under the MOD 3 case when ship movements are at 27 ships per year. WorkCover noted that the Work Health and Safety legislation in general and the Major Hazard Facilities (MHF) Chapter in the Work Health and Safety Regulation in particular, require that risks are reduced to so far as is reasonably practicable (SFARP). Therefore, WorkCover recommended the following condition, which the Department has incorporated into the modified approval:

- Orica shall ensure that the risk associated with increased shipping operations is reduced to so far as is reasonably practicable (SFARP), consistent with Work Health and Safety Regulation requirements and compliant with the land use criteria detailed in the NSW Department of Planning *Hazardous Industry Planning and Advisory Paper 4* (HIPAP 4), during each stage of the Project. Records of the risk reduction identification and implementation process shall be maintained.

Given the hazards and risks from the modified facility satisfy the relevant land use safety criteria, the Department has recommended modifying Condition 5 of Schedule 2 to change the production limit for ammonia from 360,000tpa to 385,000tpa.

5.2 Noise

The nearest residential receivers to the facility are located at Stockton, 800m to the east. Other residential areas include Carrington 1.5km to the south-west and Mayfield, 2km to the west. The original project approval required noise levels from operation of the expansion project to be at least 10dB(A) below pre-expansion levels. These conditions were designed to ensure that noise levels from the facility did not increase as a result of the expansion project.

The EA included a Noise Impact Assessment (NIA) for the modification, which included:

- a discussion of noise monitoring data from 2009 (pre-expansion) and 2014 (Phase 1 of the expansion project operating);
- discussion of Orica's existing noise management plan (NMP) including the specific reduction measures implemented on the ammonia plant; and
- an assessment of noise from the increase in ships exporting surplus ammonia.

The NIA notes that as the modification does not require any new infrastructure and would not increase road traffic, no assessment of these aspects is required. The Department agrees with this approach and notes that the EPA also agreed that the only additional noise source as a result of the modification relates to the 11 additional ships docking and loading at Kooragang Berth No. 2. The EPA also advised that it does not regulate ship noise and would not need to amend the EPL.

The NIA modelled worst-case noise levels for two different ship types and compared these against the project specific noise criteria, which are set at 10dB(A) below pre-expansion levels, see **Table 2**. The NIA also considered residential receivers in Mayfield to the west (R West), given that Kooragang Berth No. 2 is located to the west of the Orica facility, see **Figure 2**.

As shown in Table 2, the additional 11 ships annually are predicted to generate noise levels 7dB(A) below the project specific noise criteria, which is 17dB(A) below pre-expansion levels. The NIA concludes that the additional ships would not increase noise levels above that of the existing operations and would therefore have a negligible impact on all residential receivers.



Figure 2 – Noise Receiver Locations and Kooragang Berth No. 2

Table 2: Predicted Noise Levels from Ships

Receiver	Low Ship Noise Scenario	High Ship Noise Scenario	Project Specific Noise Criteria
R4	32	37	52
R5	34	39	47
R6	34	39	46
R West	25	30	N/A

The NIA also notes that Orica has implemented a range of noise reduction measures. Those specific to the ammonia plant include:

- installation of an acoustic treated building for the ammonia plant process air compressor;
- installation of a converter quench valve station to reduce high frequency valve/pipe noise on the ammonia plant;
- decommissioning of two ammonia process air compressors;
- management of venting of surplus low pressure steam on the ammonia plant; and
- assessment of ammonia plant start-up noise levels.

Orica's NMP also requires regular noise monitoring to demonstrate on-going compliance with the project specific noise criteria.

The Department concludes that noise levels from the modification would be temporary and limited to the additional ship movements, which would be well below the project specific noise criteria and therefore would not increase noise levels above that of the existing operation. Orica has implemented a range of noise reduction measures and has demonstrated on-going compliance with its noise criteria. The Department considers that the existing conditions are adequate for the on-going management of noise from the modified project and no additional conditions are required.

5.3 Air Quality

Air quality in Newcastle is dominated by motor vehicle emissions and major industry located around the Port of Newcastle. Significant industry that would contribute to air emissions in the area include coal transportation, woodchip and grain loading facilities, aluminium smelting, seed processing, a coal tar facility and fertiliser storage and dispatch. The primary emissions from the Orica facility include oxides of nitrogen (NO_x) from the nitric acid plants and gas fired boiler and particulate matter (dust and PM₁₀) and ammonia (NH₃) from the ammonium nitrate plants and prill tower.

The EA included an air quality assessment (AQA) that assessed the potential changes to oxides of nitrogen (NO_x) emissions and resultant nitrogen dioxide (NO₂) concentrations from the modification. The AQA compared modelled emissions from the original project approval (2009) and the modified project (2014), with measured emissions taken in 2013 and 2014, when the ammonia plant was operating close to the maximum production rate of 1,050tpd. These were compared against the EPA's impact assessment criteria for NO₂ and the EPL limits for NO_x. As there are no changes to other plant or equipment, only the ammonia plant and nitrates boiler were considered in the AQA.

A summary of the worst-case modelled and measured emissions is provided in Table 3.

Table 3: Comparison of Modelled and Measured Emissions (mg/m³)

Location	Modelled NO _x 2009	Modelled NO _x 2014	Measured NO _x 2013/14	NO ₂ equivalent	EPL Limit (NO ₂ equivalent)
Pre-Reformer Stack	234	234	60	90	350
Reformer Stack	313	234	230	348	350
Boiler Stack	234	184	81	124	1000

The AQA noted that the measured emissions of NO_x were below the modelled emissions of the approved project and were below the EPL NO₂ equivalent emission limit. The AQA concluded that the proposed increase in ammonia production rate would not result in local NO₂ concentrations greater than those previously approved.

The EPA noted that the ammonia plant is currently meeting concentration compliance limits and the modification would not increase local concentrations of NO_x greater than predicted and approved in the original project application.

The Department concludes that operation of the ammonia plant at a production rate of 385,000tpa would not increase emissions of NO_x or NO₂ concentrations above the limits in the EPL or above the levels previously approved for the expansion project. The Department notes that the existing conditions require Orica to verify the emissions of the project through monitoring and to implement further measures to reduce emissions, should the regulatory criteria be exceeded. The Department considers that the existing conditions are adequate for managing air emissions from the modified project and does not recommend any additional conditions.

5.4 Other Issues

Table 4: Assessment of other issues

Issue	Assessment	Recommendation
Transport	- There would be no increase in road traffic as a result of the modification as there would be no increase in AN production. - The modification would result in an increase of 11 ships per year at the Kooragang Island Berth No. 2 for the export of surplus ammonia to Orica's facility in Queensland. - The total number of ships from the modified project would be 27 ships a year. - The increase in ships is considered to be negligible (<1%) in the context of overall ship movements within the Port of Newcastle (approximately 2,200 ships/year). - RMS advised that they envisage no impact to navigation as a result of the modification. - The Department concludes that the increase in ship movements would be negligible.	No additional conditions are required.

Issue	Assessment	Recommendation
Development Contributions	• Council questioned whether the cost of the development would increase as a result of the modification and therefore whether an increased development contribution under Council's Section 94A Contributions Plan is warranted. • The project approval required Orica to pay \$272,000 in development contributions, which were paid by Orica in 2010 following agreement with Council. • In its RTS, Orica confirmed that the cost of the development would not increase due to the improved efficiency achieved in the ammonia plant uprate. There is also no change to the existing buildings, plant or equipment on site due to the modification. • The Department concludes that additional S94A development contributions are not warranted as a result of the modification as it does not involve any further capital investment, increased jobs or demand on local services.	No amended conditions are required.
Greenhouse Gas (GHG)	• The proposed increase in ammonia production would increase GHG emissions from the inputs of energy required to produce ammonia. • The EA for the original project application assessed the GHG emissions from the ammonia plant operating at 1,050t per day, therefore, the emissions from the modification would not change from those assessed and approved in the original project application.	No additional conditions are required.
Flare Activation Reporting	• Orica requested an amendment to Condition 51C of Schedule 4 to ensure consistency with its EPL. • Condition 51C requires Orica to provide a flare activation report to the Secretary within 7 days of a flare activation and includes specific details to be included in the report. The condition was recommended by the EPA in its submission on MOD 2, and was subsequently included in the modified project approval. • Following the recent commissioning of the flares, Orica obtained a variation to its EPL in September 2015, which included a variation to the flare activation reporting requirements, including timing and specific parameters to be reported (Condition R4.2 of the EPL). These requirements were amended after consultation with the EPA. • The Department consulted the EPA, and the EPA advised that it had no objection to the amendment of Condition 51C in the project approval. • The Department has modified the condition to be consistent with the EPL.	Modify the wording in Condition 51C of Schedule 4 to be consistent with the wording of Condition R4.2 of the EPL.

6. CONCLUSION

The Department has assessed the proposed modification in accordance with the requirements of Clause 8B of the EP&A Regulations. This assessment has found that the proposed modification:

- would result in negligible change in the hazard and risk profile of the approved project, with the modified facility meeting relevant land use safety criteria;
- would result in negligible environmental impacts beyond the approved project;
- would allow Orica to increase its ammonia production rate due to improved efficiency in the ammonia plant; and
- would not increase the approved NA or AN production rates.

The Department has assessed the merits of the proposal in accordance with the requirements of the EP&A Act. This assessment has found that the proposed modification is unlikely to cause any significant impacts.

Consequently, the Department is satisfied that the modification is in the public interest and should be approved, subject to conditions.

7. RECOMMENDATION

It is RECOMMENDED that the Director, Industry Assessments:

- **approve** of the proposed modification under Section 75W of the EP&A Act; and
- **sign** the attached notice of modification (see Appendix A).

Deana Burn
17.12.15

Deana Burn
Specialist Planner
Industry Assessments

C. Ritchie
17/12/15

Chris Ritchie
Director
Industry Assessments

APPENDIX A: NOTICE OF MODIFICATION

See separate file at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7059

APPENDIX B: RESPONSE TO SUBMISSIONS

See separate file at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7059

APPENDIX C: SUBMISSIONS

See separate files at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7059

APPENDIX D: ENVIRONMENTAL ASSESSMENT

See separate file at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7059