Bulk Fuel Storage Facility, Mayfield
Marstel Terminals Pty Ltd
20 April 2012
Document No. 1

Submissions Report

Proposed Bulk Fuel Storage Facility, Mayfield NSW

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Prepared for

Marstel Terminals Pty Ltd

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20 April 2012

60212365

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Quality Information

Document Submissions Report

Ref 60212365

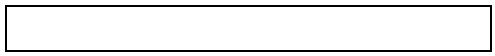
Date 20 April 2012

Prepared by Simon Murphy

Reviewed by Renae Gifford

Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
A	03-Feb-2012	For Draft	Troy Collie Technical Director - Environment	
B	20-Apr-2012	Final	Troy Collie Technical Director - Environment	



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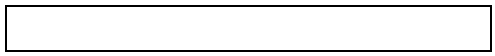


1.0 Introduction

1.1 Overview of the Project

Marstel Terminals Pty Ltd (Marstel) proposes to construct and operate a bulk liquid storage facility (the Proposed Facility) on industrial land managed by the Newcastle Port Corporation (NPC) at their Mayfield Concept Plan site, Newcastle, New South Wales. The Proposed Facility would be used to receive, store and distribute high quality diesel and biodiesel for customers throughout the Hunter Region.

The Proposed Facility would comprise:

- Use of an existing ship berthing facility (Mayfield 4 (M4)) to deliver fuels from bulk tankers to the terminal.
- Storage of bulk fuels in above ground tanks; and
- Distribution of fuels by road tankers.

The Proposed Facility would be open for product dispatch via road and fuel delivery by ship 24 hours per day.

1.2 Overview of the EA Planning Approval Process

Project Approval is being sought for the proposed bulk liquids storage facility. In accordance with the provisions of the *Environmental Planning and Assessment Act 1979* and the *Environmental Planning and Assessment Regulation 2000*, an Environmental Assessment (EA) was required to be prepared for the project.

Under Section 75H (3) of EP&A Act, the Director General of the Department of Planning and Infrastructure (DP&I) was required to exhibit the EA for a period of '*at least 30 days*'. An advertisement was placed in local and regional papers by the DP&I indicating the exhibition period for the EA would be between 15 November 2011 and 23 December 2011, during which time submissions could be made to the DP&I.

The EA was made available on the DP&I web site (http://majorprojects.planning.nsw.gov.au/) and was exhibited at the following locations:

- Newcastle City Council, City Administration Centre 282 King Street Newcastle; and
- Department of Planning, Head Office 23 – 33 Bridge Street Sydney NSW 2000.

In addition, the EA was supplied to the following Government agencies:

- Newcastle City Council (NCC);
- NSW Health – Hunter New England Local Health District;
- Roads and Maritime Services (RMS);
- NSW Maritime (Roads and Maritime Services);
- NSW Office of Environment and Heritage (OEH);
- Department of Primary Industries – Office of Water;
- Fire and Rescue NSW;
- Hunter Development Corporation (HDC); and
- Environment Protection Authority (EPA).

The submissions received during the exhibition period form the basis of this Submissions Report.

Consultation with key stakeholders continued through and in some cases beyond the exhibition period. This included discussions with representatives of community groups.

1.3 Purpose of this Report

The purpose of this report is to detail and provide responses to issues raised in submissions received during the EA exhibition period from private individuals, community groups and Government agencies.

1.4 Structure of this Report

This Submissions Report has been set out to address each of the issues raised in the submissions on the EA and is structured as follows:

- **Chapter 1** provides an overview of the Proposed Facility, the EA process and the Submissions Report purpose and structure.
- **Chapter 2** provides a summary of the submissions received and outlines the key issues raised in the submissions.
- **Chapter 3** provides responses to each of the issues raised in submissions received from State and local Government agencies.
- **Chapter 4** provides responses to each of the issues raised in submissions received from private individuals.
- **Chapter 5** provides a response to key issues raised in submissions as they relate to key issued raised by both government agency and private individual submissions.
- **Chapter 6** presents the amended Statement of Commitments and justification for project approval.
- **Appendix A** presents the submissions received from State and local Government agencies.
- **Appendix B** presents the submissions received from interest groups and individuals.
- **Appendix C** presents the revised Air Quality Impact Assessment.
- **Appendix D** presents the revised Noise and Vibration Impact Assessment.

2.0 Summary of Submissions

2.1 Submissions Process

During the exhibition period, submissions regarding the proposed project were accepted by the DP&I. Submissions were numbered as received and provided to the Proponent for a response. All submissions were reviewed and issues raised have been addressed in this Submissions Report.

2.2 Submissions Received

In total, 27 submissions were received (excluding duplicate submissions).

Nine submissions were from State and local Government agencies including:

- Environment Protection Authority (EPA);
- Fire and Rescue NSW;
- Hunter Development Corporation (HDC);
- Newcastle City Council (NCC);
- NSW Office of Water (NOW);
- Newcastle Port Corporation (NPC);
- NSW Health;
- NSW Maritime;
- NSW Roads and Maritime Services (RMS) Infrastructure Services; and
- RMS Planning, Environment and Spatial Information.

Eighteen submissions were received from the general public, including special interest groups, neighbouring industry and individuals:

- Correct Planning & Consultation for Mayfield Group (CPCFM);
- Mayfield East Public School P&C Association;
- Onesteel; and
- Fifteen submissions were from individuals resident in the area.

2.3 Key Issues Raised in Submissions

Submissions received were reviewed and tabulated and are provided in **Table 1** and **Table 2**. A summary of the key issues raised is provided below, and considered in detail in **Chapter 5.0** of this Submissions Report.

2.3.1 Traffic

Potential traffic impacts were raised by community member submissions. Potential traffic issues raised included traffic generation and the impacts of the Proposed Facility on the local road network. Justification for the proposed use of road transport to distribute fuel was requested.

2.3.2 Noise

Potential noise impacts on residents were raised by submissions from community members including impacts on both residents and schools in Mayfield.

2.3.3 Air Quality

Potential air quality impacts were raised by both community and Government agency submissions in relation to both the way predicted impacts were modelled and assessed, and how impacts would affect surrounding land users.

2.3.4 Safety and Risk

Several community submissions raised the matter of safety and risk issues associated with the Proposed Facility. This included the potential hazards generated by the Proposed Facility alone, and potential cumulative risks associated with other industrial facilities in and around the Port of Newcastle.

2.3.5 Planning Matters

Submissions particularly from the Mayfield residential group raised the matter of the correct application of planning assessment procedures and the application of tests when determining proposals.

3.0 Response to Agency Submissions

This chapter contains a summary of all submissions received from agencies and Marstel's response to each of the submissions received. Note that in some instances the "issue" has been paraphrased. The submissions are grouped by agency and make reference to relevant sections of the EA or other documents for further detail. The revised Statement of Commitments is detailed in **Chapter 6.0** of this Submissions Report. Refer to **Appendix A** for full submission issue details.

Table 1 Response to Agency Submissions

No.	Issue	Response	Reference
EPA			
EA Adequacy			
1	The EPA advises that the EA is inadequate for determination. The EPA is unable to appropriately assess the proposal and its potential environmental impacts. Accordingly the EPA is unable to provide any recommended conditions of approval in respect of this proposal.	Noted. EPA's questions are addressed in this Submissions Report. The Air Quality Impact Assessment (AQIA) has been revised and is included at **Appendix C** to this Submissions Report.	Refer to **Appendix C.**
Air Quality (Details are provided in EPA Attachment 1 provided with their submission)			
2	<u>Tank Types</u> The assessment is based on tanks that have internal floating roofs. The EPA considers this to be unlikely for the storage of diesel and biodiesel. If the tanks do not have internal floating roofs, the emission estimates and AQIA need to be revised. It is likely that the tanks at the Marstel Terminals proposal will use 'vertical fixed roof tanks' rather than 'internal floating roof tanks'. This will significantly impact the estimated emissions for the proposed facility. The EPA recommends that the proponent confirm that all storage tanks are internal floating roof tanks.	The air quality model used in the AQIA has been re-run with emissions being estimated for vertical fixed roof tanks. Consequently, the AQIA has been revised and is included at **Appendix C** to this Submissions Report.	Refer to **Appendix C.**
3	<u>Meteorological Data</u> Emission estimates included in the AQIA were based on meteorological data from San Francisco. The proposed facility is located in Newcastle, NSW. Therefore, the emission estimates included in the assessment are incorrect. TANKS does not come with Australian meteorological data. Australian users of TANKS are required to enter site specific data in order to correctly run the model locally. The meteorological data for San Francisco used in the assessment is significantly different metrological conditions to those expected at the proposed site. The EPA notes that wind speed is also used in estimated emissions by the TANKs	The TANKS model has been re-run to estimate emissions associated with tanks venting using local meteorological data (i.e. recent Newcastle data was used for the AUSPLUME modelling) rather than the previously used model default data. The AQIA has been revised and is included at **Appendix C** to this Submissions Report. Note the original default data (San Francisco) was relevant as it specified levels of solar isolation and temperature which occur in Newcastle. The emission estimates that	Refer to **Appendix C.**

No.	Issue	Response	Reference
	program. However, this information is not presented in the AQIA. It is assumed that San Francisco average wind speed was used in developing the emission estimates. By using San Francisco meteorological data, maximum emissions from the proposed tanks have been estimated to occur during winter and minimum emission have been estimated to occur in summer. This is the opposite of what would occur. However, as the emissions are from a low volatility liquid, the majority of emissions are from working loss and not from breathing loss. Using the incorrect meteorological data in TANKS has resulted in incorrect emissions being estimated for the air quality assessment. The EPA recommends that site specific meteorological data is used to assess the impacts of the proposed facility in a revised air quality assessment.	resulted from those thermal properties, therefore, were not incorrect. Newcastle wind data are used in the AQIA.	
4	<u>Assessment of Benzene</u> Benzene is identified as the most critical air pollutant and is the only air pollutant identified from the proposal. The EPA has concluded that it is unlikely that benzene will be released from the sources identified in the assessment and there are numerous other air pollutants not identified or assessed. AECOM's assessment of emissions of benzene was based on: the liquid concentrations of benzene concentrations for crude oil and petrol; and the Australian Diesel Fuel Quality Standards. AECOM used an estimated maximum content of benzene in diesel vapour of 11% in the air quality assessment. This is incorrect. Crude oil and petrol are not stored or proposed to be stored on the site. The composition of petrol and crude oil are significantly different to the composition of diesel. The poly aromatic hydrocarbon (PAH) content of diesel in the liquid phase is not a reasonable indicator of benzene concentration in diesel. If diesel could contain so much PAHs, which AECOM note "are typically more toxic", emissions from this toxic group of substances should be assessed. The EPA notes that diesel typically does not contain or contains only trace amounts of benzene in the liquid or vapour phase. The EPA have provided: - A table showing an example of the composition of diesel (vapour phase) obtained from BP. The EPA recommends that the air quality assessment is revised to account for toxic substances that are expected to be released from the storage and handling of diesel.	The (original) AQIA acknowledged that benzene was chosen as an indicator pollutant for the reasons explained in section 9.5 of the EA. At the nominated (purposefully elevated VOC levels) it was set as a surrogate to generate a worst case scenario. EPA has since provided information on other air pollutants arising from diesel, and the Volatile Organic Compound (VOC) constituent cumene has now been adopted as the most relevant potential pollutant for emission modelling (that is, cumene has both a reported presence and strict OEH assessment criterion). The air quality model used in the AQIA has been re-run with cumene (not benzene). The predicted concentrations of cumene at all sensitive receptor locations were below the EPA assessment criterion. The revised AQIA is included at **Appendix C** to this Submissions Report.	Refer to **Appendix C.**

No.	Issue	Response	Reference
5	Unaccounted for Air Pollution Sources The AQIA fails to identify or consider significant air emission sources that would be a direct result of the proposed facility. Air emission sources not identified or assessed include combustion emissions from ships and combustion emissions from road tankers. - The most significant unaccounted air pollution source that has been identified is combustion sources from ships. The EPA has assumed that the fuel consumption figure quoted in the greenhouse gas assessment is for ocean going travel. During unloading of fuel, typically only the auxiliary engine and auxiliary boiler are operating. These engines typically total 16% of the total power across all engines in a bulk carrier. Therefore, it could be estimated (using a screening level assessment approach) that the maximum fuel consumption while in port is 0.16 * 36 tonnes/day or 5.8 tonnes/day. If a load factor reduction is incorporated into the fuel consumption estimate to account for the auxiliary engine and auxiliary boiler being at close to 13% full load (taking the average for Newcastle port in "hotel" operating mode), the fuel consumption while a ship is in port is estimated to be approximately 1 tonne/day. Therefore, using a screening methodology approach the total amount of additional fuel combusted by ships less than 1 km from the location of the tanks and approximately 1 km from sensitive receptors is between 24 and 130 tonnes/yr and the maximum fuel consumption over a day is 5.8 tonnes/day. The EPA has provided a list of air pollutants included in combustion emissions from ships. Additional combustion emissions in the area will add to an already constrained airshed and an assessment has not been made on the impact this proposed facility will have on the air environment of these pollutants. The EPA recommends that the impact of combustion from ships using the proposed facility is included in the revised air quality assessment. The air quality assessment should include an assessment of cumulative impacts for relevant pollutants.	Ship emissions were not assessed in the AQIA as there would only be eight importing ships per year at berth. This small increase is not distinguishable over the existing Port-wide ship traffic of approximately 3000 berthing events per annum.	Reference not applicable.
6	- The air quality assessment also does not include combustion emissions from trucks loading fuel from the facility. This is an additional air emission source in the area, due to the proposed facility. Air pollutants released from diesel combustion in trucks are similar to the combustion emissions from ships. ATASU recommend that the revised air quality assessment includes the additional combustion emissions from trucks using the facility.	Truck emissions were not assessed as trucks entering the terminal will switch off engines in the loading bays, while transferring product to/from tanks so entry and exit point source emissions are not distinguishable from other existing local road traffic sources and port levels.	Reference not applicable.

No.	Issue	Response	Reference
Noise (Details are provided in EPA Attachment 1 provided with their submission)			
7	The predicted construction and operational noise, vibration and traffic impacts associated with the project are within the nominated criteria. However, the EPA's has identified a number of omissions that should be addressed in order to provide confidence that the predicted noise and vibration impacts associated with the proposal are within acceptable levels: - The ambient noise monitoring results in Section 2.2 of the NVIA are taken from a report prepared by Spectrum Acoustics in 2008. The results of the Spectrum Acoustics report should have been included in the NVIA. They should have been supplemented by other noise monitoring data from other studies undertaken in the locality, and/or from fresh monitoring undertaken by AECOM for this project. In the context of the changing land uses in the locality over time, this would help to establish whether the measured noise levels in Table 2 are still representative of the ambient noise environment in 2011, and the character and contributions of ambient noise sources in the area.	To provide confidence in the ambient noise monitoring results data from more recent noise logging in the area of Mayfield undertaken by AECOM (September 2011) has been used instead of the previously used data presented in the Spectrum Acoustics 2008 report. This noise logging has been used to establish the ambient noise environment for Mayfield receivers. Noise logging charts in addition to the results presented in the report have been included as an appendix to support and increase confidence in the results. For the Carrington area, noise logging data from a study undertaken by Wilkinson Murray in which noise logging was undertaken during March 2009 has been used instead of the previously used data presented in the Spectrum Acoustics 2008 report. Noise logging charts provided in the Wilkinson Murray report have been included as an appendix to support and increase confidence in the results.	Refer to **Appendix D**.
8	- Table 4 of the NVIA states that the daytime noise management levels are Rating Background Level (RBL) +15dB. The EPA considers that this should have been the RBL +10dB.	Daytime noise management levels have been amended to be RBL +10dB.	Refer to **Appendix D**.
9	- NAU notes that construction and operational vibration levels from the site are not expected to raise any issues due to the large distance (900 m) to the nearest sensitive receivers.	Noted	-
10	- The intrusive noise criteria in Table 6 of the NVIA should show an adjusted RBL of 46 dB(A) and intrusive criterion of 51 dB(A) for Mayfield during the evening period, as per the EPA's Industrial Noise Policy (INP) application note relating to when RBLs for the evening and night are higher than for daytime.	The INP requirement has been noted. The RBL values have been adjusted based upon the updated monitoring presented in Section 2.2 of the revised Noise and Vibration Impact Assessment (NVIA). The revised RBL values are lowest for the night—time period for both Mayfield and Carrington receiver areas.	Refer to **Appendix D**.

No.	Issue	Response	Reference
11	- Table 8 of the NVIA summarising operational noise criteria should also be adjusted as per the point above, and the controlling Project Specific Noise Levels clearly identified.	See the point above in regards to presented RBL values. Additionally, the controlling Project Specific Noise Levels have been clearly identified in Table 11 of the Revised NVIA.	Refer to **Appendix** D.
12	- Section 4.3.1 of the NVIA states that the 'existing ambient noise levels' (from all sources) in Table 2 exceed the road traffic noise criteria in Table 11. No information regarding the relative levels of road traffic noise versus other ambient noise are provided to support the implicit assumption that the ambient Leq in Table 2 is dominated by road traffic noise. Further information should have been provided to support this assumption prior to applying the 2dB allowance criterion.	Traffic noise levels along Industrial Drive were measured in "*Noise Impact Assessment, Marstel Terminals Newcastle, Mayfield (BHP) Site, NSW*", 2008 by Spectrum Acoustics. These results have been presented in Table 15 of the revised NVIA. The measured levels from traffic exceed the road traffic noise criteria in Table 14 of the revised NVIA and, as such it is appropriate to applying the 2 dB allowance criterion.	Refer to **Appendix D**.
13	- Section 4.3.1 also states that the proposed access route will generate less than 40 vehicle movements per day from operational activities. This statement is at odds with the adopted vehicle movements of 56 per day in 2012 and 108 movements per day in 2016 quoted in Section 6.6. The statement in Section 4.3.1 that 'it is considered unlikely' the proposed <40 operational vehicle movements would exceed the applicable noise criteria on Industrial Drive is clouded by the next statement relating to construction traffic. The traffic noise mitigation and management measures discussed in Section 4.3.1, which purports to relate to criteria, would also have been better placed in Section 7.0. NAU considers that the construction and operational traffic noise criteria and assessment sections should have been reviewed and revised as necessary to clarify traffic criteria, volumes and predicted impacts.	The 40 vehicles movement per day should have referred to construction activities and not operational. It has been assumed that 40 truck movements/day and a number of light vehicles during working hours as will operated as part of the construction activities. Mitigation recommendations have been consolidated into Section 7.0 of the revised NVIA. Construction and operational traffic noise criteria and assessment sections have been reviewed. Traffic criteria, volumes and predicted impacts have been updated and clarified to avoid confusion.	Refer to **Appendix D**.
14	- Section 5.1 of the NVIA states, in the paragraph preceding Table 12, that construction outside standard hours may be undertaken when 'a task is near completion close to 6.00 pm...so that the overall construction works can be carried out in minimal time' with the intent to 'shorten the overall length of the noise exposure to nearby receiver locations'. The EPA considers that any out of hours construction works should be subject to the requirements of Section 2.3 of the Interim Construction Noise Guideline.	This comment in section 5.1 has been removed, and the following statement included in Section 3.1.1 of the revised NVIA *"It is assumed that the construction activities will take place during recommended standard working hours (7.00 am – 6.00 pm Monday to Friday and 8.00 am – 1.00 pm Saturday). However, in the case that oversized load deliveries may be needed to be conducted outside recommended standard working hours then a separate construction noise assessment should be undertaken*	Refer to **Appendix D**.

No.	Issue	Response	Reference
		addressing the justification for out of hours work and specifying acoustic requirements for the construction activity."	
15	- Section 5.2.2 of the NVIA identifies two truck movements per hour (22 per day for a 7 am-6 pm day) in the construction noise assessment. This figure needs to be reconciled with the <40 vehicles per day in Section 3.3.	This section has been updated to be a worst case three truck movements per 15-minute period.	Refer to **Appendix D**.
16	- The construction criteria for standard hours in Table 14 of the NVIA should have been reviewed in the light of any revisions to Table 4. Predicted noise levels for any out-of-hours works should also be provided.	The construction criteria for standard construction hours are presented in Table 7 of the revised NVIA, in accordance with the revised RBL values presented in Section 2.2 of the revised NVIA. No out-of-hours works are proposed, and as such any assessment of out-of-hours works has been removed. Statements in Section 3.1.1 of the revised NVIA have been made regarding out-of–hours works.	Refer to **Appendix D**.
17	- Section 6.1 should have identified the presence or absence of any tonal noise characteristics, and associated INP penalties, for equipment operating at the site.	Section 4.1.5 and Section 6.3.2 of the revised NVIA have been added to the NVIA addressing the criteria and assessment of tonality and INP modifying factors.	Refer to **Appendix D**.
18	- Section 6.2.2 adopts a prevailing wind of 3m/s from the north-west as representing a worst case assessment for sensitive receivers at Carrington. No further assessment of prevailing winds is presented. The NVIA should have explained why a prevailing wind from the north-east had not also been adopted as representing a worst case assessment for the closer sensitive receivers at Mayfield.	An assessment of the prevailing meteorological conditions has been undertaken using meteorological data from 2009 measured at the EPA Newcastle AWS. The results of the assessment are presented in Section 6.2 and Appendix E of the revised NVIA. The results of this assessment have been adopted for the assessment.	Refer to **Appendix D**.
19	- The modelled operational scenario for amenity in Section 6.2.3 states two truck movements per hour were included; this should perhaps have been revised to three movements per hour in line with Section 6.1.3.	The modelling assumptions for truck movements in both the intrusiveness and amenity assessments has been further explain in Section 6.1.3 of the revised NVIA. These numbers align with those presented in the modelled operational scenarios presented in Section 6.2.5 of the revised NVIA.	Refer to **Appendix D**.
20	- Table 19 shows predicted noise levels for a worst case north-west wind as being identical to those in the column for a Class F temperature inversion. The EPA considers this is possibly in error.	Revised modelling has been undertaken for 3m/s source to receiver winds and the results from the modelling of temperature inversions has been reviewed. The numbers are presented in Table 23 of the NVIA.	Refer to **Appendix D**.

No.	Issue	Response	Reference
21	- Section 6.4 includes an assessment of a reversing beeper in regard to sleep disturbance impacts. Any penalty associated with tonality should have been included in this assessment.	Penalties for annoying characteristics in accordance with Table 4.1 of the *NSW Industrial Noise Policy* (INP) is applicable for INP assessments which are for $L_{Aeq\ 15\ minute}$ or $L_{Aeq,\ period}$ measurements. These adjustments are not appropriate for $L_{A1\ 1\ minute}$ noise events when assessing the background noise level with the potential to cause sleep disturbance. The applicability of penalties for annoying characteristics in accordance with Table 4.1 of the INP have been assessed for the intrusive and amenity INP assessments, but have not been included in the sleep disturbance assessment.	Refer to **Appendix D**.
22	- It is unclear if in Table 20, the result for reversing alarms (column 5) also includes the contribution from equipment excluding reversing alarms (column 3). If it does, it is unclear why the reversing alarm result for receivers R9 and R10 are 5 dB and 9 dB lower than the equivalent results excluding reversing alarms.	The results of the sleep disturbance assessment are presented in Table 24 of the revised NVIA. The maximum $L_{A1\ 1minute}$ values for operations excluding reversing alarms have been assessed and the maximum $L_{A1\ 1minute}$ values for reversing alarms have been assessed separately without other sources. Further explanation is provided in Section 6.4 of the revised NVIA.	Refer to **Appendix D**.
23	- It is assumed that the traffic counts for Industrial Drive in Table 23 are AADTs and that the entry for 1998 of 2954 is in error.	Traffic count for 1998 has been updated to be 29549.	Refer to **Appendix D**.
24	- The traffic noise levels in the Spectrum Acoustics report should have been reproduced in the NVIA as part of Table 24 to show existing and predicted (with project) levels.	Existing traffic noise levels have been incorporated in Table 28 and Table 29 of the revised NVIA to compare existing and predicted future traffic noise levels. The Spectrum Acoustic report results are presented in Table 15 of the NVIA.	Refer to **Appendix D**.
25	- The Statement of Commitments relating to noise on Table 44 of the EA contains a rather cryptic entry. The EPA recommends that statement be removed and replaced with a commitment that the noise and vibration mitigation and management strategies detailed in Section 7.0 of the NVIA, as well as the entries in the last paragraph of Section 4.3.1 will be adopted and implemented.	Section 7.0 of the NIVA has been updated to incorporate a consolidated list of all recommended mitigation and management strategies to be used for a list of commitments.	Refer to **Section 6.0**

No.	Issue	Response	Reference
Fire and Rescue NSW (FRNSW)			
Hazard and Risk			
26	FRNSW believes that the site's operators should prepare and submit to FRNSW an Emergency Plan (EP). It is recommended that the EP follow FRNSW Policy No. 1: *Guidelines for Emergency Plans at Facilities Having Notifiable Quantities of Dangerous Goods and Hazardous Industry Planning Advisory Paper* (HIPAP) No. 1.	Noted. Marstel will prepare and submit to the FRNSW an Emergency Plan prepared in accordance with the FRNSW Policy No. 1 prior to operations.	Refer to Chapter 6.0: Hazard and Risk.
27	Referring to Sections 3.6.12 and 7.3 of the EA, FRNSW concurs that a Fire Safety Study (FSS) should be prepared, and further recommends it be prepared in accordance with HIPAP No. 2. If deemed appropriate by the Approval Authority, FRNSW can provide comment on the FSS.	Noted. Marstel will prepare a Fire Safety Study prepared in accordance with the FRNSW Policy No. 1 prior to operations.	Refer to Chapter 6.0: Hazard and Risk.
HDC			
Site Access / Infrastructure			
28	NPC does not currently own or have any rights to carry out the proposed access and service connections stated in the EA. The timing and design of roads and service connections has not been finalised. Alternative arrangements would need to be considered.	Noted. It is understood that access and service connections are not finalised and that alternative arrangements may need to be considered. Also refer to response to Issue 34.	Reference not applicable.
Contamination			
29	It is unclear how the State intends to legally implement the Contaminated Site Management Plan (CSMP). The application of the CSMP is a condition of the Marstel lease. Planning may consider whether to call up the CSMP in the Project Approval conditions.	Adherence to the CSMP would be undertaken at the site.	Reference not applicable.
Surface Water / Stormwater			
30	Stormwater is not expected to have any impact on the clay cap provided that any flow concentrated around the facility is conveyed all the way to the downstream western drain receiving waters via an engineered open channel. The flow should be discharged to western drain via an engineered pit/drop structure to prevent any erosion of the western drain batters.	Noted. Detail design for discharge would show flow to be to the western drain in accordance with the Preliminary Design Stormwater Strategy (Patterson Briton & Partners, 2007).	Refer to Section 3.6.11 of the EA.

No.	Issue	Response	Reference
Newcastle City Council			
NPC Concept Plan			
31	NCC has previously advised the NSW Department of Planning that activities in relation to the Mayfield Port Site should not occur until the following has taken place: a) The council and the local community are fully briefed on the Concept Plan b) The concerns of Council and the community are addressed, c) The proper community consultative process regarding the former BHP Steelworks site has been carried out, d) NPC's strategic Development Plan for the Port of Newcastle is released for public comment.	Previous advice between NCC and DP&I is a matter for those two parties.	Reference not applicable.
32	NCC has previously submitted 2 submissions to the Department of Planning regarding the Concept Plan. A recent request by DoPI to comment on draft conditions could not be responded to comprehensively because the scope of the Concept Plan has apparently been modified following discussion with other government agencies and the proponent.	Refer to response to Issue 31.	Refer to response to Issue 31.
33	In accordance with Council's resolution, it is requested that briefings of the Council and local communities be undertaken in respect of the current Concept Plan for the former BHP lands and the wider Newcastle Port land before determination of the Mayfield Site Port related Activities Concept Plan and the Marstel project occurs.	Refer to response to Issue 31.	Refer to response to Issue 31.
Site Access			
34	NCC notes the agreement between Marstel and NPC in which NPC is required to construct proposed access roads and intersection improvements which form part of MP09_0096 (Mayfield Port Site Concept Plan). Marstel should be required to commit to constructing these works in the event MP09_0096 is not approved.	NPC is contracted to provide access roadways for construction and operations and all services to the site.	Reference not applicable.
35	NPC has previously committed to the provision of street lighting to Selwyn Street and the intersection with the construction access in the event that operations on the port land expanded beyond the 'start up' facilities for which NPC had upgraded the road infrastructure. Marstel operations would be intensification beyond 'start up' and would require NPC to fulfil their commitment to install the necessary street lighting.	NPC is contracted to provide access roadways for construction and operations and all services to the site.	Reference not applicable.

No.	Issue	Response	Reference
Stormwater			
36	The proposal should be designed and constructed in accordance with the relevant flood and stormwater levels in accordance with the Newcastle Development Control plan 2005.	It is noted that requirements of the Development Control Plan do not strictly apply to Part 3A Projects. Regardless, the detail design for the site would be undertaken in accordance with the Newcastle DCP 2005 where relevant.	Reference not applicable.
37	All proposed buildings should be at the flood planning level of 2.5m AHD. It is noted that a level of 1.9m AHD is proposed in the EA.	All buildings will be at or above the flood planning level of 2.5 m AHD.	Reference not applicable.
Contamination			
38	Council has concerns that the capping layer constructed as part of the Voluntary Investigation and Remediation Agreement (VIRA 26025) may be compromised by earthworks during the construction stage. The proponent should be required to prepare a Construction Management Plan including contingency measures for disposal of potential contamination prior to determination.	Prior to construction works, Marstel will prepare a Construction Environmental Management Plan (CEMP). This plan will incorporate measures for the disposal of waste including potentially contaminated wastes which may be encountered or generated during construction.	Refer to EA Section 3.6.14 and 11.0
Infrastructure			
39	Further information should be sought from the proponent regarding sewer infrastructure to be provided for the proposed development.	NPC is contracted to provide all services that Marstel will connect to, including sewer connection.	Refer to Section 15.2.5 of the EA.
Section 94A Contribution			
40	A monetary contribution pursuant to section 94A of the *Environmental Planning and Assessment Act 1979* is applicable. Under the provisions of Council's Development Contributions Plan 2009 the maximum section 94A levy on the proposal is 1.0% of the proposed cost of the development.	Section 94A contributions relate specifically to applications under Part 4 of the Environmental Planning and Assessment Act 1979. The levying of any contributions, if seen fit by DP&I, should be done so in negotiations between Marstel and NCC and be commensurate to the scale and impact of the Proposed Facility on community infrastructure.	Reference not applicable.
NOW			
Groundwater			
41	It is requested that the following be included as a condition of approval: The proponent must obtain relevant licences to the satisfaction of the NSW Office of Water for all activities which intercept or extract groundwater prior to commencement of these activities.	Noted. NOW's request for this condition of approval is noted.	Reference not applicable.

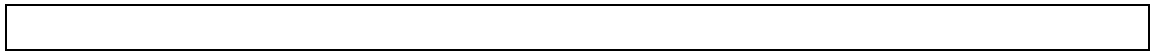
No.	Issue	Response	Reference
Newcastle Port Corporation (NPC)			
42	The NPC generally supports the proposal, particularly since the proposal is consistent with the Mayfield Concept Plan currently under assessment.	Support noted.	Reference not applicable.
Landowner approval			
43	NPC requests that the following issues be considered in the assessment and additional information sought: - The EA indicates that ground surface levels and works are to be undertaken by NPC on the adjoining land. NPC has not given any undertaking to the Proponent to complete this work as part of the application. Accordingly, confirmation is required if approval will be sought from NPC and the nature of the work proposed;	The ground surface levels on the adjoining lots need to be regraded to allow stormwater from the precinct to drain to the river. The design and construction of the regrading will be approved and validated by the appointed site auditor).	Reference not applicable.
44	Should the application be approved, NPC requests that the following condition be included prior to the issue of Construction Certificate *1) The Proponent shall obtain approval of the construction drawings from the Newcastle Port Corporation (NPC) prior to the issue of a Construction Certificate. The construction drawings and/or provided information shall ensure that:* *a) all expected services, utilities or infrastructure required for the site meet the operational demands as specified in the Environmental Assessment for this application;* *b) stormwater, ground surface, roads and services align with the Mayfield Site remediated land form and Contaminated Site Management Plan (CSMP), and NPC's Bulk Liquids Precinct road configuration;* *c) stormwater compiles with water quality standards and CSMP requirements; and* d) *site driveway, gates, fencing and landscaping are in accordance with NPC requirements.*	NOW's request for this condition of approval is noted.	Reference not applicable.
Infrastructure			
45	- Road, stormwater and other infrastructure information is required to ensure that the proposed infrastructure for the site is able to align with proposed external services;	Noted. Marstel will provide such infrastructure within their site boundary to connect to proposed infrastructure to be provided by others.	Reference not applicable.

No.	Issue	Response	Reference
Surface Water / Stormwater			
46	- Details of the overland flow paths through the site for stormwater flood events up to the 1% Annual Exceedance Probability to ensure that flood events and consequent impacts are managed;	This issue is the subject of additional work by Marstel with NPC. NPC agreement regarding overland flow paths and management of flood events would be obtained prior to the start of construction.	Refer to Chapter 6.0: Surface Water Management.
Site Access / Frontage			
47	- The proposed entry driveway width is considered excessive and would require an expansive pipeline service corridor. The submission of truck delivery driveway turning paths to justify the width of the proposed driveway is required.	This issue is currently being worked through with NPC. NPC agreement regarding the entry driveway would be obtained prior to the start of construction. Commitment added to SoC.	Refer to Chapter 6.0 – Visual, Landscaping and Site Entry.
48	- The car park landscaping, fencing and gate configuration proposed for the site frontage are to be designed to ensure the development matches the amenity themes for the Precinct. In this regard the car park area is to be setback 5 metres from the front boundary.	This issue is currently being worked through with NPC. NPC agreement regarding the car park setback would be obtained prior to the start of construction. Commitment added to SoC.	Refer to Chapter 6.0 – Visual, Landscaping and Site Entry.
49	- The landscaping of the site shall include a 5 metre wide landscape buffer strip to be established within the lease area fronting a port access road. The landscape strip is to be boarded by timber edging and is to have the perimeter security fencing located behind the landscaping. Species shall include native and drought−tolerant planting, and all landscape areas are to be irrigated by automated drip irrigation systems. The use of captured stormwater or roof rainwater is encouraged.	This issue is currently being worked through with NPC. NPC agreement regarding the site landscaping would be obtained prior to the start of construction. Commitment added to SoC.	Refer to Chapter 6.0 – Visual, Landscaping and Site Entry.
50	- Security fencing and gates shall be either galvanised or black powder coated style fencing. Gates are to be constructed of either chain wire fencing set within a framed rim (with optional 3 strand barbed wire on top), or palisade slide gates. Gates are to be setback from the boundary so as to be wholly contained within the lease area when open.	This issue is currently being worked through with NPC. NPC agreement regarding security fencing and gates would be obtained prior to the start of construction. Commitment added to SoC.	Refer to Chapter 6.0 – Visual, Landscaping and Site Entry.
Clarification			
51	Please note that the Maritime Services Board of NSW to whom the letter was addressed was disbanded in 1990. Newcastle Port Corporation is the current owner of the land under arrangement with the State Property Authority. Any future correspondence should be addressed to Newcastle Port Corporation at the address below	Noted. Application in progress. Permission to be provided prior to determination.	Reference not applicable.

No.	Issue	Response	Reference
NSW Health			
Future Capacity			
52	The EA anticipates that operations may double in the future. All aspects of the physical facility as well as the environmental assessment must consider and plan for this impact particularly in relation to product containment (slops, separator and tank holding capacities), cumulative noise, waste management, hazards and risks on site.	Project Approval is only being sought for the Proposed Facility as documented in the EA. Should any additional capacity or need for expansion be required in the future, this would be subject to a separate environmental approval and assessment process.	Reference not applicable.
Transfer Pipeline			
53	Safeguards for the transfer pipeline as documented in the EA are noted however they should include an inspection and a maintenance schedule to maintain the transfer pipe integrity.	An inspection and maintenance schedule for all critical components of the Proposed Facility would be prepared as part of an Operational Management Plan for the site. In addition an Emergency Plan would also be prepared to be enacted in the event of any emergency or system failure.	Refer Chapter 6.0: Management Plans. Refer Section 7.0 of the EA
Spills			
54	Safeguards for spill containment as documented in the EA are noted. Spill containment equipment and spill kits must be in close proximity and easily accessible to allow immediate response and prevent contamination of the river.	Refer to response to Issue 53.	Refer to response to Issue 53.
55	Does the Koppers gantry have enough capacity to accommodate a spill from both the existing Koppers pipe and the proposed Marstel pipe? What are the risks associated with products from the Marstel and Koppers pipes mixing? Potential risks and safeguards for products in the Kopper's pipeline that may react with diesel and or biofuel should be included in the risk management.	Koppers gantry is not bunded Industry practice is that bunding of wharf lines is not required. In Marstel's case the wharf-line is fully welded construction with no flanged (potential leak sources) connections. Fire Safety Study to consider any possible risks / impacts.	
56	Will the facility have washdown areas for tankers in the event of an overspill to prevent spillage outside the facility and onto the road network?	The tanker fill stand is bunded and any spills in this area would be collected and contained in the remote impounding basin. Detailed operations and maintenance procedures will be prepared to deal with any potential spill and containment.	Refer to Chapter 6.0: Hazards and Risks.
57	The EA needs to ensure that the slops and separator tanks are of sufficient volume to accommodate spills, water from wash downs and waste from pigged transfer pipes.	Noted, slops and separator tanks are sized for the duty required. Detailed operations and maintenance procedures will be prepared to deal with any potential spill and containment.	Refer to Chapter 6.0: Hazards and Risks.

No.	Issue	Response	Reference
Hazard and Risk			
58	It is unclear if any blending with other distillates will occur on site or the type of products in the additive tank. The hazard and risk assessment should include any required safeguards.	Only blending of diesel with biodiesel and additives would occur onsite. The additives stored are non-hazardous and typical additive injection rates are small (500ppm).	Refer to EA Section 1.2
Infrastructure			
59	Preference is for waste water to be connected to Hunter Water Corporation's sewerage system and this possibility should be discussed with Hunter Water.	Waste water will be managed onsite through the use of an onsite waste water management system.	Refer to EA Section 3.5.5
Input from other agencies			
60	The EA does not list comments from NSW Office of Environment and Heritage, Newcastle Port Corporation, Newcastle City Council, NSW Department of Primary Industries. It is highly recommended that comments be sought directly from these agencies.	Noted. Comment from these agencies has been sought and obtained during the exhibition period. Comments from agencies have been collated and addressed in this report.	Refer to this report.
NSW Roads & Maritime Services (RMS) – Infrastructure Services			
Traffic / Transport			
61	Industrial Drive (MR316) is a classified (State) Road. RMS concurrence is required for connections to the road with Council consent, under Section 138 of the Act. RMS consent is required for traffic control signals and facilities under Section 87 of the Act. Council is the roads authority for this road and all other public roads in the area. Should road works be required on the classified (State) road, RMS would exercise the functions of roads authority under Sections 64 and 71 of the Act.	Noted.	Reference not applicable.
62	RMS has previously provided its requirements for the proposed Mayfield Port Related Activities Concept Plan in my letter dated 27 October 2011. All matters raised in this letter still apply. However, given the predicted relatively low trip generation of the subject development, it is considered this development would be able to operate without additional infrastructure at the intersections of Industrial Drive with Ingall Street and George Street. Accordingly, RMS would have no objections to or requirements for the proposed development.	Noted.	Reference not applicable.
63	On the Minister's determination of this matter, it would be appreciated if a copy of the Project Approval is forwarded to RMS for record and / or action purposes.	Noted.	Reference not applicable.

No.	Issue	Response	Reference
NSW Roads & Maritime Services (RMS) – Planning, Environment and Spatial Information			
Landowners Approval			
64	From the EA, Wharf M4 is located, at least partly, on NSW Maritime (RMS) land together with the adjoining berth. RMS requests DP&I to ensure landowners consent is provided prior to determination of the project. Please also note that an updated occupation agreement between RMS and Newcastle Port Corporation for the proposed berthing arrangement by Marstel may be required prior to its use.	Noted. Landowner consent from NSW Maritime has been requested. The approval of NSW Maritime would be sought prior to construction of the wharf line.	Refer Chapter 6.0: Landowner and Neighbours.



4.0 Response to Individual Submissions

This chapter contains a summary of all submissions received from the general public – special interest groups and individuals, and Marstel's response to each of the submissions received. Note that in some instances the "issue" has been paraphrased. The submissions make reference to relevant sections of the EA or other documents for further detail. The revised Statement of Commitments is detailed in **Chapter 6.0**. Refer to **Appendix B** for full submission issue details.

Table 2 Response to Individual Submissions

No.	Issue	Response	Relevant Section
CPCFM			
Planning			
65	We need Tests guiding decisions on development applications that ensure that the community is kept safe; the proposed works and business operation result in zero emissions; and no poisons, dust, sound, vibrations, light etc. are allowed to escape into the air, water or ground. Not achieving the Tests should lead to a fail. Arguments that the development will be "good for jobs" or "good for the economy" should not be allowed to overrule the Tests.	A variety of 'tests' in the form of development guidelines, policies, Australian Standards, industry standards, accepted modelling methodologies etc. have been used in the EA to examine the potential impacts of the Proposed Facility. These standards have been scrutinised by the relevant agency during the consultation assessment.	Refer to Sections 7.0 to 19.0 of the EA and associated Appendices.
66	With automation, the creation of a large number of jobs is very often a myth. Scrutiny of Marstel jobs reveals three permanent full time jobs.	Employment opportunities will be generated during both the construction and operational phases. Additional jobs will be generated by the transport of fuels. The ongoing operation of the Proposed Facility would require support from a range of local businesses in regards to ongoing maintenance and upkeep.	Refer to EA Section 24.4.
67	"Good for the economy" fails to detail "whose economy".	The proposed development would provide economic benefits to the local, regional and State economies. While the construction phase of the development would provide local employment opportunities and revenue for the Newcastle area, the operational phase would provide economic benefit to consumers in the Hunter Region through introducing greater competition in the fuel market.	Refer to EA Section 24.4.

No.	Issue	Response	Relevant Section
68	Application should reveal that Marstel is 100% owned by overseas shareholders. So 100% of any after tax profits will flow overseas. Tank farm is being developed for Shell. Shell is 100% overseas owned. Shell has advised transport of their fuel will be by a selection of three transport companies not Newcastle based. We understand most, if not all drivers will not be Newcastle or Hunter residents.	The Project Application provides company name and details from which company details can readily be researched. There is no requirement to include ownership details of the applicant within the EA. This proposal is being developed by Marstel Terminals Pty Ltd. Transport companies for end users of the Proposed Facility's products have not been reviewed and are not considered relevant to the EA.	Reference not applicable.
Cumulative Effects			
69	Some of the problems concerning Cumulative Effects issues arising from the Port Corp Concept Plan and the Marstel Terminals: - There are no genuine and practical land transport proposals to carry the vastly increased cargos planned for these 7 new wharfs - Other agencies, including Newcastle City Council have told NSW Planning that Industrial Drive will fail if the current proposals are implemented - The NPC Concept Plan has not been approved and we, the community, are completely in the dark about how our 170 submissions are being treated in weighing up the decision. - Objections to, and criticism of the NPC Concept Plan apply equally to the Marstel Application e.g. The Marstel Application has no proposal for any of the Bulk Diesel to be transported from its Tank farm other than by road, and there is also a requirement by Marstel for Biofuels to be transported into its tank farm by road. - In Stage 1, estimates of up to 16,000 heavy vehicle movements pa onto Industrial Highway at a single intersection (Ingall St) have been made. This intersection is bounded by the playgrounds of Mayfield East Public School. In Stage 2, Truck movements may be 32,000 pa. In Stage 3 truck movements may be 48,000 pa. There will be serious impact on residents of Mayfield and further away on the routes all these trucks take including: noise, vibration, toxic diesel exhaust fumes; and risk of more truck accidents on already very busy and often choked local roads, arterial roads, bridges and highways.	The NPC Concept Plan relates to a separate application for approval of the land surrounding and including the subject site. Regardless, responses to the point are provided below: - The NPC Concept Plan includes adequate transport options for the various precincts it proposes. - RMS have reviewed and provided feedback in relation to the transport planning for the NPC Concept Plan area, including the capacity of Industrial Drive. Measures, such as upgrades, have been recommended to accommodate predicted traffic levels. - Due to the nature and size of the Proposed Facility, and the location of end users, road transport is the only feasible option for the distribution of fuel products at this time. - The Proposed Facility would produce 36 truck and 20 light vehicle movements per day, which is a small contribution to existing traffic levels. Cumulative impacts resulting from the Proposed Facility have been considered in the relevant sections of the EA and the NPC Concept Plan EA. A Newcastle Port Master Plan is the responsibility of the NPC. If available, a review of the Proposed Facility against the Port Master Plan would have been included in the EA.	Refer to EA Section 3.7 and 22.0 and the NPC Concept Plan.

No.	Issue	Response	Relevant Section
	How are these cumulative impacts being calculated and taken into account? Measurement of the cumulative impacts of the Marstel Application against the larger picture of developments in and around the Port of Newcastle is also severely hampered by the total absence of a Newcastle Port Master Plan.		
70	Ammonium nitrate and diesel are a bad combination: - The Orica Plant is only a few hundred metres from the proposed Marstel Fuel Tank Farm. Orica wants to nearly double its production. - Incitec Pivot imports Ammonium nitrate and wants to commence making it. - Eastern Star Gas wants to establish a Liquid Gas facility. These four businesses all in close proximity have the potential for a massive explosion and blow up more than half of Newcastle.	Noted. The specific conditions required for an explosion to result from these two substances from these plants is extremely unlikely: - At no point during storage or transportation are the substances scheduled to come into direct contact. The two plants have no relationship. Other fuel storage facilities such as BP's have been operating in close proximity to the subject site without incident. - Noted. Ammonium nitrate is already handled at the Incitec facility in isolation of surrounding industries and will remain entitled to do so should the Proposed Facility proceed. - Noted. The proposed Eastern Star Gas facility will not impact on the Proposed Facility. Each of these businesses includes safety, security and contingency measures to manage and plan for a range of emergencies.	Refer to EA Section 7.0 and EA Appendix E.
71	Hundreds of thousands of tonnes of Ammonium nitrate goes up the Hunter Valley to the mines each year by road. Travelling on the same roads are diesel and petrol tankers carrying hundreds of millions of litres of combustible and inflammable fuel. The Marstel Application would add hundreds of millions of litres of additional fuel to the same roads every year. It is only a matter of when, before we have an explosion on the very busy and often choked roads in the Hunter. Who is looking at the cumulative impacts of this?	Refer to response provides to Issue 70.	Refer Issue 70.
72	On the facts and projections and likely outcomes from the NPC Master Plan in conjunction with the Marstel proposal, we say any fair assessment must lead to a fail for both.	There is no NPC Master Plan on which to undertake an assessment of the Proposed Facility.	Reference not applicable.

No.	Issue	Response	Relevant Section
Mayfield East Public School P&C Association			
Hazard and Risk			
73	We believe our children's safety and well-being are threatened by this development, both by the presence of the terminal itself, and by the inexplicable proposal to transport such massive quantities of flammable and explosive liquids by road, which runs directly past our school.	The Preliminary Hazard Analysis prepared specifically for the Proposed Facility concluded that with the recommended measures in place including the implementation of an Emergency Response Plan there would not be an undue level of risk associated with the Proposed Facility.	Refer to EA Section 7.0 and EA Appendix E.
74	We have no cause for confidence that Marstel will effectively safeguard the facility, nor that the relevant authorities will effectively ensure they do.	Refer to response to Issue 73.	Refer to EA Section 7.0 and EA Appendix E.
Planning			
75	We have a range of concerns and objections to this particular proposal, and to the poor planning processes that have been evident thus far in the redevelopment of the old BHP site.	Noted. All planning associated with the Proposed Facility has followed DP&I requirements.	
76	We have a range of concerns and objections represented in the submission document prepared by the CPCFM group. *[Correct Planning & Consultation for Mayfield Group submission attached].*	Refer to response to Issues 65 to 72.	Refer to Issues 65 to 72.
OneSteel			
Hazard and Risk			
77	Koppers Pitch and Coal Tar services run on the existing services gantry which runs along the boundary into OneSteel's property. A significant number of OneSteel services also run along this gantry structure (High and Low Voltage Power, Potable Water, Natural Gas, Compressed Air and Communications). OneSteel requests the proponent undertake further risk assessment focusing on the risk of fire /explosion on the NPC extension of gantry structure during diesel fuel transfer from ship to storage tanks spreading to the Koppers and OneSteel services. Due to the proximity, the proponent to include OneSteel in its Fire Safety Study and include along the interfacing Koppers / Marstel services / fuel lines on the existing gantry, a fire detection and foam sprinkler / deluge system.	A risk assessment prepared by Cockshott Consulting for Marstel was sent to OneSteel. OneSteel are currently verifying the content of the report. Marstel have commissioned a Fire Safety Study for the site to consider any on or offsite impacts. The Study will be forwarded to OneSteel for when it has been completed. Any potential for offsite impact will be considered in the Fire Safety Study – OneSteel will be copied with the report.	Reference not applicable.

No.	Issue	Response	Relevant Section
78	OneSteel requests inclusion as a stakeholder in a detailed response plan to be developed by the proponent to manage an emergency emanating from this situation.	Noted.	Reference not applicable.
79	OneSteel requests the proponent includes the OneSteel site in its site wide emergency evacuation plan for the proposed facility.	Noted.	Reference not applicable.
80	OneSteel requests the proponent undertakes further risk assessments around the potential of fire preventing the operation of the adjacent OneSteel rail freight line corridor.	Refer to response to Issue 77.	Reference not applicable.
81	Due to the proximity, the proponent to include a fire /explosion rated barrier along the interfacing rail corridor / tank farm.	Refer to response to Issue 77.	Reference not applicable.
Infrastructure			
82	OneSteel advises it has been approached by NPC regarding connection to the OneSteel High Voltage power supply and water supply for the purpose of fire services. OneSteel will be reviewing its position for granting access to power and water services for the proponents facility.	Noted.	Reference not applicable.
Site Access			
83	OneSteel advises that it requires a minimum of 12 months' notice to relocate its operations from the Bull St Corridor to permit commencement of the Initial stage of the proposed Intertrade Industrial Park. OneSteel understands that all construction access requirements will be via Selwyn Street. OneSteel advises it will not permit temporary operational access to the proposed facility via Bull St corridor along Steelworks Road.	Noted. As detailed on the EA, if temporary operational access to the Proposed Facility is required, it will be via Selwyn Street.	Reference not applicable.
Maritime			
84	OneSteel requests the proponent provide formal notification of all fuel tanker deliveries via M4 berth and proposed operating times of fuel being transported to the storage tank facility.	Marstel will provide OneSteel with formal notification of all fuel tanker deliveries via M4 berth and proposed operating times of fuel being transported to the storage tank facility.	Refer Section 6.0: Landowner and Neighbours.
Air Quality / Odour			
85	OneSteel was unable to verify the air quality assessment in the application as it does not provide the referenced Figure (Figure 1 in Appendix F) showing the "sensitive" locations of the modelled ground level benzene concentrations. The nearest receptor (G2 at the Wire Mill) does not appear to	The figures were erroneously omitted from the AQIA. The figures indicated that predicted levels of benzene were below the OEH criterion level at the OneSteel premises. Following the receipt of further information from OEH. Cumene has	Refer to **Appendix C**.

No.	Issue	Response	Relevant Section
	have been considered as a worst case based on the table describing the locations (Table 9 lists George Bishop Drive but not a precise location). OneSteel requests the proponent confirm that the GLC's of benzene at G2 will present no unacceptable health risk to OneSteel employees.	subsequently been adopted as an indicator of emissions. Predicted concentrations of cumene at the OneSteel premises resulting from operation of the Proposed Facility were found to be below the OEH criterion for this substance. The revised AQIA is included at **Appendix C** to this Submissions Report.	
Traffic / Transport			
86	OneSteel requests it is consulted in the initial design phase regarding the proposed changes of the Bull Street corridor / Steelworks Road to understand the impact to the current OneSteel operations.	These roadworks are outside the scope of the Proposed Facility and will be undertaken by others. OneSteel may contact NPC regarding these roadworks.	Reference not applicable.
Rick Banyard of Maryville, NSW			
87	Acknowledges the effort the proponent has gone to, to inform the community and to respond to questions raised by the community. Proponent has developed a very thorough proposal however the issues beyond their fence cause me not to support the proposal and call for the proposal to be rejected.	Noted.	Reference not applicable.
NPC Concept Plan			
88	There are no approval conditions set for the total site and the Liquids Precinct. Approval of the Concept Plan would have a number of major approval conditions related to transport and freight movement to and from the area. Hard to visage the final Concept Plan and its approval conditions given there are no details relating to transport and freight movement from port side including: - The provision of the port side rail line and roadway; - The Newcastle Sydney rail corridor freight upgrade recently announced; - The adjustments to the Port Botany container facilities; and - The requirement of the 2021 State Plan. To consider the Marstel proposal in the absence of an approved Concept Plan is unthinkable.	If approved, both the NPC Concept Plan area and the Proposed Facility would be subject to individual and comprehensive conditions of consent. Details regarding consistency between the NPC Concept Plan and the Proposed Facility can be found in the EA. Despite being located within the NPC Concept Plan area, the Proposed Facility is a standalone application which is not dependent on the success of the NPC Concept Plan application for its own approval, as detailed in the EA.	Refer to Sections 3.7 and 22.0 or the EA.

No.	Issue	Response	Relevant Section
Port Master Plan			
89	Absence of a Port master Plan makes it impossible to judge if the Marstel site is suitable or the most suitable site for a fuel terminal.	The absence of a Port Master Plan does not prevent the site being assessed for suitability. As detailed in the EA, given its extensive disturbance, contamination, access to the port and transport, and proximity to end users, the site is well suited to the Proposed Facility.	
90	If the Port Master Plan (or parts of it) does exist and is being withheld then clearly it would be in breach of one of the key strategies of the NSW 2021 State Plan.	The proponent is not responsible for the preparation or release of the Port Master Plan.	Reference not applicable.
91	Would seem prudent that the ports fuel and bulk liquids terminals all be located in a similar area and share common wharf facilities and safety infrastructure. The proposed arrangements will have ship tankers using D2, M4, M7, B4 and K2 - very separated parts of the Harbour.	Only M4 has been proposed to service the Proposed Facility.	Reference not applicable.
92	It should be noted that BP import fuel into Newcastle Harbour by ship to D2. The statement in the Marstel document fails to acknowledge this.	The EA has been written to describe and assess the Proposed Facility.	Reference not applicable.
93	The additional activity in Newcastle Harbour is beneficial provided that the infrastructure is within the agreed Port Master Plan. This Master Plan is yet to happen.	Refer to response to Issue 90.	Reference not applicable.
Site Map / Layout			
94	Marstel site is the product of clearing all the BHP structures and extensive remediation to the area. Marstel site does not even have a frontage to a roadway. How can the impacts be assessed when there is not even a locality plan showing roadways and essential services?	The subject site can initially be accessed via connection to Selwyn Street. Under agreement with NPC, Marstel will ultimately have access to an extension of Ingall Street providing connection to the Industrial Highway.	Refer to Section 13.0 or the EA.
95	Project will at first use M4 wharf then relocate to M7. Proposal impact will therefore change.	The Proposed Facility only seeks to utilise berth M4.	Reference not applicable.
96	Project will use a temporary road access for unspecified time until a new roadway is built. There are no details of this road or its design. Proposal impact will therefore change.	The roadway is to be built by others outside the scope of this EA, and will be subject to the appropriate impact assessment and engineering standards.	Reference not applicable.

No.	Issue	Response	Relevant Section
Future Capacity			
97	Project application is for stage one only. A second and third set of tanks have been discussed. The site layout should indicate this.	Approval is only sought for the Proposed Facility described in the EA. Any future expansion would be subject to separate environmental impact assessment.	Refer to Section 3.0 of the EA.
98	Project application is for diesel only, however, the potential to handle petrol and other fuels has been raised.	Should a project approval be issued, it would stipulate that the Proposed Facility in its current form can only be used for the handling and storage of the fuels as described in the EA.	Refer to Section 3.0 of the EA.
99	If approval is to be considered, then the application should be for the full proposal and the consent conditions should allow for staged construction.	The applicant is only seeking approval of a facility suited to the size of its market. It would be unreasonable to ask applicants to undertake planning for additional components which may not be required in the future. Additional advancements in technology, safety, transportation etc. may make any approval for future stages obsolete.	Reference not applicable.
Neighbours			
100	Because this is the first proposal, the commercial activities of the neighbours will be restricted by the presence of this fuel terminal. The restrictions caused must not down value or quarantine the potential of the site.	The former BHP Steelworks site and surrounding land are located within an area with a long history of industrial development. The proposed fuel terminal location has been planned having consideration in regards to existing adjoining land uses, as well as those which may be developed. The planning undertaken as part of the wider NPC Concept Plan allocated different land uses within the former BHP site based on a number of parameters, including compatibility with surrounding and potential future land uses. The Proposed Facility would not down value or quarantine the potential of any surrounding land, including any residential land. The nearest residential land is approximately 900 m to the south.	Refer to Section 2.3 of the EA.

No.	Issue	Response	Relevant Section
Contamination / Remediation			
101	If consent is granted, an approval condition should state that when Marstel cease to use the site as a fuel terminal, the site should be remediated to its "virgin site". In the event of ownership change this condition must be transferred.	The site is subject to a Voluntary Remediation Agreement (VRA) and Contaminated Site Management Plan (CSMP) in order to manage the remediation and contamination beneath the site and surrounding land. These plans place responsibilities on land users to maintain the integrity the subterranean barrier and capping layer over the site. Marstel would be required to ensure that no breach of these features or additional contamination of the soils takes place.	Refer to EA Section 11.0.
Port SEPP			
102	Marstel proposal is on land governed by a SEPP with key functions to stimulate employment and economic activity on Port Side land. The Marstel proposal does neither to a significant level. Only 3 on-site full-time staff. 24/7 operation is unmanned much of the time. Project is managed and operated from Melbourne. Truck drivers will be from national freight companies. There is little evidence that the drivers will live or be based near the Port.	As described in the EA the Proposed Facility stimulates economic activity, initially in the capital investment required at start-up, then during the operational phase as it supplies local business.	Refer to Section 24.4 of the EA.
103	Trucks will not be stationed within the depot. Where will laden trucks be parked once loaded?	There is provision for four (4) tankers to queue on site prior to loading. Once loaded they will then deliver the fuel to its final destination.	Refer to Sections 3.0 and 13.0 of the EA.
104	Economic benefits of the terminal don't seem to relate to the economic benefits of the Newcastle Port SEPP. The proposal economic or employment benefit is not compared to other possible uses of the site, therefore, the proponent has not demonstrated the project meets the requirements of the SEPP.	The Ports SEPP (Incorporated into SEPP Major Projects) seeks to protect portside and related lands for port related uses. The Proposed Facility seeks to use portside land for the import, by ocean tanker, of fuels. The Proposed Facility is consistent with the Ports SEPP.	Refer to Section 4.3.2 of the EA.
Commitment of NPC and Government			
105	Government and NPC has a vested and pecuniary interest in the proposal: - Seems to be a deal to initially use MR then transfer to M7. No details provided. - State budget made provision for $1.2m infrastructure works for the fuel precinct. Indicates funding provided prior to approval being issued. No details available for the funding.	The DP&I is undertaking the ongoing assessment of the Proposed Facility in a transparent manner independent of vested and pecuniary interests that may be held by other government departments or agencies. - The use of berths is dependent on a number of factors including, available infrastructure, capacity,	Reference not applicable.

No.	Issue	Response	Relevant Section
	- NPC is landlord. By perception this must give NPC and the government (as owner of NPC) a pecuniary interest.	serviceability and therefore subject to change. The proposed berth (M4) has been assessed in the EA. - No funding has been allocated to the Proposed Facility from the State budget. - NPC manages port lands to ensure their use is maximised for the community benefit as outlined in the objectives of the cooperation (Newcastle Port Corporation Statement of Corporate Intent 2011-12).	
Traffic / Transportation			
106	Transport of bulk ethanol and diesel from 50 km to 500 km from the site places other road users at major risk because of the nature of the substance and the sheer volume of large trucks.	Alternatives to the Proposed Facility include transporting fuels from other facilities, for example, Sydney or Brisbane. This would lead to a much larger number of total road kilometres travelled for the same fuels. Given the relatively small traffic generation spread over a large road network truck volumes from the Proposed Facility will be negligible.	Refer to Section 13.0 of the EA.
107	Movement, number and safety precautions stated in EA are from a “perfect world” and minimum vehicle numbers. Small trucks, part loads and other customer requirements could raise the number of trucks, routes and even the load content considerably. It is conceivable that multi-compartment trucks could come to the site with compartments of petrol or other flammable liquids already loaded.	Traffic movements have been assessed based on the most accurate estimate available. Daily light vehicle movements have been factored into the traffic assessment. There is potential for maintenance to result in additional traffic movements however these will be on an as-needs basis and are considered negligible in terms of overall traffic generation. Appropriate fire protection would be installed at the tanker filling stand to account for tankers arriving on site that have flammable liquids in one or more compartments.	Refer to Section 13.0 of the EA.
108	Marstel does not appear to be contributing to road infrastructure to assist with meeting the demands placed on community infrastructure as a result of their transportation of product.	Refer to response to Issue 40.	Refer to response to Issue 40.

No.	Issue	Response	Relevant Section
Pipeline			
109	Whilst there are some limitations to the transport of fuel by rail, the Marstel proposal does not consider the proposed port side rail line and associated roadway.	Factors such as access to available rail space, rolling stock, transport costs and the need for additional infrastructure mean that the use of the rail line is not currently feasible for the Proposed Facility. Newcastle Port access enable import of bulk fuels directly to the Hunter Regional Market. Road transport allows fuels to be delivered directly to end users. Rail would require fuels to be moved from rail to road at some point. A modal change would add transport costs and also result in the final distribution of the fuels by road. In addition, infrastructure to facilitate the movement of fuel from rail to road would also be required at some stage along the rail line. This would effectively require an additional fuel terminal and be cost prohibitive.	Reference not applicable.
110	Given that almost all of the Marstel fuel will be delivered to customers west of Rutherford and mostly west of Singleton, it is logical that the fuel distribution terminal be located up the Valley and not on the port side.	Refer to response to Issue 111.	Refer to response to Issue 111.
111	Correct planning and infrastructure for the Hunter Valley would make the pipeline mandatory for such projects. A pipeline could be contained in the same trench as other proposed pipe lines for gas and water. The pipeline could be shared and the cost minimised. This could remove other fuel tankers from the very busy and choked roadways that daily risk the lives of other road users.	Distributing the amount of fuels proposed to be handled by the Proposed Facility make pipelines cost prohibitive. The construction and operation of a pipeline would incur cost and disruption along a pipeline corridor and require considerable lead-in time to construct, creating a far greater disturbance footprint than the Proposed Facility. Further, with a pipeline scenario, distribution of fuels would still be required by road with possible need to transport fuels back to Newcastle to other industrial customers.	Reference not applicable.
112	About 10% of the fuel will be carted by road to the Newcastle terminal for blending with the ship imported fuel.	Biodiesel will be transported to the terminal for storage, blending and redistribution.	Refer to Section 3.0 of the EA.
113	Whilst it is State policy to increase the use of biofuels, to implement this strategy in a highly wasteful and environmentally un-friendly manner is certainly not part of the State 2021 Plan.	The EA demonstrated that the Proposed Facility could be undertaken having regard to all the appropriate environmental factors. There is no evidence that the Proposed Facility would be wasteful or harmful to the environment.	Refer to Section 3.0 of the EA.

No.	Issue	Response	Relevant Section
114	Only reason Marstel give for not using a pipeline is to unload ships quickly. If the pipeline up the valley is not capable of economically transferring fuel direct from the ship then a bulk storage tank could be located portside. Fuel would then be transferred to the distribution centre located up the valley in a smaller and more viable pipe. There would be major freight savings to Marstel as each load to customers would save about 70 km plus of on road travel.	Refer to response to Issue 111.	Refer to response to Issue 111.
115	The elimination of all the truck movements from the Lower Hunter roads would be a major benefit to road safety and to the environment (a key State 2021 Plan objective).	The State Plan acknowledges the use of key transport routes for the movement of goods to stimulate the economy.	Reference not applicable.
116	Pipeline from portside to say Rutherford would eliminate the need to cart 10% of the fuel (ethanol from Rutherford to Mayfield and then back to Rutherford as part of the blended fuel).	Biofuels may be sourced from a variety of locations eliminating any benefit of having a pipeline to a location such as Rutherford.	Reference not applicable.
117	Stages two and three of the project would also benefit from the distribution terminal being located at a location west of Maitland.	Refer to response to Issue 111.	Refer to response to Issue 111.
Input from Other Agencies			
118	Has the Department of Planning sought comment from the Maitland City Council about the Marstel fuel terminal and the massive transport of dangerous product through its LGA?	The Director Generals Requirements did not identify Maitland City Council as a key stakeholder for consultation as part of the EA. Maitland City Council had the opportunity to prepare a response to the Proposed Facility during the exhibition period. No response was received. While some transport of product may occur through the Maitland LGA this will be primarily along RMA managed roads. RMS have been consulted as part of this EA.	Reference not applicable.
Cumulative Impact			
119	The cumulative impacts of the Fuel terminal are massive for such a small project due to the huge off site activity generated by the fuel transportation. Stage one will involve transport of 3 million litres per annum of fuel involving B-double trucks over some of the State's most heavily used roadways. There are already many serious choke points and grid lock is common. Project does not address this key issue.	The cumulative impacts of the Proposed Facility are not massive. As detailed in Section 23.0 of the EA, the cumulative impacts assessment of the liquid handling component of the NPC Concept Plan, as found in the NPC Concept Plan Environmental Assessment, found that such impacts would be minimal.	Refer to Section 23.0 of the EA.

No.	Issue	Response	Relevant Section
120	Transport issue will also change as new vehicle types are introduced and regulations change. The introduction of B-triples is an example.	As regulations in regards to operation of the Proposed Facility are amended and updated, Marstel will be required to conform to those new regulations. The Proposed Facility has not been designed for B-triples and such vehicles are not typically designed for transport with urban areas.	Reference not applicable.
121	Although both Marstel and Shell indicate that the fuel trucks (both empty and full) will only use dedicated B-double routes, neither company is in a position to police and enforce this.	Transport companies are required to restrict vehicle types to dedicated and approved routes. The Industrial Highway is a B-double approved route. Drivers and companies face penalties for failing to comply. At no point will drivers accessing the site be required to travel outside the approved B-double route when transporting fuels.	Refer to Section 2.1.2 of the EA.
122	The cumulative impact of the cartage of diesel on the same route as the extensive cartage of Ammonium Nitrate could be catastrophic according to Work Cover as these two products when combined are the key explosives used for mine blasting.	Refer to response to Issue 70.	Refer to response to Issue 70.
123	This cumulative impact of fuel transport is not only a major safety issue but also will act as an economic negative on many other businesses, industries and communities.	There is no evidence that the Proposed Facility would have negative economic benefits.	Refer to Section 24.4 of the EA.
124	A large number of vehicles have no choice other than to use roadways such as Industrial Drive. It is grossly unreasonable and very poor planning to force these people to compete against an operation that has a viable alternative via a pipeline and is simply using a roadway as an easy way out. This cumulative impact is simply unacceptable given that the fuel could be transported readily by rail or pipeline. The Sydney Newcastle pipeline is proof that it can be cone and that the benefits are substantial.	Refer to response to Issue 111.	Refer to response to Issue 111.
Planning			
125	The use of temporary wharfage and a fuel terminal within a yet to be serviced “Precinct” in an unapproved Concept Master Plan hardly fits the mould of quality planning, sound economic evaluation and quality environmental assessment required by a SEPP and planning process dedicated to these items.	Refer to response to Issue 88.	Refer to response to Issue 88.

No.	Issue	Response	Relevant Section
126	For the associated transportation to impede on the community and other economic activity to the point where any benefits are heavily outweighed by negatives is unacceptable and certainly in conflict with the 2021 State Plan.	It has been demonstrated that adequate capacity exists in the road network for the anticipated traffic generation. The evidence is that the levels of additional transportation will not impede on the community. As described in the EA, the proposal would have net economic benefits through the investment in the site, direct and indirect employment and support of other local and regional businesses.	Refer to Sections 13.0 and 24.4.
127	The use of a shoreline terminal and lots of trucks is not an appropriate operation for the Hunter as it moves forward on very inadequate and congested roads.	Refer to response to Issue 126.	Refer to response to Issue 126.
128	The transport of fuel for safety, efficiency and the environment reasons, needs to utilised pipelines and railways where possible and not road trucks.	Refer to response to Issue 111.	Refer to response to Issue 111.
George Barnes of Margaret Street, Mayfield East, NSW			
Shell			
129	Marstel has no apparent interest in specifying the practices and procedures of its customers, (e.g. Shell)	If required, the facilities and practise of potential customers would be subject to a separate environmental assessment process at the time they are, or were proposed. The EA focuses on Marstel's proposed terminal.	Reference not applicable.
Traffic / Transportation			
130	and will not engage the community by requiring Liquid Fuels from its terminal to be restricted to an approved and adequate road network or other suitable infrastructure	Refer to response to Issue 121.	Refer to response to Issue 121.
Tony Brown of AMB Workplace Solutions, Cooks Hill, NSW			
Hazard and Risk			
131	Insufficient regard to the serious health, safety and amenity impacts of this development.	Refer to response to Issue 73.	Refer to response to Issue 73.
132	Recent Orica debacle at KI poses an unacceptably high risk with a fuel storage facility.	Refer to Response to Issue 70.	Refer to Response to Issue 70.

No.	Issue	Response	Relevant Section
Traffic / Transportation			
133	An unacceptably high level of trucks will [travel] through resident streets.	No trucks are proposed to travel through any residential street.	Refer to Section 13.0 or the EA.
B. Callcott (address not provided in submission)			
Planning			
134	The proposal is not the highest or the best use for the land. Newcastle needs high added value clean industries which will generate high employment.	The Proposed Facility provides a compatible use commensurate with the previous use of the site, contamination constraints, surrounding industry and port facilities. Use of port facilities in Newcastle will see a diversification in port uses, additional investment and employment, all supporting the economy.	Refer to Section 24.4 of the EA.
135	Mayfield does not need another era of dirty & hazardous industries which generate few jobs and sterilise large areas of land because they require large separations from population intensive uses.	A Preliminary Hazard Analysis was prepared in accordance with the Department of Planning and Infrastructure *Applying SEPP 33: Hazardous and Offensive Industry Development Application Guidelines* (1994). This concluded that, with the proposed offset distances, the site would represent a minor hazard, with recommended measures to minimise potential hazards during operations.	Refer to Section 7.0 of the EA.
136	The land has recently been cleaned up (part of the $600 million clean-up) and it would be a waste of opportunity and money to use the now clean land for a development likely to result in chemical spillage.	The land has been remediated to a level only safe for ongoing use for industrial purposes. The Proposed Facility represents an excellent opportunity to reuse land with known managed contamination.	Refer to Section 11.0 of the EA.
137	The proposal site is too close to housing and to the Mayfield East Public school and to the Nursing home.	The nearest residential dwelling is approximately 900 m away. The specialist studies included in the EA confirm that this distance is sufficient to meet specified criteria to manage significant impacts on residents in regards to noise, air quality, hazard and risk, traffic, or visual impact.	Refer to Sections 5.0 – 18.0 of the EA.
138	Mayfield is zoned to allow increased residential densities so there should be more people coming to live there. Marstel/Shell's potentially explosive development is not compatible with the densification allowed for in the-zoning	Areas zoned for higher densities in Mayfield are located around the Mayfield business district approximately 2 km from the subject site. The EA has shown that the Proposed Facility would be safe for the closest residents are 900 m distance.	Refer to Sections 5.0 – 18.0 of the EA.

No.	Issue	Response	Relevant Section
139	Alternative land is available at Kooragang which was specifically dredged and set aside in the 1960s for fuel storage type industries and is far better separated from school, nursing home and residential uses. Marstel already has an approval for Kooragang. The EA does not give substantial justification for Marstel walking away from its Kooragang site. If the development was not good enough to be near Stockton people it is not good enough to be near Mayfield people.	The proposed site is ideal as it provides port access for the importation of fuels.	Refer to Section 3.0 of the EA.
Traffic / Transportation			
140	The proposed Industrial Drive truck routes are not suitable for B-Double fuel tankers as the route has houses and schools (Mayfield East & the Baptist School in Kerr Street) immediately on it. Industrial Drive was designed for smaller tankers with potentially less serious fire and explosion risks. The proposal to use George Street ignores that George Street is an ordinary residential street.	Refer to response to Issue 120.	Refer to response to Issue 120.
Adequacy			
141	The EA is misleading or inadequate or incomplete. The EA at page 37 says: "The current proposed Facility would recover, store and distribute diesel and biodiesel only." No recovery operations are described nor assessed in the EA.	'Recover 'refers to the recovery of fuels from a boat, and the recovery of biofuels by tanker for further distribution. No processing for the purposes of obtaining fuels for other materials or waste oils is proposed.	Refer to Section 4.3.2 of the EA.
Pipeline			
142	EA is dishonest in stating that the Caltex operated pipeline has no spare capacity. The Caltex pipeline has spare capacity and is able to carry extra diesel. The pipeline makes a very big improvement to fuel security in Newcastle and took many trucks off the road. Caltex's person responsible for answering queries about the pipeline, Rob Moore, (just ring the main switch & get put through to his office at Bankstown) confirmed the spare capacity to me this week. The pipeline was set up with a regulatory arrangement to enable commercial rivals to access the pipeline and Marstel and Shell can use the pipeline without the need to bring ship loads of diesel into Newcastle with the unnecessary risk of spills in sensitive waterways.	Any comments regarding the capacity of the Caltex pipeline were based on information received at the time. It is acknowledged that the demand for fuels and energy generally continues to rise. It is also acknowledged that additional sources of fuel provided greater energy security. Biodiesel will be handled in small quantities that can be readily handled without the need for pipeline transfer. Regardless, fuel piped from Sydney would require holding tanks such as the Proposed Facility to store fuels prior to distribution. This means that the pipeline would offset the need for ships to enter the port to berth. This would not	Reference not applicable.

No.	Issue	Response	Relevant Section
		reduce the number of trucks entering the existing site. There would therefore be no benefit from utilising the Sydney – Newcastle pipeline to reduce traffic.	
Shell			
143	The EA does not explain why Shell is not putting its name and reputation behind this proposal. Shell is a very experienced company in operating hazardous developments. Shell has expert engineers all over the world to help when problems arise. If this project is not good enough for Shell to put its name to then it is not good enough for Mayfield. Paul Zennaro of Shell has confirmed by phone conversation that Shell proposes to use the Marstel facility.	The proponent is Marstel. Shell would be a client of Marstel. Marstel is also experienced in the operation of hazardous developments including those containing liquid fuels as described in Section 1.5 of the EA. Additional information regarding the proponent is available on the company website.	Refer to Section 1.5 of the EA.
144	Given that Shell's role which seems to be that of the substantive proponent is NOT spelled out in the EA, then the EA would seem to be void due to the absence of mandatory information.	Refer to response to Issue 143.	Refer to response to Issue 143.
145	If Shell's expert engineers have scrutinized the details of the design and safeguards then shouldn't their opinions and any reservations be included in the EA? If Shell's experts have not scrutinized the proposal then why not?	Refer to response to Issue 143.	Refer to response to Issue 143.
Liability			
146	What liability arrangements apply in the event of an accident at the plant which harms the nearby residents? Which of Shell & Marstel would accept liability for fumes from a fire or other foreseeable incident at such a fuel storage facility? Which corporation would pay for any hospitalisation or treatment?	In the event of any incident an investigation would be required to determine the cause. Appropriate actions can then be undertaken. Marstel will likely require an Environmental Protection Licence (EPL) to operate the Proposed Facility. This EPL would apply limits to operations which, if breached or resulted in an accident, would see prosecution brought on the EPL holder. Liability would be subject to the various insurances held by the proponent, transporters and any operators who work at the site.	Refer to Section 4.3.3 of the EA.

No.	Issue	Response	Relevant Section
147	What are the liability arrangements in the easily foreseeable event that a B-Double tanker on its way to or from the plant tips over in Mayfield and the resulting fire exposes many school children and residents to fumes? Does Marstel or Shell provide the coverage? One web site says that an ordinary B-Double fuel tanker is only required to have $2.5 million coverage, is this enough if an explosion and fire from a tanker spread? How does an affected resident sort out the liability of the tanker operator and facility operator?	Refer to response to Issue 147.	Refer to response to Issue 147.
Hazard and Risk			
148	The EA does not explain the competence of Marstel to supervise and operate a hazardous development in a sensitive area. Marstel is a relatively small company.	Refer to response to Issue 143.	Refer to response to Issue 143.
149	Shell already has land and depot at Hamilton North which provides an alternative site with direct access to the pipeline. The site already has supervisors and managers with relevant experience. If the Marstel/Shell development is not safe enough to go near the residents of Hamilton North then it is not safe enough to go near Mayfield residents.	Refer to response to Issue 139.	Refer to response to Issue 139.
150	Biodiesel is frequently described in other sources as having strong solvent properties & particularly attacks paint and even brass and copper. BUT the EA does not once use the word “solvent” and does not assess any of the potential impacts. What will be the impact on the paint of Mayfield houses and cars of the bio-diesel emissions? How does Marstel/Shell propose to pay for the more frequent painting required? Mayfield is a suburb of mainly painted weatherboard houses with mainly painted iron roofs and mainly painted fences. How does Marstel/Shell propose to protect external water pipes and taps of copper & brass such as go around the outside of our house?	Biodiesel is a combustible liquid and does not flash or vaporise at ambient temperatures. Therefore it does not cause vapour. No liquid biodiesel would come into contact with houses. Air modelling showed that air quality impacts from the Proposed facility would be within the EPA specified criteria. Refer to response to Issues 2 – 6.	Refer to Section 7.1 of the EA.
151	The reduction of hazardous storage facilities in inner Newcastle was a major achievement of the Department of Planning in the 1980s and 1990s. Dr Sam Haddad was a key person in this achievement and I ask that Dr Haddad give this application his direct personal attention. The whole safety of inner Newcastle was improved. The Tighes Hill storages immediately adjoining the residential areas were removed. Other tanks were shifted and removed. At Comsteel many fuel storage tanks were removed with the arrival of the fuel pipeline from Sydney and natural gas.	Tighes Hill storages were located within a residential area. The subject site is located in an area surrounded by industry with the nearest resident 900 m away. As is detailed in the Preliminary Hazard Analysis, the Proposed Facility does not pose a significant hazard to the residents of Mayfield or Newcastle.	Refer to Section 7.0 of the EA.

No.	Issue	Response	Relevant Section
152	New fuel storage capacity and additional hazards should not be put back into Newcastle and Mayfield. Allowing Marstel/Shell's proposal at Mayfield compromises the whole long effort to clean up Mayfield and Newcastle and make them safer.	The Proposed Facility will not compromise the general clean-up of Mayfield. The subject site has a history of industrial land uses and contamination. The Proposed Facility represents a compatible land use on land not suitable for more sensitive (residential, school etc.) land uses.	Refer to response to Issue 73.
153	The EA does not include any hazard or risk contour diagrams. The EA does not assess the cumulative risk issues. Given that these are critical issues, the EA should include them so residents can comment.	The respective specialist reports which accompany the EA provide discussion and figures to represent impacts which have been modelled as potentially occurring as a result of the Proposed Facility. This includes visual, transport, hazard, air quality, noise and vibration, and ecology risk assessment. Residents were free to comment on these during the exhibition period.	Ref to Sections 7.0 to 19.0 of the EA.
Air Quality			
154	The EA air quality analysis does not properly attend to the risk of a major leak or vent incident during a time of low wind and inversion. The visible plumes from Kooragang clearly show that quite concentrated undispersed streams can travel up and hit the inversion limit and then travel horizontally and then hit the interface between on and off shore air and come straight down. Thus a relatively concentrated flow of pollutant hits the ground where people are exposed. This is probably what has been happening recently and causing the concentrated smell and chemical incidents in Mayfield (e.g. Ammonia from Orica). Concentrated diesel or biodiesel vent incidents are almost inevitable with this plant. The inversions and stable air conditions frequently experienced in Mayfield make this a bad area for such a plant.	Assessment of leaks and other incidents were beyond the scope of an AQIA. The AQIA does, however, provide a conservative assessment that assesses normal vent emissions from the proposed facility under all meteorological conditions, and concentrations of cumene (used as the most relevant indicator for volatile organic compounds [VOCs]) were found to be below the OEH assessment criterion at sensitive receptor locations.	Refer to **Appendix C**.
155	2009 was not a very still year so the 2009 air conditions used do not assess a worst case scenario.	Long term average climate data were used when modelling to determine potential impacts from the Proposed Facility.	Refer to Appendix F of the EA.
Claire Charles and Andrew Parker of Mayfield, NSW			
NPC Concept Plan			
156	NPC concept plan has not been approved.	Refer to response to Issue 88.	Refer to response to Issue 88.
157	We object to a second state proposal being approved before the first stage	Refer to response to Issue 88.	Refer to response to Issue 88.

No.	Issue	Response	Relevant Section
158	There is not enough information about legal rights of way, obligations of access if Marstel was to be approved before the concept plan.	Construction access would be via Selwyn Street. Operational access may be vie Selwyn Street until such time as the redevelopment of surrounding land constructs formal access to the site. Once constructed, formal access would be via Ingall Street.	Refer to Section 3.3 of the EA.
159	Under the terms of the deed of agreement, NPC would undertake construction of intersections, access ways and services to the Site boundary, obtain any approvals that would be required for the road works, and provide legal access for Marstel and its contractors to the Site. This provision of access would form part of NPC's management of the Bulk Liquid Storage Precinct as part of the broader Mayfield Concept Approval Plan. Marstel is reliant on NPC to undertake the necessary construction works to provide site access.	NPC is contractually required to provide access roadways for construction and operations and all services to the site.	
160	There has not been any information or documentation by NPC (nor was it in Marstel's first submission) on the access and services road near Bull Street referred to in the EA. We object to not having all relevant information on public display prior to approval. [*Reference provided to first paragraph, Section 3.4.5, p16 of the EA]*.	Refer to response to Issue 159.	Refer to response to Issue 159.
161	We object to any legal obligation by NPC to provide access to the Marstel project prior to the NPC Concept Plan being approved. *[Reference provided to last paragraph, p79 of the EA]*	Refer to response to Issue 159.	Refer to response to Issue 159.
Port Master Plan			
162	To comment on this project in the absence of a Port Master Plan and in the absence of an approved Mayfield Concept Plan. There is simply no way a community member can gauge the cumulative impacts.	Refer to response to Issue 69.	Refer to response to Issue 69.
Noise and Air Quality			
163	Mayfield East, one of Newcastle's oldest schools (150+ years), is a beautiful school with windows we can open and shady trees. [It] has a substantial number of Australian native plants; you can hear the birds sing. Our learning environment is rich and meets the needs of all our children. We have a lovely outdoor play environment with play equipment, ball courts, grassy areas and shady gardens.	Day time assessment of noise impacts to schools in included in the Noise Assessment in Appendix D. Further justification for the noise assessment methodology can be found in response to issues 7 to 25 and the revised Noise and Vibration Impact Assessment in Appendix D.	Refer to Appendix D.

No.	Issue	Response	Relevant Section
	More trucks, more cars, more traffic will give rise to more noise and air pollution in the surrounding suburbs. There is already excessive reliance on trucks for transport in NSW and this proposal will only increase the problem. Why was the noise impact assessed for the school at night, the cumulative noise impact of the construction with day time traffic needs to be assessed? *[Reference provided to Note 2, Table 23, p73 of the EA]*		
Traffic / Transportation			
164	We object to Marstel using NPC flawed Traffic data from the Concept Plan. *[Reference provided to Table 47, "Road Transport", p117 of the EA]*	There is no evidence that the traffic data from the NPC Concept Plan is flawed. An error in transcribing the traffic data in Table 23 of the Noise report was a typo only. A review of the modelling showed that the correct AADTs were used in the modelling. Traffic data comes from RMS traffic count information which is publically available.	Refer to Appendix D of the EA.
165	Marstel's own submissions state the uncertainty of traffic modelling for the Concept Plan. Cumulative effect cannot be determined. *[Reference provided to p81 of the EA, paragraph 1 and 2]*	Marstel's submission states that modelling predicted traffic over a 20-year forward timeframe is not beneficial to the Proposed Facility due to a number of factors as listed in Section 13.2.2 of the EA. Given the lifespan, size and conceptual nature of the Concept Plan such modelling was included for consideration.	Refer to Section 13.2.2 of the EA.
NPC Information			
166	Documentation on the NPC web site about the Ports future infrastructure is very limited. We object to the use of out-dated data and information used from NPC Concept Plan.	Any information used from the NPC Concept Plan was verified to ensure it was still adequate and represented the best information for the impact assessment. Where data-gaps were identified, additional information gathering and modelling was undertaken to inform the EA. For example where data-gaps were identified in the Noise and Vibration Report, further data acquisition and modelling was undertaken.	Refer to Section 12.1 of the EA.
167	Mayfield CCC has only met once this is defunct group. *[Reference provided to Table 47, "Socioeconomic", p121 of the EA]*	For the purposes of community consultation, 'Mayfield CCC' can be interchangeable with any nominated community group with whom the DP&I deems it appropriate to undertake periodic community consultation and updates.	Reference not applicable.

No.	Issue	Response	Relevant Section
Economic Benefits			
168	Marstel will only employ 3 F/T staff, how is this of economic benefit to the community it will impact on.	Refer to response to Issue 66.	Refer to response to Issue 66.
Port Master Plan			
169	We need a Master Port Plan with long term objectives with supporting infrastructure, to have a diverse 21st century working port.	Refer to responses to Issues 89 – 93.	Refer to responses to Issues 89 – 93.
Amanda Crick of Mayfield East, NSW			
Planning			
170	While this project on its own appears not to pose significant issues to local residents, it should not be considered further until broader decisions about the former BHP steelworks site have been made.	Refer to response to Issue 88.	Refer to response to Issue 88.
171	The poorly assessed Newcastle Port Corporation Concept Plan for the site covers the location of this project, and still hangs in planning limbo. If this project is endorsed by the government, then it opens the door to incremental development of the overall BHP site. This approach is unacceptable. The overall site must be planned in a coordinated and strategic way.	Refer to response to Issue 69.	Refer to response to Issue 69.
172	Similarly, the impacts from the overall use of the site must be determined and assessed on a cumulative level, taking into account not just all the activities planned to occur on the site, but those occurring and planned to occur in surrounding areas.	Refer to response to Issue 69.	Refer to response to Issue 69.
173	The community should not be forced to manage a 'death by a thousand cuts' approach to planning and environmental management of industrial operations in this area. A strategic decision regarding the use of the former BHP site must be made before any more development applications are accepted by the Department of Planning for the site.	Refer to response to Issue 88.	Refer to response to Issue 88.

No.	Issue	Response	Relevant Section
Rosie and John Hayes of Mayfield East, NSW			
Noise and Air Quality			
174	We oppose the Marstel Application. It is on land only a few hundred metres from where we live. Safety and Traffic - bringing with it noise, dust, vibration, and toxic Diesel exhausts are our main concerns.	The closest residential receiver is approximately 900 m away. The EA provides a thorough review of the safety and environmental concerns raised by the submission. It concludes that with the recommended measure in place to mitigate and manage any effects from noise and vibration, dust, or other gaseous emissions, the Proposed Facility can safely proceed.	Refer to Table 47 of the EA.
175	Many of these issues are more fully spelt out in the attached submission by Correct Planning & Consultation for Mayfield group. We support all the arguments in that submission. *[Correct Planning & Consultation for Mayfield Group submission attached].*	Refer to response to Issues 65 – 72.	Refer to response to Issues 65 – 72.
Lyn Kilby (address not provided)			
Hazard and Risk			
176	Who of the three companies are accountable for a system failure? A scenario is: one man on the Marstel site, with a computer system in Melbourne, and a relieving contract truck driver. The probability of all failing is a possibility. a) Who is responsible for safety when the onsite STOLT [?] worker becomes ill? b) Who is responsible when the computer system fails in Melbourne due to weather event or computer crashing? c) A relieving truck driver (filling in on a shift) breaks protocol with safety, OH&S & there is a truck fire due to SHELL spill? d) Any of these incidences are possible at one time. Our community believes there is high risk and system failure possible. Could this leave the area of Newcastle vulnerable? Human error and systems down are never written in a proposal. Even though volumes of fuel is ever present.	Marstel is responsible for the ongoing safe operations of the site. Other parties will be responsible for their respective participation, for example transportation. Systems will be built into the Proposed Facility to act as 'fail safes' which are triggered by certain events regardless of human interaction. Such fail safes shut down site systems which may be damaged or could cause damage or result in an environmental or material harm if left unmanaged. An assessment of operational risk, hazards and safeguards to manage those risks in included in the Preliminary Risk Analysis which forms Appendix E to the EA. Furthermore, management plans and procedures will be developed (in accordance with the SoC) before operation of the facility commences.	Refer to Section 7.0 of the EA.

No.	Issue	Response	Relevant Section
177	Who are the procedural observers of the systems? The 3 companies involved need to ensure accountability both on site and off site. I ask the regulator to expect more from SHELL and the trucking companies not just MARSTEL/STOLT in their isolated planning process. This should not be an isolated proposal when there are other players.	Refer to response to Issue 175.	Refer to response to Issue 175.
Future Capacity			
178	STAGE 2 & 3 are not isolated and for another proposal at another time. This proposal needs Stage 2 & 3 embedded in some way, for cumulative impact measure. This is a "virgin site" linked with the local suburbs and poor infrastructure. What are the licence changes required within this proposal, to prepare and ensure that future STAGE 2 & 3 adjust appropriately to cumulative impacts of immediate Newcastle through to Maitland, the densely populated area?	Refer to response to Issues 79 – 99.	Refer to response to Issues 79 – 99.
Cumulative Impact			
179	The systems are high risk. Marstel alone has risk. SHELL/ fuel has risk, trucking companies add to the risk. Where in the MARSTEL proposal can the regulator layer in protection for community? All three companies together are causes of cumulative risk. Marstel should not present this document alone.	Marstel is the proponent responsible for the planning of the Proposed Facility and is the party responsible for the preparation of the EA.	Reference not applicable.
180	Marstel exists because of SHELL and the trucking company. Does the freight for SHELL and this storage terminal propose a joint proposal? and Why not? Why is such an integrated Industry looking only at one operative? 3 companies are integral to all operations both locally and regionally.	Refer to response to Issue 179.	Refer to response to Issue 179.
181	More is required on safety by our regulator, to manage the cumulative impact of the companies at stage 1. The long term planning and development is in no doubt in Marstel's vision for Stage 2 & 3. This proposal is clearly about get it done in a limited way and Stage 2 & 3 will be easy to propose and pass at planning level.	Refer to response to Issues 79 – 99.	Refer to response to Issues 79 – 99.
182	The Proposal should explain how the MATRSTEL plan fits with the overall PORT Corporation Plan. As there is no port plan, how is the regulator addressing cumulative impact? Measuring stresses on community as it co-exists alongside this site?	Refer to responses to Issues 89 – 93.	Refer to responses to Issues 89 – 93.

No.	Issue	Response	Relevant Section
Planning			
183	The infrastructure in Newcastle and across the region will fail if road and rail are not improved to meet the demand of this industry. The cost to the community throughout will be noise, vibration, fumes and road fatality all within the "Australian Standard". The EPA still has a lot of work to do and until processes are improved within the EPA, planning is not protecting the community adequately.	Noted.	Reference not applicable.
184	This proposal is not offering any significant employment? What does the regulator consider valuable to community: Is it freight by truck?, Is it to meet Australian standards but still have a certain amount of pollutants going into the local air and the Hunter River? Is it just to satisfy Rio Tinto, Xstrata and others?	Refer to response to Issue 67.	Refer to response to Issue 67
185	The community needs a long term Newcastle Port Plan, explaining the interrelationship and accountability within the Coal Chain. Marstel's Proposal in isolation is inappropriate.	Refer to responses to Issues 89 – 93.	Refer to responses to Issues 89 – 93.
Air Quality			
186	Is STOLT/ MARSTEL setting up for zero emission?	As demonstrated in the EA, emissions are within the relevant parameters including air and noise emissions.	Refer to Sections 8.0 to 15.0 of the EA.
John Nella of Mitchell Street, Stockton, NSW			
Planning			
187	Proposals such as this are not taking into account the surrounding land use. Some of the land is private dwellings and these residents should not have to be exposed to the noise, fumes, and traffic.	The EA has been prepared in accordance with statutory requirements and took into consideration surrounding land uses. The former BHP site and surrounding land are located within an area with a long history of industrial development. The proposed fuel terminal location has been planned having consideration in regards to existing adjoining land uses, as well as those which may be developed.	Refer to Section 2.3 of the EA.

No.	Issue	Response	Relevant Section
Air Quality			
188	Vapours emitted during filling of the storage vessels will presumably be contained by the appropriate filtering equipment. Is this the case and is there a plan to ensure the maintenance and servicing of this equipment?	All emissions from tanks and the truck filling station will be vented to atmosphere; the AQIA assessed the emissions as occurring in this manner and determined that adverse effects are not expected to result from the operation of the facility. Maintenance and servicing of all equipment on site would be expected to occur as part of the site's ongoing operations, and is likely to be a requirement of the Environment Protection Licence issued for the facility if the project is approved and constructed.	Refer to **Appendix C**.
189	Nearby plants include Orica which recently emitted Ammonia at sufficient concentrations to require hospitalisation of workers. Marstel have no plans to ensure that the operator could safely shutdown their facility in the event of such an event occurring and the operator being affected.	Refer to response to Issue 73.	Refer to response to Issue 73.
190	Transport of the fuel will take place along Industrial Drive and this is also used by the vehicles transporting Ammonium Sulphate. Diesel fuel and Ammonium Sulphate are the two major components used to manufacture explosives for the mining industry. There are no protocols to ensure separation of vehicles carrying these materials and this would seem to be prudent yet neither company seems to have even considered such a simple step to reduce the risk to both the drivers and members of the public.	Refer to response to Issue 69.	Refer to response to Issue 69.
191	I am sure that given more time members of the public would find more areas of weakness.	The EA was placed on public exhibition and submissions were able to be made on the EA in accordance with statutory timeframes and requirements.	Reference not applicable.
Brett, Gail and Eden Purcell of Kitchener Parade, Mayfield East			
192	I strongly object this proposal as I find it difficult to believe that a fuel terminal can be built so close to my home and many residences close to this site.	Refer to response to Issue 137.	Refer to response to Issue 137.
Traffic / Transportation			
193	We have lived at Mayfield East for 7 years now and I cannot tell you how much truck traffic has increased in particular B-Double trucks using the Industrial Highway and the adjacent streets of Kitchener Parade, George Street & Crebert Street Mayfield East NSW 2304. At times we have over 20	Refer to response to Issue 121.	Refer to response to Issue 121.

No.	Issue	Response	Relevant Section
	large trucks using my residential street per day and on some occasions these trucks are so large they tear off branches of the trees lining my street. Also many kids feel unsafe to play outside with the noise these trucks make when roaring down the street be at times intolerable. Increased truck traffic which this new fuel terminal would bring close to my home is unacceptable, as it is one of the busiest roads in Newcastle with at least 100 B-Double coal trucks per day driving from Lake Macquarie mines and bringing coal to Port Waratah Coal Services Carrington operation.		
194	With the Buildev Group (Nathan Tinkler) already building his coal terminal on the same location and using the same roads it is unfair that local people have to suffer as to make corporations happy and to ultimately boost their bottom lines.	The DP&I is undertaking the ongoing assessment of the Concept Plan Proposal to redevelop the former BHP steelworks site. DP&I is also considering other proposals and applications including Hunter Ports. The EA only considers Marstel's Proposed Facility for the bulk fuel terminal.	Reference not applicable.
Air Quality			
195	As to the Fuel terminal itself I am dead against this for the following reasons: - Toxic Build-up of fuels close to residence and our harbour along with the foul smells which these fuel terminals produce as I have smelt the existing BP Islington fuel site from my back yard when the winds blow gently this way. It sometimes stings your eyes.	The Marstel site proposes to store only diesel and biodiesel products. These fuels are heavier than petroleum fuels, and evaporate much more slowly, resulting in lower levels of vapour emissions. Odour is not expected to be an issue of concern for the proposed facility.	Refer to **Appendix C**.
196	- Mayfield East Public School is one of the oldest schools in Australia and has preschool care and after school care and is situated overlooking the industrial drive and of course the old BHP site which is very close in proximity.	Refer to response to Issue 73.	Refer to response to Issue 73.
197	- Six hats child care centre which my son attends sits on Industrial Drive and the teachers have had to bring kids inside when big winds blow as coal dust covers all of the play equipment. When I pick my son up from childcare on a Monday afternoon trucks will not let you in even when stopped, and are often parked back to back along Industrial Drive for over 20 truck distances.	Dust emissions are not expected to be generated by the proposed facility, due to the nature of the operations and the fact that the site will be constructed on hardstand. Trucks associated with the facility will be accommodated on site and would not need to park on roads surrounding the site.	Reference not applicable.

No.	Issue	Response	Relevant Section
198	- ORICA leaks at Kooragang are my big concern. The NSW Government and the EPA have told local residents through Robin Parker – Environment Minister for NSW - that ORICA have best practice codes in place to protect the community safety but over the last two months there has been three TOXIC LEAKS with two men hospitalised and now the entire ORICA PLANT is shut indefinitely.	The EA concerns Marstel's proposal for a bulk fuel terminal. EPA's considerations regarding the Orica plant are not a matter for the EA.	Reference not applicable.
199	- Mayfield East has become a watershed of young families who are hell bent on improving their homes and with the approval of the Buildev Coal Terminal along with this project what devastating decrease in our housing costs will become apparent if these projects proceed. Not many people would look to live next to a FUEL TERMINAL operating 24 hours a day as does the BP Fuel Terminal (I know this is true as I have a family member who drives these tankers for BP).	Refer to response to Issue 137.	Refer to response to Issue 137.
Traffic / Transportation			
200	What plans do Marstel Terminals have to keep the industrial highway roads up to standard?	The RMS has considered and approved the Industrial Highway as an appropriate B-double route. The individual companies that use the Industrial Highway for transportation do not undertake road maintenance. Roadworks are undertaken by the appropriate legislated authority responsible for road maintenance.	Refer to Section 2.1.2 of the EA.
Community Development			
201	What does this company plan to do for the local residents in regards to community developments?	Refer to response to Issue 40.	Refer to response to Issue 40.
202	Will this company be a green company on this site by this I mean how do they guarantee no damage to my environment locally?	Refer to response to Issue 137.	Refer to response to Issue 137.
203	Newcastle Harbour and surrounds has way too much polluting industries and the people of Mayfield East deserve better from the NSW Government. Newcastle for the first time at last voted for this government and we are watching closely to see how you stack up as decisions need to be made for the correct reason not just money and revenue.	Refer to response to Issues 73 and 102 – 104.	Refer to response to Issues 73 and 102 – 104.

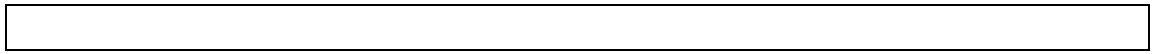
No.	Issue	Response	Relevant Section
Input from others			
204	I have arranged a meeting with Mr Tim Owen MP for Newcastle on the 9 December 2011 to voice my concerns directly to him, and the Mayfield East Community Action group is now in full swing to deal with yet another company looking to make money with no thoughts for the local community.	Noted.	Reference not applicable.
Hazard and Risk			
205	Minister, I urge you to decline this application proposal. When will this company realise it is NOT the correct place to have a Fuel Terminal and what if there are Toxic Leaks and what if the ship carrying fuel catches on fire as these ships are not regulated by Australian Maritime and as you know people in Newcastle have seen ship wrecks and disaster better than anyone else in Australia. Remember the Pasha Bulka which called Nobbys Beach home for months. It MUST be about the environment this time so please I urge you do not let this project go ahead and ruin my life along with many other locals.	Australian Maritime Safety Authority is the lead authority in the development, implementation and enforcement of international standards governing ship safety, navigation, marine environment protection, ship operations, maritime security, crew competency, training and fatigue management. Also principal functions of Newcastle Port Corporation are to manage and operate port facilities and services, and to exercise the port safety functions for which it is licensed. Refer to response to Issues 102 – 104.	Refer to response to Issues 102 – 104.
Caitlin Raschke of Kitchener Parade, Mayfield East			
206	I write to support the submission made by the Correct Planning & Consultation for Mayfield Group. I completely support their opposition to this proposal and wish to add my voice to theirs.	Noted.	Reference not applicable.
207	I have lived in Newcastle all my life and my mother and grandmother live in Newcastle. It has been a welcome change in the last few decades that Newcastle's reputation for being polluted and dirty has changed into that of a city which is a pleasant place to live and bring up children. I encourage my own children to be proud of this area but I fear for their future if proposals like the Marstel one go ahead. So it saddens me that we may have our priorities wrong and that proposals such as the Marstel Terminal proposal is a step backwards for residents.	The proposed development would provide economic benefits to the local, regional and State economies. The specialist studies included in the EA confirm that measures to be undertaken at the Proposed Facility site are sufficient to prevent any significant impacts on residents in regards to noise, air quality, hazard and risk, traffic, or visual impact.	Refer to EA Section 24.4. Refer to Sections 5.0 – 18.0 of the EA.
208	I agree with the Correct Planning and Consultation for Mayfield Group that these: - Marstel has no proposal for bulk diesel to be transported from its tank farm.	Refer to response to Issue 137.	Refer to response to Issue 137.

No.	Issue	Response	Relevant Section
	- 16,000 heavy vehicles/pa at Ingall Street intersection. - Boundary of the intersection is part of the play grounds of Mayfield East Public School. will impact on Mayfield and Newcastle in a number of unpleasant ways: Noise, Vibration, Toxic Diesel exhaust fumes; and the real risk of more and more truck accidents on our already very busy, and often choked local roads, arterial roads, bridges, and highways.		
Hazard and Risk			
209	The Orica Plant is only a few hundred metres across the water from the proposed Marstel Fuel Tank Farm. Orica wants to nearly double its production of Ammonium Nitrate. Incitec Pivot, adjacent to Orica, currently imports Ammonium Nitrate, and wants to commence making Ammonium Nitrate. Eastern Star Gas, adjacent to Incitec Pivot, wants to establish a Liquid Gas export facility. These four businesses, all in close proximity, have the potential for a massive explosion if there is a combination of bad events. Such a Witches Brew could blow up more than half of Newcastle.	Refer to response provides to Issue 70.	Refer Issue 70
210	There also additional safety factors to be taken into account. Hundreds of thousands of Tonnes of Ammonium Nitrate, from the Kooragang Island manufacturing and importation plants, goes up the Hunter Valley to the mines every year, to be used as explosives in the mines. It all travels by road. Travelling on the same roads are Diesel and Petrol tankers carrying hundreds of Millions of Litres of Combustible and Inflammable fuel. The Marstel Application would add hundreds of millions of litres of additional fuel to the same roads every year. It is not a matter of IF, but only a matter of WHEN, before we have an almighty explosion on the very busy, and often choked roads in The Hunter.	Refer to response provides to Issue 70.	Refer Issue 70
Pamela Reynolds of Kitchener Parade, Mayfield East			
Hazard and Risk			
211	I believe this could create potential danger in the event of an accident on the site. For this to be built in such a densely populated area in the proximity of the Newcastle City Council is sheer madness, to put it mildly.	Refer to response to Issue 73.	Refer to response to Issue 73.

No.	Issue	Response	Relevant Section
Traffic / Transportation			
212	It would also create enormous traffic problems with increased truck movements and noise.	Refer to response to Issue 69.	Refer to response to Issue 69.
Bill Robertson of Kitchener Parade, Mayfield East			
213	I strongly object to this proposal as it is very close to my home at Kitchener Parade Mayfield East, where I live with my partner Vicki and three children.	Refer to response to Issue 100.	Refer to response to Issue 100.
Traffic / Noise / Air Quality			
214	We have been long term residents and remember the pollution from BHP and its detrimental effects on our quality of life, including build-up of dust, foul odours and noisy machinery. We thought that those days were gone and that government would now be more considerate of residents when contemplating planning proposals but we fear this is not the case, especially if this development goes ahead.	Refer to response to Issue 69.	Refer to response to Issue 69.
215	Mayfield has developed a strong social fabric, which includes its local schools and a neighbourhood in which people often walk to local shops and walk their children to and from schools and the local pool. The proposed fuel terminal and bulk truck movements would significantly increase the amount of traffic and the associated noise and increased fuel emissions would have detrimental effects on the social fabric of the community and on the health of residents.	Refer to response to Issue 69.	Refer to response to Issue 69.
216	The recent Orica incidents surely provide enough evidence to suggest that we should not be approving bulk fuel storage facilities in close proximity to residents, or indeed in close proximity to other chemical plants such as Orica. Residents should not be asked to tolerate this type of development. As our elected representatives, government should listen to the voice of the people. A legacy of pollution and massive truck movements is not something we want to expose our children to.	Refer to response provided to Issue 70.	Refer Issue 70.

No.	Issue	Response	Relevant Section
217	It is 2011 not 1911, have we not progressed to a point where this type of development should not be allowed to go ahead in this day and age simply because of the traffic impacts it will have and the way it will impact on the quality of life of local residents. We ask that you reject this proposal on the grounds that it will have a negative impact on the quality of life of local residents.	Refer to response to Issue 69.	Refer to response to Issue 69.
218	I ask that you use the test of zero emissions for this proposal and any other on the site and that you look seriously at a rail alternative to road for any development on this site.	Refer to response to Issue 186.	Refer to response to Issue 186.
Economic Benefits			
219	I really question the motives for these operations. If it is about jobs then why not include the local community in discussions about job creation from the beginning. It is questionable how many local jobs will be created from this exercise which is in danger of just being a way in which a large company can make huge profits at the detriment of the local community and environment.	Refer to response to Issue 66.	Refer to response to Issue 66.
Time			
220	I have had to prepare this submission very quickly as, I am sure you will appreciate this is a very hectic time of year for many families. I think you should give more time for submissions as many families are too busy dealing with day to day issues at this time of year.	Refer to response to Issue 191.	Refer to response to Issue 191.
221	I also know from many conversations with local people that they are very supportive of the position of the Correct Planning and Consultation for Mayfield group and while they cannot always get to meetings they are extremely concerned about the proposed development.	Noted.	Reference not applicable.
Diana Santleben (address not provided)			
Hazard and Risk			
222	I ask that you rethink the plan of Marstel for Newcastle's area. The plans as advised give residents grave concerns. We have a right to be given verifiable assurances that are legally binding, that the lives of ourselves and our children will not be held captive for economic expediency. No one should have to endure emissions from any industry source. *[Correct Planning & Consultation for Mayfield Group submission attached].*	Refer to response to Issue 137.	Refer to response to Issue 137.

No.	Issue	Response	Relevant Section
Nick Wood of Crebert Street, Mayfield East			
Traffic / Transportation			
223	I wish to make a formal objection on the grounds that insufficient consideration has been given to the impact of the storage and transportation of chemicals on existing road haulage capacity.	Refer to response provided to Issue 70.	Refer Issue 70
224	Your reference to 'development of ancillary services and infrastructure, including internal roads' presumably with a view to storage and transportation is not specific enough. What is needed is a more detailed statement and plan outlining how diesel fuels would be transported to and from the port facility, taking into account the environmental impact of such a plan on the local residential area (Mayfield East).	Refer to response provided to Issue 69.	Refer Issue 69.



5.0 Response to Key Issues Raised

5.1 Traffic

Transportation issues primarily concerned:

- the additional number of trucks on the roads;
- the potential impact to residents, the local school and day-care centre from truck movements; and
- the potential for a hazardous traffic accident on Hunter roads given the nature of the materials transported.

Alternatives to the use of trucks were considered by Marstel, including rail and pipeline. Unfortunately, factors such as access to available rail space, rolling stock, transport costs and the need for additional infrastructure has meant that the use of the rail line is not currently feasible for the Proposed Facility. Rail would require fuels to be moved from rail to road at some point. Additional infrastructure to facilitate the movement of fuel from rail to road would be required at some stage along the rail line. This would effectively require an additional fuel terminal and be costly.

In addition, transport costs for distributing the amount of fuels proposed to be handled by the Proposed Facility make pipelines cost prohibitive. The construction and operation of a pipeline would incur considerable cost and disruption along a pipeline corridor and require considerable lead-in time to construct, creating a far greater disturbance footprint than the Proposed Facility. Distribution of fuels would then be required by road from the end point of any pipeline with possible need to transport back to Newcastle to industrial customers if such a pipeline ended further west in the Hunter Valley as indicated by several community member submissions.

Road transport allows fuels to be delivered directly to end users. Given the relatively small traffic generation spread over a large road network truck volumes from the Proposed Facility would be small in comparison to current volumes.

Industrial Drive (MR316) is a classified (State) Road. As such, the RMS has been consulted in regard to traffic likely to be generated from the Proposed Facility, and traffic likely to be generated under the NPC Concept Plan. The RMS has advised that it would have no objections to or requirements for the proposed bulk fuel development and, given the predicted relatively low trip generation, the RMS considered that the Proposed Facility would be able to operate without additional infrastructure at the intersections of Industrial Drive with Ingall Street and George Street.

Due to the nature and size of the Proposed Facility, and the location of end users, road transport is the only feasible option for the distribution of fuel products at this time.

For the EA, traffic movements were assessed based on the most accurate estimate available (36 truck and 20 light vehicle movements per day). Additionally, daily light vehicle movements were factored into the traffic assessment.

Transport companies are required to restrict vehicle types to dedicated and approved routes. The Industrial Highway is a B-double approved route. Drivers and companies face penalties for failing to comply. At no point will drivers accessing the site be required to travel outside the approved B-double route when transporting fuels. No trucks would travel through residential streets.

5.2 Noise

Noise issues primarily concerned:

- the impact to the local community from operational noise; and
- the NSW EPA raised questions in relation to the methodology, modelling and assessment of potential construction and operational noise and vibration impacts.

In relation to the specific questions raised by the EPA in relation to the Noise and Vibration Impact Assessment (AECOM, 2010) a revised report was prepared. A detailed response to each of the issues raised by the EPA is provided in **Table 1**, Issues 7 to 25. It is not considered necessary to provide a second response to those comments. Having revised the NVIA based on EPA's comment, the following summary and conclusions are provided.

Construction noise and vibration

Noise producing construction activities with typical associated equipment have been modelled at the project site to indicate noise levels at the nearest residential and commercial receivers.

The construction noise and vibration assessment was conducted in accordance with NSW Environment Protection Authority (EPA) '*Interim Construction Noise Guidelines' (ICNG, 2009)*.

The construction noise assessment indicates compliance with EPA's ICNG acoustic requirements at all assessment locations during the daytime (i.e. during standard construction hours). The construction vibration assessment indicates that due to the large buffer distance between the project site and nearby residential receivers, the risk of discomfort, regenerated noise and structural damage impacting on receivers is extremely low.

Operational noise and vibration

The operational environmental noise emission criteria for the development have been quantified in Section 4.0 of the NVIA of this report and have been established to comply with the EPA's Industrial Noise Policy (INP, 2000).

The operational noise impact assessment indicates compliance under neutral and prevailing meteorological conditions at all assessment locations during the daytime, evening and night-time periods. Compliance is conditional that the equipment produces noise levels similar or less than those shown in Section 6.0 of the NVIA.

No items of plant and equipment used in operation of the project site are expected to generate significant levels of vibration and therefore, operational vibration impacts are predicted to be negligible.

Sleep disturbance

The sleep disturbance assessment was conducted in accordance with EPA's INP guidelines. The assessment indicates compliance at all assessment locations during the night-time period.

Cumulative noise impacts

An assessment of the cumulative impact of concurrent construction noise and vibration activities was undertaken. As there are no other known approved construction activities to occur concurrently with the proposed construction works there will not be any additional increase in the predicted noise impacts from construction activities on nearby noise sensitive receiver locations.

An assessment of the cumulative operational noise and vibration impacts from other industrial sites nearby to the project site in addition to the project site was undertaken to determine the total noise exposure of nearby receivers. The assessment found that based upon the predicted noise levels the Bulk Fuel Facility noise emissions are predicted not to increase the existing and approved noise levels at nearby receiver locations.

Road traffic noise

The construction and operational road traffic noise assessment was conducted in accordance with EPA's Road Noise Policy (RNP, 2011) guideline.

The road traffic noise assessment associated with construction and operational phases of the Bulk Fuel Facility indicates compliance with EPA's RNP acoustic criteria.

The revised Noise and Vibration Impact Assessment is attached at **Appendix D**.

5.3 Air Quality

Air quality issues primarily concerned:

- the impact to the local from potential emissions to air from the Proposed Facility, including health and safety risks; and
- questions from the EPA regarding the methodology and modelling criteria used in the AQIA.

A revised report was prepared in response to the specific questions raised by the EPA in relation to the AQIA (AECOM, 2010). A detailed response to each of the issues raised by the EPA is provided in **Table 1**, Issues 2 to 6. It is not considered necessary to provide a second repose to those comments.

This assessment investigated the air quality impacts of the proposed project on surrounding receivers, and estimated the potential emissions of GHGs associated with the facility's activities. The assessment of air

emissions was limited to VOCs during operation of the proposed facility, as emissions associated with construction works for the project would be expected to be readily managed through standard construction practices. Odour was not considered likely to be an issue at sensitive receptor locations due to the fuels proposed to be stored and the distance between the facility and sensitive receptors. Cumene was chosen as an indicator species for VOCs, and was the only pollutant modelled. Cumene concentrations at sensitive receptor locations were estimated through dispersion modelling using the AUSPLUME program.

The results of the conservative modelling predicted that cumene concentrations would be less than the OEH guideline criterion at all sensitive receptor locations. As such, no significant air pollutant impacts on the surrounding environment would be expected from the proposed development.

The GHG assessment considered emissions associated with electricity and fuel consumption. Fuel consumption included fuel use for the delivery and dispatch of fuels to/from the site by truck and ship; fuel used by staff commuting to and from the site; and the consumption of the fuel by customers. The burning of Marstel's product fuel was the source of 94 % of the total GHG emissions indirectly associated with the proposed facility, amounting to an estimated 0.060 Mt CO_2-e per year. The facility's total GHG emissions (0.064 Mt CO_2-e per year) were found to represent a very small proportion (0.1 %) of emissions from the Australian transport sector (44.8 Mt CO_2-e per year) and Australian emissions as a whole (0.01 % of 564.5 Mt CO_2-e). Additionally, the proposed project may serve to decrease net GHG transport emissions as the proposed facility will be located closer to its markets than current fuel providers, thereby reducing the truck transportation distance required to supply fuel to service stations. The proposed project is not, therefore, expected to significantly adversely affect the environment.

The revised AQIA is attached at **Appendix C**.

5.4 Safety and Risk

Safety and risk issues concerned:

- the potential for an incident at the site given the proximity of other industries based or proposed in Newcastle Port (Orica, Incitec and Eastern Star Gas); and
- the potential threat to resident safety and well-being.

The EA outlined various safety measures that would be incorporated into the Proposed Facility to reduce any potential for an incident. Additional safety measures around the proposed tanks will be constructed to standards.

Concerns arose in particular around the potential for ammonium nitrate produced at the Orica plant) and diesel (stored at the Proposed bulk fuel terminal) to mix and explode. However, the specific conditions required for an explosion to occur are extremely unlikely. At no point during storage or transportation are either substance scheduled to come into direct contact. The two plants have no relationship being spatially separated by the Hunter River. Other fuel storage facilities such as BP's have been operating in close proximity to the Proposed Facility Site without incident. The Orica plant has in place safety, security and contingency measures to manage and plan for a range of events. In addition to the safety measures outlined in the EA, Marstel propose to prepare an Emergency Response Plan and a Fire Safety Study in accordance with Fire and Rescue NSW Policy.

The Preliminary Hazard Analysis prepared for the Proposed Facility concluded that with the recommended measures in place, including the implementation of an Emergency Response Plan, the level of risk associated with the Proposed Facility would be manageable. The Preliminary Hazard Analysis concluded that with the proposed offset distances the Site would not be hazardous; and recommended measures to minimise potential hazards during operations.

Biodiesel is a combustible liquid and does not flash or vaporise at ambient temperatures. Therefore it does not cause vapour relative to standard unleaded petrol. No liquid biodiesel would come into contact with houses.

The EA provides a thorough review of the safety and environmental concerns raised by the submissions. It concludes that with the recommended measure in place to mitigate and manage any impacts, the Proposed Facility can safely proceed.

Marstel is responsible for the ongoing safe operations of the site. Other parties will be responsible for their respective participation, for example transportation. Systems will be built into the Proposed Facility to act as 'fail safes' which are triggered by certain events regardless of human interaction. Such fail safes shut down site systems which may be damaged, or could cause damage or result in an environmental risk if left unmanaged.

5.5 Planning Matters

Planning matters concerned:

- the absence of an approved NPC Concept Plan and overall Port Master Plan;
- concerns that the future potential capacity of the Proposed Facility was not taken into account; and
- concerns regarding the number of people to be employed as a result of the Proposed Facility.

Although the NPC Concept Plan relates to a separate application before the DP&I, it relates to land immediately adjoining the Proposed Facility Site. The NPC Concept Plan was taken into account during development of the Proposed Facility. It is noted that:

- The NPC Concept Plan includes adequate transport options for the various precincts it proposes.
- RMS have reviewed and provided feedback in relation to the transport planning for the NPC Concept Plan Area, including the ability of Industrial Drive. Measures, for example upgrades, have been recommended to accommodate predicted traffic levels.
- Cumulative impacts resulting from the Proposed Facility have been considered in the relevant sections of the EA and the NPC Concept Plan EA.

Although the Proposed Facility is consistent with the NPC Concept Plan, the Proposed Facility is a standalone application which is not dependent on the success of the NPC Concept Plan application for its own approval.

A Newcastle Port Master Plan is the responsibility of the NPC. If available, a review of the Proposed Facility against the Master Plan would have been included in the EA. The absence of a Port Master Plan does not prevent the Proposed Facility being assessed for suitability. As detailed in the EA, given the extensive disturbance, post and current contamination, access to the port and transport and end users, the site is well suited to the Proposed Facility. Further, the site and its proposed use are consistent with the Ports SEPP.

Project Approval for the Proposed Facility as defined in the EA is the only approval being sought. Should any additional capacity or need for expansion of the Proposed Facility be required in the future, this will be subject to a separate environmental assessment process. Should a project approval be issued for the Proposed Facility, it will stipulate that the Facility in its current form can only be used for the handling and storage of the fuels described in the EA. Marstel is only seeking approval of a facility suited to the size of its current market. It would be premature to undertake planning for additional components which may not be required in the future. Additionally, advancements in technology, safety, transportation etc. may make any approval for future stages obsolete.

Regarding employment, the proposed development would provide economic benefits to the local, regional and State economies. The development would provide revenue for the Newcastle area, and local employment opportunities will be generated indirectly and directly during both the construction and operational phases. Additional jobs will be generated by the transport of fuels. The ongoing operation of the Proposed Facility would require support from a range of local businesses in regards to ongoing maintenance and upkeep. As described in the EA the Proposed Facility stimulates economic activity, initially in the capital investment required at start-up, then during the operational phase as it supplies local business.

6.0 Statement of Commitments

In accordance with the requirements under Part 3A of the EP&A Act, a draft Statement of Commitments (SoC) was prepared for the EA (refer to Table 47 of the EA). The Draft SoC has been revised to address any issues raised as part of the Submissions Process.

The final Statement of Commitments is provided in **Table 3**. Additions to the draft commitments are shown as bold and deletions are shown by a strikethrough line in text.

Table 3 Statement of Commitments

Environmental Issues	Commitments
Management Plan	- Prior to construction, a ~~Construction Environmental Management Plan shall be developed in consultation with OEH incorporating the management of soils, surface waters, weed management, air quality and odour, noise and waste management.~~ Construction methodology in accordance with the CSMP shall be approved by the EPA appointed site auditor (Environ). Works are to be validated during the construction period as required by the site auditor. - Prior to operation, Marstel would prepare an Emergency Plan for the Proposed Facility (to be available onsite) and a Wharf Emergency Plan (available at the wharf) in consultation with the NSW Fire Brigade, NPC and NSW Maritime. These plans are to include: • Spill response procedures. • Fire response procedures. • Response procedures for other identified environmental impacts. • Procedures for emergency drills/exercises. - **Prior to operation, Marstel would prepare a Fire Safety Study prepared in accordance with the FRNSW Policy No. 1.** - Prior to operation, a Site Management Plan shall be developed in consultation with OEH that would detail the ongoing monitoring and environmental management requirements for the Proposed Facility. - Eight weeks prior to the first vessel entering the port, a Port Operations Management Plan shall be developed in consultation with NPC. - A Tank Farm Bunding Detailed Design and Construction Report shall be provided prior to the commencement of construction as per OEH requirements. - Specific mitigation measures to manage the risks of fire and/or explosion resulting from tank and/or pipeline incidents are outlined in section 7.2. - **An inspection and maintenance schedule for all critical components of the Proposed Facility would be prepared as part of an Operational Management Plan for the site.**
Hazards and Risks	- All ship movements and fuel unloading shall be undertaken in accordance with procedures outlined in ISGOTT and the safeguards outlined in Table 10 and coordinated to compounding cumulative risk. - The proponent shall install a 50 kg dry powder extinguisher on wheels. - The proponent shall install a fire water tank and fire hydrants within 60 m of the fuel transfer location. Fire monitors with foam generation installed near to fuel storage and transfer points. - The proponent shall implement a fuel transfer procedure in which an inspection of the pipeline route would be conducted. - The proponent shall install a fire monitor at a minimum of 29 m from the wharf hose connection point. - Plant maintenance schedules shall include the following: • Annual testing of fire detectors at the site.

Environmental Issues	Commitments
	• Weekly tests of the fire pump systems and foam activation valves. - Wharf area where fuel lines located is bunded to prevent direct spills to the Hunter River. - Spill containment boom are available to be deployed around the ship and wharf for all delivery/transfer operations. - Spill kits available. - **Detailed operations and maintenance procedures will be written to deal with any potential spill and containment.** - Ship is tied with two lines at every tie point. - Pipeline fully welded, non-destructive tested, designed to withstand full pressure, pigged after each delivery, painted to prevent external corrosion. - Pipeline transfer fully monitored by ship and shore facilities (i.e. pressure, flow, etc.
Surface Water Management	*Construction* - The proponent shall prepare and implement a Construction Environmental Management Plan (CEMP) which shall include a detailed Erosion and Sediment Control Plan (ESCP). *Operation* - The proponent shall prepare a stormwater management system that is designed and implemented to capture stormwater from the Site, to prevent leaks and spills from occurring and to facilitate the discharge of clean stormwater to the Hunter River. - Surface water shall be managed in accordance with the stormwater management plan developed for the Site. - The proponent shall implement an inspection and testing program of the stormwater system as detailed in the stormwater management plan. - Pipeworks, fuel storage and tanker/loading areas fully bunded. - Tanks monitored during filling by ship and shore, levelling alarms fitted. - Tanks regularly inspected for corrosion and leaks. Water build up in tanks regularly drained to prevent internal corrosion. - Tank level monitoring conducted at all times to identify rapid leaks. - ~~Pump operation~~**~~Stormwater transfer~~** only be conducted when the Facility is staffed and operations can be continually monitored. - **NPC agreement regarding overland flow paths and management of flood events would be obtained prior to the start of construction**
Groundwater	- A **CLAYMAX** liner shall be installed over the Site (non-concreted areas) ~~and overlain with bitumen~~ to create an impervious seal across the Site ~~and up the sides of the bund wall~~.**The installation is to be validated by the site auditor.** - The proponent shall prepare and implement a Site Management Plan (SMP) which shall include a schedule for groundwater sampling for pH, EC, TPH, BTEX, metals and ~~groundwater flow rate~~ **Other parameters**.

Environmental Issues	Commitments
Soil	- Excavation, classification, treatment and disposal of Potential Acid Sulfate Soils and contaminated materials shall be undertaken in accordance with requirements detailed in the CEMP and CSMP. - All works to be undertaken onsite would comply with the existing Contaminated Site Management Plan relevant to the Site. - There is to be no transportation of material from below the VENM capping layer without prior approval from OEH. - Material imported to the Site shall be classified in accordance with NSW EPA (December 1994) prior to receipt. - Ongoing soils management will include any applicable actions as required by the CSMP.
Air Quality	- Dust mitigation strategies shall be implemented as part of the CEMP and shall include: • Disturbed surfaces would be stabilised as soon as practical. • All vehicles leaving the Site would not have excessive soil on their tyres which may fall onto the roadways creating dust emissions. • Roadways are to be kept clean during construction and operation. • Any stockpiled material would be sprayed with water during times of high wind.
Noise and Vibration	- Noise and vibration is to be managed in accordance with the management and mitigation strategies included in Section 7.0 of the NVIA.
Traffic and Transport	- Off street car parking shall be available to staff and visitors during normal operations. - All trucks shall enter and exit the Site via left in and **right** our configuration. - **Truck turning paths will be provided to NPC to justify proposed driveway dimensions.**
Visual Landscaping and Entry	- Landscaping in the vicinity of the car park and office/workshop area shall be undertaken with suitable native species in consultation with NCC. - **NPC agreement regarding the site landscaping, entry driveway, car park setback and security fencing would be obtained prior to the start of construction.** - The Site shall remain clean and free or rubbish or debris as a result of operations. - Plantings on the Site are to comprise a mixture of native species endemic to the area.
Waste Management	- Purchasing requirements for construction shall be such that products purchased for the Site would align with site demands to avoid wastage of unwanted products. - The proponent shall implement a system for recycled paper, cardboard, glass and plastics. Bins shall be collected by a waste management contractor on a regular basis. - Recycling of waste material shall be maximised wherever possible during operation of the Proposed Facility.
Indigenous and Non-Indigenous Heritage	- Monitoring of the Site shall be undertaken in the event natural soil profiles are to be excavated.

Environmental Issues	Commitments
Security	- A comprehensive security system shall be installed onsite and shall include monitoring of all fences and entry/exit points to the Site. - Gantry area is under closed circuit television (CCTV) surveillance at all times, with screens in the main site office.
Soils and Landform	- The proponent shall minimise the erosion and potential discharge of sediments from the Site as outline above for Surface Water and Groundwater.
Landowner and Neighbours	- **The approval of NSW Maritime would be sought prior to construction of the wharf line.** - **Marstel will provide OneSteel with formal notification of all fuel tanker deliveries via M4 berth and proposed operating times of fuel being transported to the storage tank facility.**

7.0 References

AECOM. July 2010. *Environmental Assessment: Mayfield Site Port-Related Activities Concept Plan Concept Approval*.

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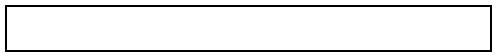
SKM 2004. *Remediation Action Plan*

URS, 2000 *Development of a Multi Purpose Terminal and Remediation of the Closure Area, BHP Newcastle Steelworks*, URS Australia Pty Ltd, Sydney

URS Australia Pty Ltd, Sydney, *Steelworks*.



Appendix A

Government Submissions

Appendix A Government Submissions

Chrono

NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

Our reference: DOC11/52771,
File No. FIL11/7069
Contact: Hamish Rutherford
(02) 4908 6824

Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2000

Attention: Ms Felicity Greenway

Dear Sir/Madam

PROPOSED MARSTEL BULK LIQUID FUEL STORAGE FACILITY, MAYFIELD (08_0130)

Reference is made to your letter to the Environment Protection Authority ("the EPA") dated 14 November 2011 inviting the EPA to make a submission on the above proposal, including any recommended conditions of approval.

The EPA understands the proposal comprises the following:

- Development of a tank farm with the capacity to receive, store and dispatch diesel and biodiesel liquid fuel products. The tank farm would have a storage capacity of 54ML, with the facility having an annual throughput of 300ML.
- Use of the existing shipping berth known as Mayfield No. 4 to receive diesel fuel from sea.
- Development of a pipeline to transfer diesel unloaded at the Mayfield No. 4 berth to the tank farm.

The EPA has reviewed the proposal and the supporting Environmental Assessment (EA) prepared by AECOM dated 4 November 2011. The EPA advises that the Environment Assessment is inadequate for determination. The issues that require further assessment and consideration are briefly described in this letter. Detailed comments are provided in Attachment 1.

1. Air Quality

Issues identified in the EPA's review of EA's Air Quality Impact Assessment (AQIA) include the following.

- The assessment is based on tanks that have internal floating roofs. The EPA considers this to be unlikely for the storage of diesel and biodiesel. If the tanks do not have internal floating roofs, the emission estimates and AQIA need to be revised.

- Emission estimates included in the AQIA were based on meteorological data from San Francisco. The proposed facility is located in Newcastle, NSW. Therefore, the emission estimates included in the assessment are incorrect.

- Benzene is identified as the most critical air pollutant and is the only air pollutant identified from the proposal. The EPA has reviewed the proposal and concluded that it is unlikely that benzene will be

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released from the sources identified in the assessment and there are numerous other air pollutants not identified or assessed.

- The AQIA fails to identify or consider significant air emission sources that would be a direct result of the proposed facility. Air emission sources not identified or assessed include combustion emissions from ships and combustion emissions from road tankers.

2. Noise

The predicted construction and operational noise, vibration and traffic impacts associated with the project is within the nominated criteria. However the EPA's review of the EA's Noise and Vibration Assessment has identified a number of omissions that should be address in order to provide confidence that the predicted noise and vibration impacts associated with the proposal are within acceptable levels.

Given the above the EPA is unable to appropriately assess the proposal and its potential environmental impacts. Accordingly the EPA is unable to provide any recommended conditions of approval in respect of this proposal.

If you require any further information regarding this matter please contact Hamish Rutherford on (02) 4908 6824.

Yours sincerely

20 DEC 2011

MARK HARTWELL
Head Regional Operations Unit – Hunter
Environment Protection Authority

Attachment 1.

ATTACHMENT 1

ENVIRONMENT PROTECTION AUTHORITY- COMMENTS ON THE PROPOSED MARSTEL BULK LIQUID FUEL STORAGE FACILITY, MAYFIELD (08_0130)

1. AIR QUALITY IMPACT ASSESSMENT

1.1 Tank Emission Estimation Review

AECOM used US EPA's "TANKS" program to estimate emissions of volatile organic compounds (VOCs) from the proposed tanks at the facility. The EPA has identified the following fundamental issues in the emission estimates.

1. The tanks were modelled as internal floating roof tanks; and
2. The tanks were modelled using San Francisco meteorological data.

Each of these issues is discussed separately in this section.

1.1.1 Tank Types

Generally, tanks for a particular fluid are chosen according to the flash-point of the substance stored. Generally, there are fixed roof tanks, and floating roof tanks.

- Floating roof tanks are generally used for liquids with low flash-points (e.g. motor spirit, petrol, ethanol). These tanks have a floating roof which travels up and down along with the liquid level. This floating roof traps the vapour from low flash-point fuels.
- Fixed roof tanks are meant for liquids with high flash points, (e.g. fuel oil, diesel, bitumen etc.).

It is likely that the tanks at the Marstel Terminals proposal will use 'vertical fixed roof tanks' rather than 'internal floating roof tanks'. This will significantly impact the estimated emissions for the proposed facility.

Tanks with an internal floating roof design will have significantly lower emissions than emissions from a fixed vertical roof design.

The EPA recommends that the proponent confirm that all storage tanks are internal floating roof tanks.

1.1.2 Meteorological Data

The US EPA program "TANKS" requires site specific meteorological data in order to estimate emissions of VOCs from tank loading and breathing. TANKS does not come with Australian meteorological data and has only data for cities in North America. Australian users of TANKS are required to enter site specific data in order to correctly run the model locally.

The EPA notes that the meteorological data used in the assessment is the default data set shipped with the software program for San Francisco. This is significantly different meteorological conditions to those expected at the proposed site.

The EPA has performed a comparison of meteorological conditions that should have been used in the assessment from those of San Francisco. The difference in monthly maximum and minimum temperature between NSW and San Francisco is presented in Figure Error! **No text of specified style in document.-1**.

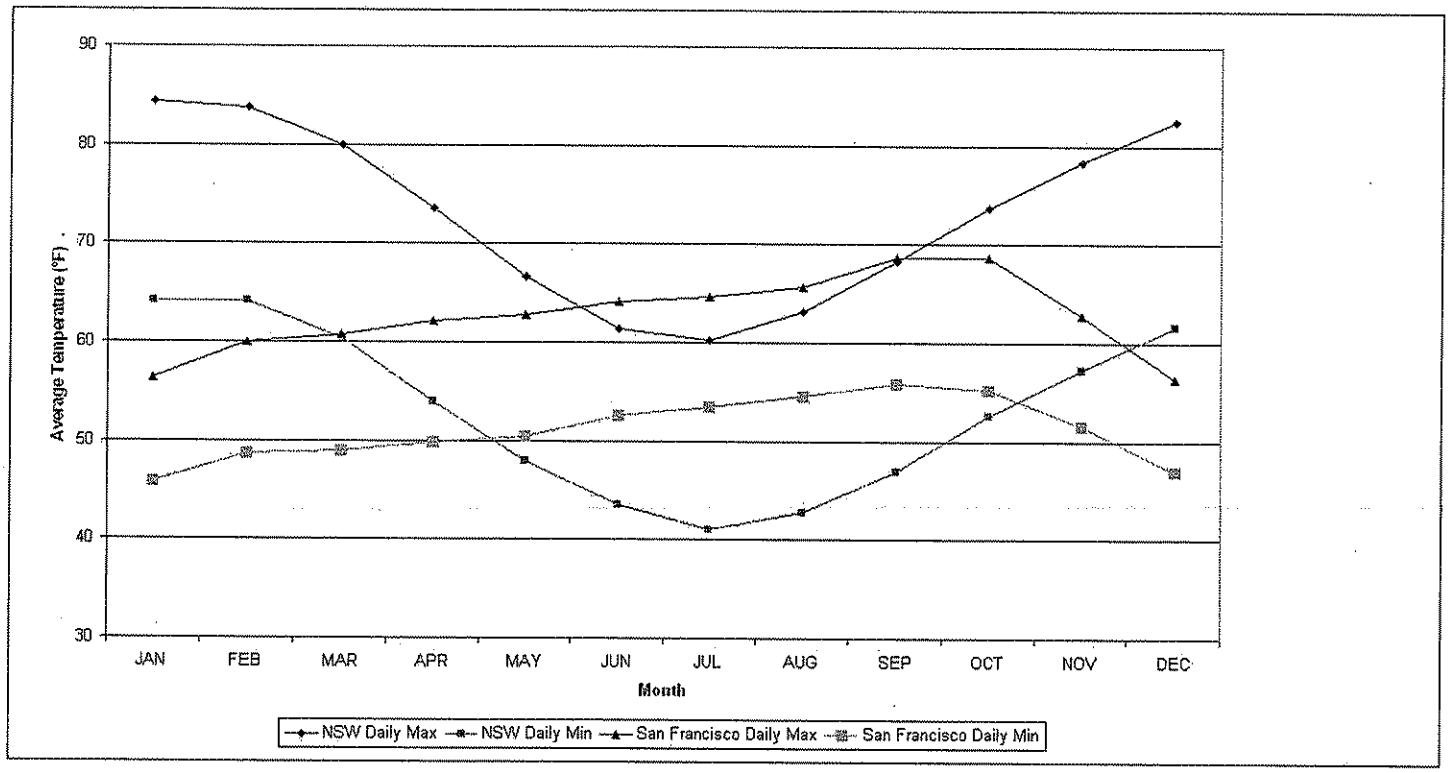

Figure Error! No text of specified style in document.**-1: Difference in Max and Min Temperatures between NSW and San Francisco**

The difference in solar insulation factors between NSW and San Francisco is presented in Figure Error! **No text of specified style in document.-2**.

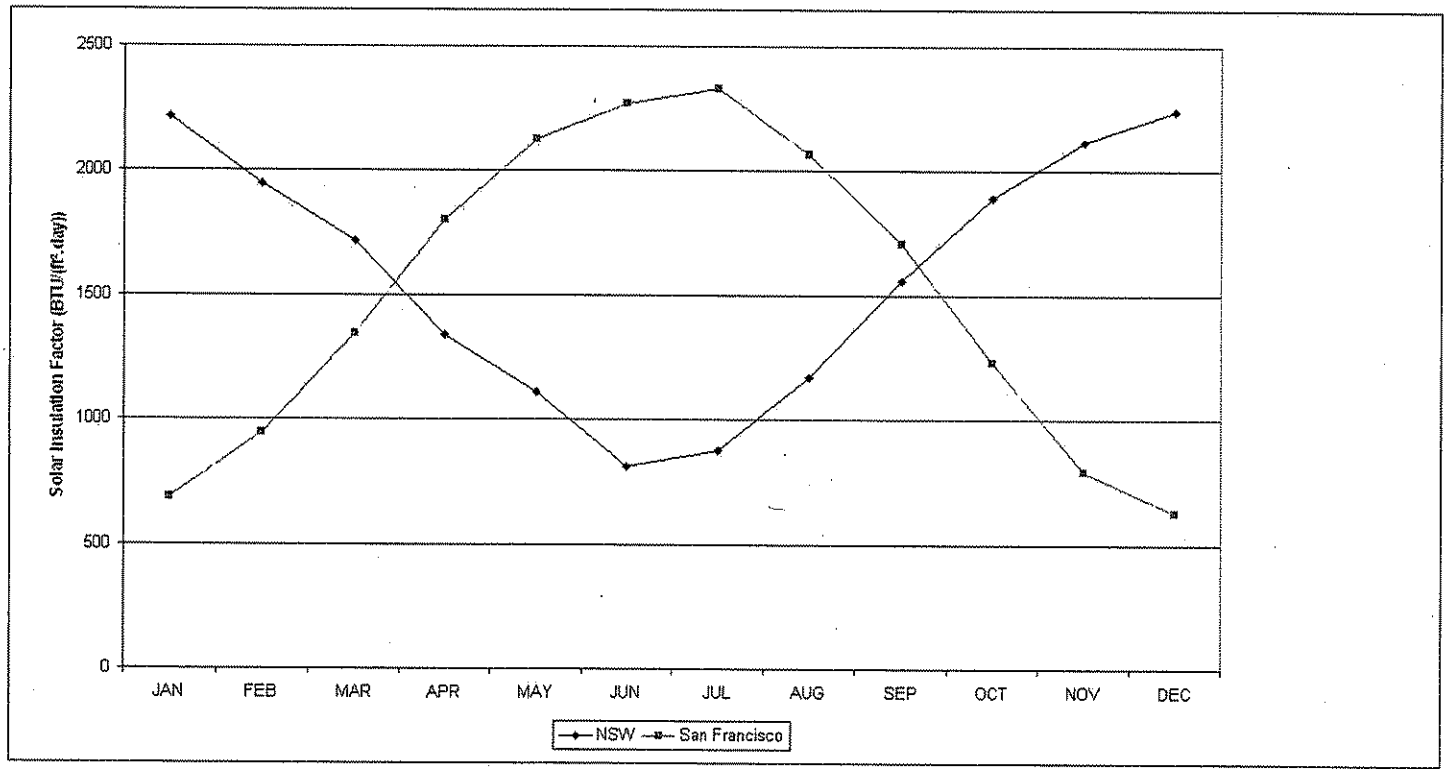

Figure Error! No text of specified style in document.**-2: Difference in Solar Insulation Factor between NSW and San Francisco**

The EPA notes that wind speed is also used in estimated emissions by the TANKs program. However, this information is not presented in the Environmental Assessment's Air Quality Impact Assessment ("AQIA"). It is assumed that San Francisco average wind speed was used in developing the emission estimates.
By using San Francisco meteorological data, maximum emissions from the proposed tanks have been estimated to occur during winter and minimum emission have been estimated to occur in summer. This is the opposite of what would occur. However, as the emissions are from a low volatility liquid, the majority of emissions are from working loss and not from breathing loss.

Using the incorrect meteorological data in TANKS has resulted in incorrect emissions being estimated for the air quality assessment.

The EPA recommends that site specific meteorological data is used to assess the impacts of the proposed facility in a revised air quality assessment.

1.1.3 Assessment of Benzene

The EPA notes that AECOM assessed emissions of benzene from the storage and handling of diesel and biodiesel as this was considered to be the most critical air quality parameter for the assessment. AECOM base this assessment on:

- the liquid concentrations of benzene concentrations for crude oil and petrol.
- the Australian Diesel Fuel Quality Standards a maximum content of polycyclic aromatic hydrocarbons of 11%.

AECOM used an estimated maximum content of benzene in diesel vapour of 11% in the air quality assessment.

This is incorrect, crude oil and petrol are not stored or proposed to be stored on the site. The composition of petrol and crude oil are significantly different to the composition of diesel. The poly aromatic hydrocarbon (PAH) content of diesel in the liquid phase is not a reasonable indicator of benzene concentration in diesel. If diesel could contain so much PAHs, which AECOM note "are typically more toxic", emissions from this toxic group of substances should be assessed.

The EPA notes that diesel typically does not contain or contains only trace amounts of benzene in the liquid or vapour phase. An example of the composition of diesel (vapour phase) has been obtained from B.P. and is as detailed in Table Error! **No text of specified style in document.-1**.

Table Error! No text of specified style in document.**-1: Composition of Diesel Vapour Phase**

Temperature Deg C	15	20	25
Density liquid diesel kg/L	0.7930	0.7894	0.7859
Density vapour (inc. air) g/L	1.187	1.168	1.149
Concentration of HC in vapour g/L	0.00237	0.00327	0.00445
Composition %w/w			
UNDECANE	0.26	0.28	0.30
DODECANE	0.75	0.83	0.91
TRIDECANE	0.48	0.55	0.62
TETRADECANE	0.34	0.40	0.48
PENTADECANE	0.12	0.14	0.17
HEXADECANE	0.02	0.03	0.04
HEPTADECANE	0.01	0.01	0.02
OCTADECANE	0.00	0.00	0.00
NONADECANE	0.00	0.00	0.00
EICOSANE	0.00	0.00	0.00
TOLUENE	2.95	2.77	2.60
ETHYLBENZENE	0.61	0.59	0.57
M-XYLENE	4.47	4.33	4.20
O-XYLENE	4.82	4.70	4.58
CUMENE	5.10	5.04	4.99
PROPYLBENZENE	6.16	6.13	6.10
3-ETHYLTOLUENE	12.05	12.00	11.95
4-ETHYLTOLUENE	19.88	19.77	19.66
2-ETHYLTOLUENE	10.30	10.31	10.32
1,3,5-TRIMETHYLBENZENE	10.48	10.56	10.63
1,2,4-TRIMETHYLBENZENE	7.45	7.53	7.60
1,2,3-TRIMETHYLBENZENE	13.76	14.02	14.26

Also, the National Pollutant Inventory (NPI) published compositional values for the liquid phase of diesel indicating that the typical concentration of benzene in the liquid phase of diesel was 0.0008% (i.e. trace amounts found in diesel). Based on the vapour phase composition presented in Table Error! **No text of specified style in document.-1**, the most critical substance to air quality impacts from emissions of diesel vapour is cumene as shown in Table Error! **No text of specified style in document.-2**.

Table Error! No text of specified style in document.**-2: Assessment of Emissions of Impact Assessment Criterion**

Substance	Impact Assessment Criterion (mg/m^3 - 1 hour)	Estimated Emissions (kg/year)	Estimated Emissions (g/second)	Indicator
Benzene	0.029	0	0	0
Cumene	0.021	124.899	0.0040	1.0000
Ethylbenzene	8	14.9389	0.0005	0.0003
Trimethylbenzenes (all isomers)	2.2	776.0881	0.0246	0.0593
Toluene	0.36	72.2455	0.0023	0.0337
Xylenes (all isomers)	0.19	227.5121	0.0072	0.2013

The EPA recommends that the air quality assessment is revised to account for toxic substances that are expected to be released from the storage and handling of diesel.

1.2 Unaccounted for Air Pollution Sources

1.2.1 Combustion in ships (auxiliary boiler and auxiliary engine)

The most significant unaccounted air pollution source that has been identified is combustion sources from ships.

The Environmental Assessment quotes between eight (see page ii) and fifteen (see the greenhouse assessment) ships per year. It is quoted that unloading takes 36 hours per ship and fuel consumption rates are 36 tonnes per day. The EPA has assumed that the fuel consumption figure quoted in the greenhouse gas assessment is for ocean going travel (i.e. maximum main engine load). During unloading of fuel, typically only the auxiliary engine and auxiliary boiler are operating. These engines are typically total 16% of the total power across all engines in a bulk carrier. Therefore, it could be estimated (using a screening level assessment approach) that the maximum fuel consumption while in port is 0.16 * 36 tonnes per day or 5.8 tonnes per day. If a load factor reduction is incorporating into the fuel consumption estimate to account for the auxiliary engine and auxiliary boiler being at close to 13% full load (taking the average for Newcastle port in "hotel" operating mode), the fuel consumption while a ship is in port is estimated to be approximately 1 tonne per day.

Table Error! No text of specified style in document.**-3: Typical engine size for a bulk carrier**

Ship type	Main engine (kW)	Auxiliary engine (kW)	Auxiliary boiler (kW)
Bulk Carrier	10,163	1,812	132

Therefore, using a screening methodology approach the total amount of additional fuel combusted by ships less than 1 kilometre from the location of the tanks and approximately 1 km from sensitive receptors is between 24 and 130 tonnes per year and the maximum fuel consumption over a day is 5.8 tonnes per day. Combustion emissions from ships include the following air pollutants:

- OXIDES OF NITROGEN
- NITRIC OXIDE
- NITROGEN DIOXIDE
- AMMONIA (TOTAL)
- SULFUR DIOXIDE
- TOTAL SUSPENDED PARTICULATES (TSP)
- PARTICULATE MATTER 10µm
- PARTICULATE MATTER 2.5µm
- TOTAL VOCS (AND INDIVIDUAL ORGANIC TOXICS (PRODUCTS OF INCOMPLETE COMBUSTION))
- CARBON MONOXIDE
- POLYCYCLIC AROMATIC HYDROCARBONS
- POLYCHLORINATED DIOXINS AND FURANS
- LEAD & COMPOUNDS
- CADMIUM & COMPOUNDS
- MERCURY & COMPOUNDS
- ARSENIC & COMPOUNDS
- CHROMIUM (III) COMPOUNDS

- CHROMIUM (VI) COMPOUNDS
- COPPER & COMPOUNDS
- NICKEL & COMPOUNDS
- SELENIUM & COMPOUNDS
- ZINC & COMPOUNDS
- VANADIUM & COMPOUNDS

Additional combustion emissions in the area will add to an already constrained airshed and an assessment has not been made on the impact this proposed facility will have on the air environment of these pollutants.

The EPA recommends that the impact of combustion from ships using the proposed facility is included in the revised air quality assessment. The air quality assessment should include an assessment of cumulative impacts for relevant pollutants.

1.2.2 Combustion from Trucks distributing Fuel from the Facility

The air quality assessment also does not include combustion emissions from trucks loading fuel from the facility. This is an additional air emission source in the area, due to the proposed facility. Air pollutants released from diesel combustion in trucks are similar to the combustion emissions from ships.

ATASU recommend that the revised air quality assessment includes the additional combustion emissions from trucks using the facility.

2. NOISE AND VIBRATION ASSESSMENT

The EPA has reviewed the '*Marstel Bulk Fuel Facility - Noise and Vibration Impact Assessment*' (NVIA) prepared by AECOM dated 5 August 2011 that forms part of the EA. The EPA has the following comments on the NVIA and EA.

- The ambient noise monitoring results in Section 2.2 of the NVIA are taken from a report prepared by Spectrum Acoustics in 2008, which in turn refers to noise monitoring results from a report prepared by Heggies Australia in 2006. A brief summary of the results is presented in Table 2 of the NVIA, however no noise logger charts or attended noise monitoring results are included. The results of the Spectrum Acoustics report should have been reproduced in the NVIA as they form the basis for the assessment. In order to support and increase confidence in the results presented in Table 2 , they should have been supplemented by other noise monitoring data from other studies undertaken in the locality, and/or from fresh monitoring undertaken by AECOM for this project. In the context of the changing land uses in the locality over time, this would help to establish whether the measured noise levels in Table 2 are still representative of the ambient noise environment in 2011, and the character and contributions of ambient noise sources in the area.

- Table 4 of the NVIA states that the daytime noise management levels are Rating Background Level (RBL) +15 dB. The EPA considers that this should have been the RBL+10 dB.

- NAU notes that construction and operational vibration levels from the site are not expected to raise any issues due to the large distance (900m) to the nearest sensitive receivers.

- The intrusive noise criteria in Table 6 of the NVIA should show an adjusted RBL of 46 dB(A) and intrusive criterion of 51 dB(A) for Mayfield during the evening period, as per the EPA's Industrial

Noise Policy (INP) application note relating to when RBLs for the evening and night are higher than for daytime.

- Table 8 of the NVIA summarising operational noise criteria should also be adjusted as per the point above, and the controlling Project Specific Noise Levels clearly identified.

- Section 4.3.1 of the NVIA states that the 'existing ambient noise levels' in Table 2 (from all sources) exceed the road traffic noise criteria in Table 11. No information regarding the relative levels of road traffic noise versus other ambient noise are provided to support the implicit assumption that the ambient Leq in Table 2 is dominated by road traffic noise. Further information should have been provided to support this assumption prior to applying the 2 dB allowance criterion.

- The NVIA also states in Section 4.3.1 that the proposed access route will generate less than 40 vehicle movements per day from operational activities. This statement is at odds with the adopted vehicle movements of 56 per day in 2012 and 108 movements per day in 2016 quoted in Section 6.6 of the NVIA. The further statement in Section 4.3.1 that 'it is considered unlikely' the proposed <40 operational vehicle movements would exceed the applicable noise criteria on Industrial Drive is clouded by the next statement relating to construction traffic. The traffic noise mitigation and management measures discussed in Section 4.3.1, which purports to relate to criteria, would also have been better placed in Section 7.0. NAU considers that the construction and operational traffic noise criteria and assessment sections should have been reviewed and revised as necessary to clarify traffic criteria, volumes and predicted impacts.

- Section 5.1 of the NVIA states, in the paragraph preceding Table 12, that construction outside standard hours may be undertaken when 'a task is near completion close to 6.00pm...so that the overall construction works can be carried out in minimal time' with the intent to 'shorten the overall length of the noise exposure to nearby receiver locations'. The EPA considers that any out of hours construction works should be subject to the requirements of Section 2.3 of the Interim Construction Noise Guideline.

- Section 5.2.2 of the NVIA identifies two truck movements per hour (22 per day for a 7am – 6pm day) in the construction noise assessment. This figure needs to be reconciled with the <40 vehicles per day in Section 3.3.

- The construction criteria for standard hours in Table 14 of the NVIA should have been reviewed in the light of any revisions to Table 4. Predicted noise levels for any out-of-hours works should also be provided.

- Section 6.1 should have identified the presence or absence of any tonal noise characteristics, and associated INP penalties, for equipment operating at the site.

- Section 6.2.2 adopts a prevailing wind of 3m/s from the north-west as representing a worst case assessment for sensitive receivers at Carrington. No further assessment of prevailing winds is presented. The NVIA should have explained why a prevailing wind from the north-east had not also been adopted as representing a worst case assessment for the closer sensitive receivers at Mayfield.

- The modelled operational scenario for amenity in Section 6.2.3 states two truck movements per hour were included; this should perhaps have been revised to three movements per hour in line with Section 6.1.3.

- Table 19 shows predicted noise levels for a worst case north-west wind as being identical to those in the column for a Class F temperature inversion. The EPA considers this is possibly in error.

- Section 6.4 includes an assessment of a reversing beeper in regard to sleep disturbance impacts. Any penalty associated with tonality should also have been included in this assessment.

- It is unclear if in Table 20, the result for reversing alarms (column 5) also includes the contribution from equipment excluding reversing alarms (column 3). If it does, it is unclear why the reversing alarm result for receivers R9 and R10 are 5 dB and 9 dB lower than the equivalent results excluding reversing alarms.

- It is assumed that the traffic counts for Industrial Drive in Table 23 are AADTs and that the entry for 1998 of 2954 is in error.

- The traffic noise levels in the Spectrum Acoustics report should have been reproduced in the NVIA as part of Table 24 to show existing and predicted (with project) levels.

- The Statement of Commitments relating to noise on Table 44 of the EA contains a rather cryptic entry. The EPA recommends that statement be removed and replaced with a commitment that the noise and vibration mitigation and management strategies detailed in Section 7.0 of the NVIA, as well as the entries in the last paragraph of Section 4.3.1 will be adopted and implemented.

Environment Protection Authority
December 2011

Chrono

NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

Our reference: DOC11/52771,
File No. FIL11/7069
Contact: Hamish Rutherford
(02) 4908 6824

Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2000

Attention: Ms Felicity Greenway

Dear Sir/Madam

PROPOSED MARSTEL BULK LIQUID FUEL STORAGE FACILITY, MAYFIELD (08_0130)

Reference is made to your letter to the Environment Protection Authority ("the EPA") dated 14 November 2011 inviting the EPA to make a submission on the above proposal, including any recommended conditions of approval.

The EPA understands the proposal comprises the following:

- Development of a tank farm with the capacity to receive, store and dispatch diesel and biodiesel liquid fuel products. The tank farm would have a storage capacity of 54ML, with the facility having an annual throughput of 300ML.
- Use of the existing shipping berth known as Mayfield No. 4 to receive diesel fuel from sea.
- Development of a pipeline to transfer diesel unloaded at the Mayfield No. 4 berth to the tank farm.

The EPA has reviewed the proposal and the supporting Environmental Assessment (EA) prepared by AECOM dated 4 November 2011. The EPA advises that the Environment Assessment is inadequate for determination. The issues that require further assessment and consideration are briefly described in this letter. Detailed comments are provided in Attachment 1.

1. Air Quality

Issues identified in the EPA's review of EA's Air Quality Impact Assessment (AQIA) include the following.

- The assessment is based on tanks that have internal floating roofs. The EPA considers this to be unlikely for the storage of diesel and biodiesel. If the tanks do not have internal floating roofs, the emission estimates and AQIA need to be revised.

- Emission estimates included in the AQIA were based on meteorological data from San Francisco. The proposed facility is located in Newcastle, NSW. Therefore, the emission estimates included in the assessment are incorrect.

- Benzene is identified as the most critical air pollutant and is the only air pollutant identified from the proposal. The EPA has reviewed the proposal and concluded that it is unlikely that benzene will be

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released from the sources identified in the assessment and there are numerous other air pollutants not identified or assessed.

- The AQIA fails to identify or consider significant air emission sources that would be a direct result of the proposed facility. Air emission sources not identified or assessed include combustion emissions from ships and combustion emissions from road tankers.

2. Noise

The predicted construction and operational noise, vibration and traffic impacts associated with the project is within the nominated criteria. However the EPA's review of the EA's Noise and Vibration Assessment has identified a number of omissions that should be address in order to provide confidence that the predicted noise and vibration impacts associated with the proposal are within acceptable levels.

Given the above the EPA is unable to appropriately assess the proposal and its potential environmental impacts. Accordingly the EPA is unable to provide any recommended conditions of approval in respect of this proposal.

If you require any further information regarding this matter please contact Hamish Rutherford on (02) 4908 6824.

Yours sincerely

20 DEC 2011

MARK HARTWELL
Head Regional Operations Unit – Hunter
Environment Protection Authority

Attachment 1.

ATTACHMENT 1

ENVIRONMENT PROTECTION AUTHORITY- COMMENTS ON THE PROPOSED MARSTEL BULK LIQUID FUEL STORAGE FACILITY, MAYFIELD (08_0130)

1. AIR QUALITY IMPACT ASSESSMENT

1.1 Tank Emission Estimation Review

AECOM used US EPA's "TANKS" program to estimate emissions of volatile organic compounds (VOCs) from the proposed tanks at the facility. The EPA has identified the following fundamental issues in the emission estimates.

1. The tanks were modelled as internal floating roof tanks; and
2. The tanks were modelled using San Francisco meteorological data.

Each of these issues is discussed separately in this section.

1.1.1 Tank Types

Generally, tanks for a particular fluid are chosen according to the flash-point of the substance stored. Generally, there are fixed roof tanks, and floating roof tanks.

- Floating roof tanks are generally used for liquids with low flash-points (e.g. motor spirit, petrol, ethanol). These tanks have a floating roof which travels up and down along with the liquid level. This floating roof traps the vapour from low flash-point fuels.
- Fixed roof tanks are meant for liquids with high flash points, (e.g. fuel oil, diesel, bitumen etc.).

It is likely that the tanks at the Marstel Terminals proposal will use 'vertical fixed roof tanks' rather than 'internal floating roof tanks'. This will significantly impact the estimated emissions for the proposed facility.

Tanks with an internal floating roof design will have significantly lower emissions than emissions from a fixed vertical roof design.

The EPA recommends that the proponent confirm that all storage tanks are internal floating roof tanks.

1.1.2 Meteorological Data

The US EPA program "TANKS" requires site specific meteorological data in order to estimate emissions of VOCs from tank loading and breathing. TANKS does not come with Australian meteorological data and has only data for cities in North America. Australian users of TANKS are required to enter site specific data in order to correctly run the model locally.

The EPA notes that the meteorological data used in the assessment is the default data set shipped with the software program for San Francisco. This is significantly different meteorological conditions to those expected at the proposed site.

The EPA has performed a comparison of meteorological conditions that should have been used in the assessment from those of San Francisco. The difference in monthly maximum and minimum temperature between NSW and San Francisco is presented in Figure Error! **No text of specified style in document.-1**.

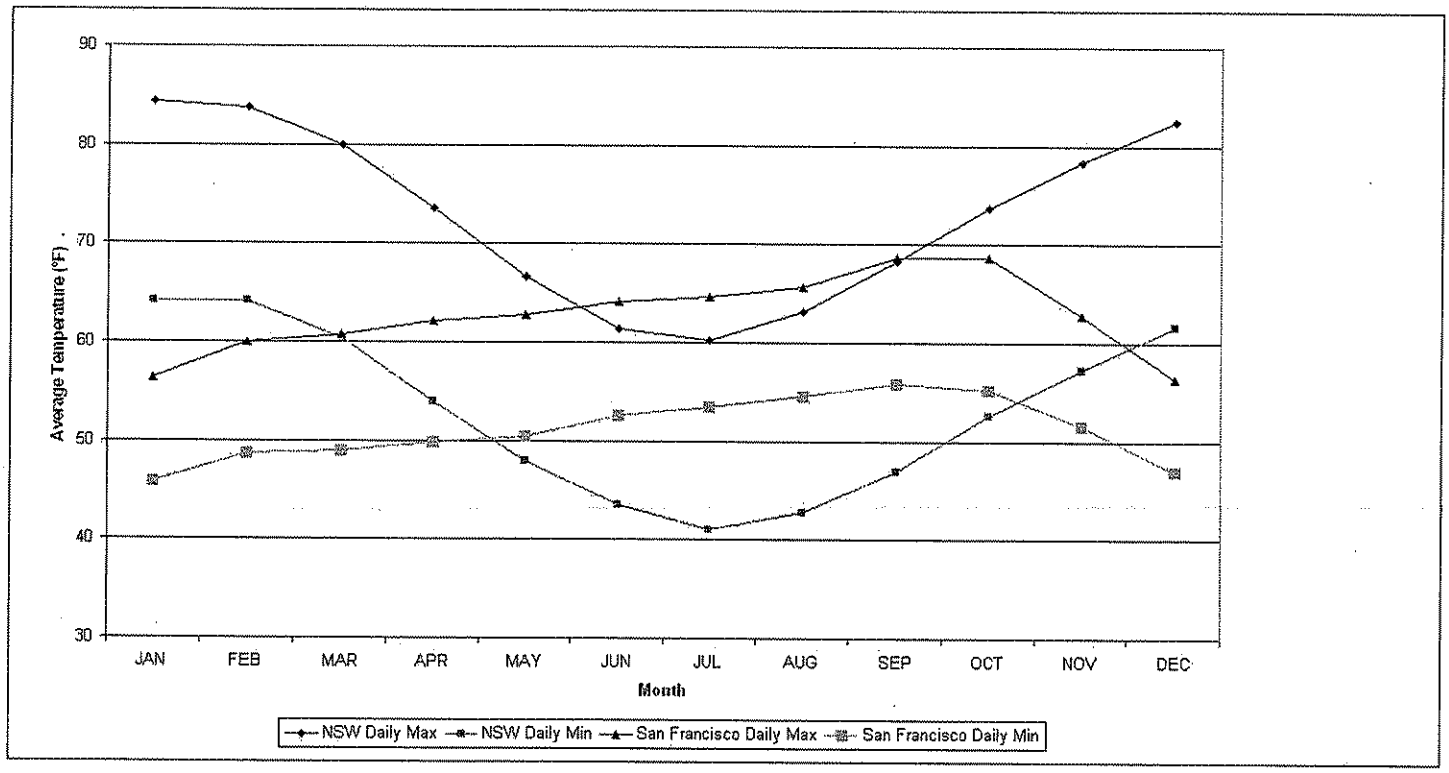

Figure Error! No text of specified style in document.**-1: Difference in Max and Min Temperatures between NSW and San Francisco**

The difference in solar insulation factors between NSW and San Francisco is presented in Figure Error! **No text of specified style in document.-2**.

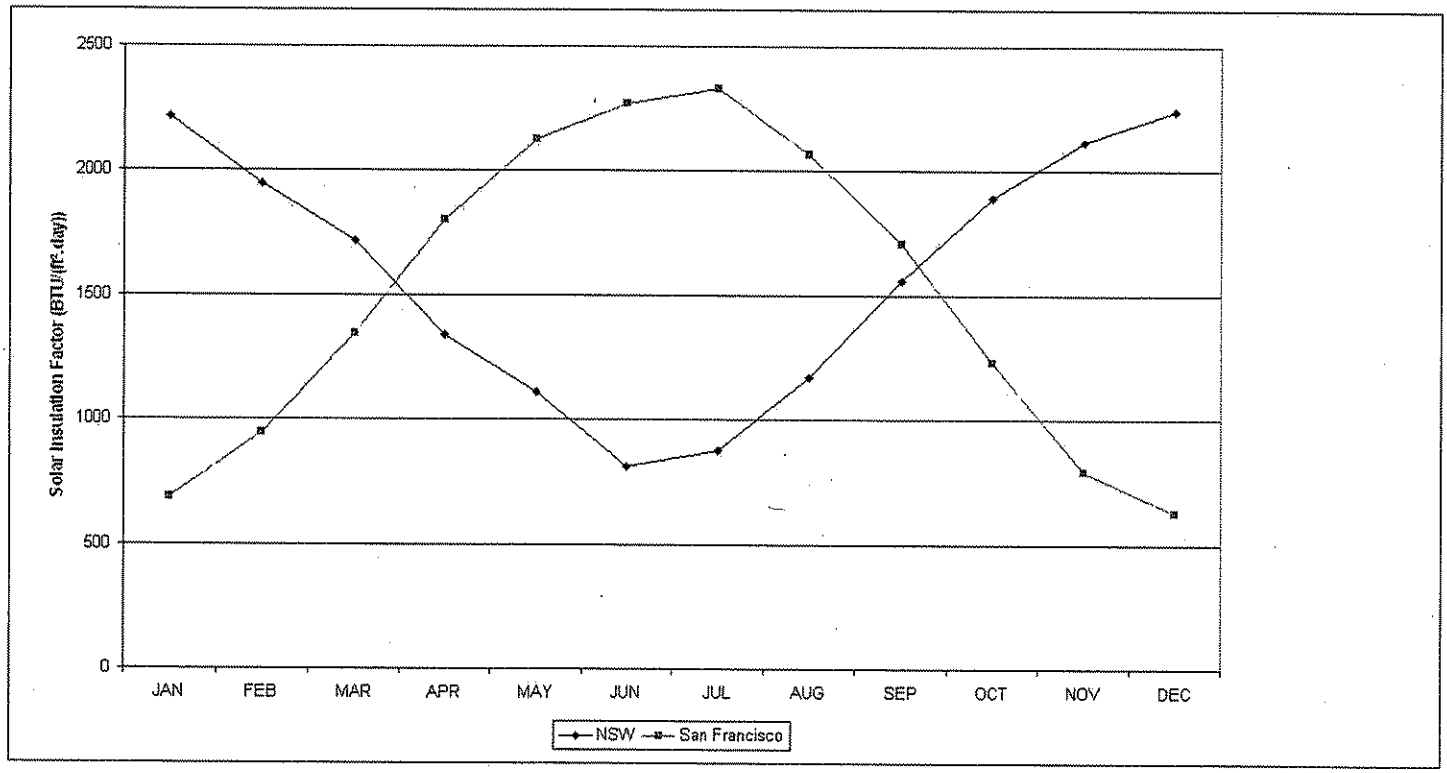

Figure Error! No text of specified style in document.**-2: Difference in Solar Insulation Factor between NSW and San Francisco**

The EPA notes that wind speed is also used in estimated emissions by the TANKs program. However, this information is not presented in the Environmental Assessment's Air Quality Impact Assessment ("AQIA"). It is assumed that San Francisco average wind speed was used in developing the emission estimates.
By using San Francisco meteorological data, maximum emissions from the proposed tanks have been estimated to occur during winter and minimum emission have been estimated to occur in summer. This is the opposite of what would occur. However, as the emissions are from a low volatility liquid, the majority of emissions are from working loss and not from breathing loss.

Using the incorrect meteorological data in TANKS has resulted in incorrect emissions being estimated for the air quality assessment.

The EPA recommends that site specific meteorological data is used to assess the impacts of the proposed facility in a revised air quality assessment.

1.1.3 Assessment of Benzene

The EPA notes that AECOM assessed emissions of benzene from the storage and handling of diesel and biodiesel as this was considered to be the most critical air quality parameter for the assessment. AECOM base this assessment on:

- the liquid concentrations of benzene concentrations for crude oil and petrol.
- the Australian Diesel Fuel Quality Standards a maximum content of polycyclic aromatic hydrocarbons of 11%.

AECOM used an estimated maximum content of benzene in diesel vapour of 11% in the air quality assessment.

This is incorrect, crude oil and petrol are not stored or proposed to be stored on the site. The composition of petrol and crude oil are significantly different to the composition of diesel. The poly aromatic hydrocarbon (PAH) content of diesel in the liquid phase is not a reasonable indicator of benzene concentration in diesel. If diesel could contain so much PAHs, which AECOM note "are typically more toxic", emissions from this toxic group of substances should be assessed.

The EPA notes that diesel typically does not contain or contains only trace amounts of benzene in the liquid or vapour phase. An example of the composition of diesel (vapour phase) has been obtained from B.P. and is as detailed in Table Error! **No text of specified style in document.-1**.

Table Error! No text of specified style in document.**-1: Composition of Diesel Vapour Phase**

Temperature Deg C	15	20	25
Density liquid diesel kg/L	0.7930	0.7894	0.7859
Density vapour (inc. air) g/L	1.187	1.168	1.149
Concentration of HC in vapour g/L	0.00237	0.00327	0.00445
Composition %w/w			
UNDECANE	0.26	0.28	0.30
DODECANE	0.75	0.83	0.91
TRIDECANE	0.48	0.55	0.62
TETRADECANE	0.34	0.40	0.48
PENTADECANE	0.12	0.14	0.17
HEXADECANE	0.02	0.03	0.04
HEPTADECANE	0.01	0.01	0.02
OCTADECANE	0.00	0.00	0.00
NONADECANE	0.00	0.00	0.00
EICOSANE	0.00	0.00	0.00
TOLUENE	2.95	2.77	2.60
ETHYLBENZENE	0.61	0.59	0.57
M-XYLENE	4.47	4.33	4.20
O-XYLENE	4.82	4.70	4.58
CUMENE	5.10	5.04	4.99
PROPYLBENZENE	6.16	6.13	6.10
3-ETHYLTOLUENE	12.05	12.00	11.95
4-ETHYLTOLUENE	19.88	19.77	19.66
2-ETHYLTOLUENE	10.30	10.31	10.32
1,3,5-TRIMETHYLBENZENE	10.48	10.56	10.63
1,2,4-TRIMETHYLBENZENE	7.45	7.53	7.60
1,2,3-TRIMETHYLBENZENE	13.76	14.02	14.26

Also, the National Pollutant Inventory (NPI) published compositional values for the liquid phase of diesel indicating that the typical concentration of benzene in the liquid phase of diesel was 0.0008% (i.e. trace amounts found in diesel). Based on the vapour phase composition presented in Table Error! **No text of specified style in document.-1**, the most critical substance to air quality impacts from emissions of diesel vapour is cumene as shown in Table Error! **No text of specified style in document.-2**.

Table Error! No text of specified style in document.**-2: Assessment of Emissions of Impact Assessment Criterion**

Substance	Impact Assessment Criterion (mg/m^3 - 1 hour)	Estimated Emissions (kg/year)	Estimated Emissions (g/second)	Indicator
Benzene	0.029	0	0	0
Cumene	0.021	124.899	0.0040	1.0000
Ethylbenzene	8	14.9389	0.0005	0.0003
Trimethylbenzenes (all isomers)	2.2	776.0881	0.0246	0.0593
Toluene	0.36	72.2455	0.0023	0.0337
Xylenes (all isomers)	0.19	227.5121	0.0072	0.2013

The EPA recommends that the air quality assessment is revised to account for toxic substances that are expected to be released from the storage and handling of diesel.

1.2 Unaccounted for Air Pollution Sources

1.2.1 Combustion in ships (auxiliary boiler and auxiliary engine)

The most significant unaccounted air pollution source that has been identified is combustion sources from ships.

The Environmental Assessment quotes between eight (see page ii) and fifteen (see the greenhouse assessment) ships per year. It is quoted that unloading takes 36 hours per ship and fuel consumption rates are 36 tonnes per day. The EPA has assumed that the fuel consumption figure quoted in the greenhouse gas assessment is for ocean going travel (i.e. maximum main engine load). During unloading of fuel, typically only the auxiliary engine and auxiliary boiler are operating. These engines are typically total 16% of the total power across all engines in a bulk carrier. Therefore, it could be estimated (using a screening level assessment approach) that the maximum fuel consumption while in port is 0.16 * 36 tonnes per day or 5.8 tonnes per day. If a load factor reduction is incorporating into the fuel consumption estimate to account for the auxiliary engine and auxiliary boiler being at close to 13% full load (taking the average for Newcastle port in "hotel" operating mode), the fuel consumption while a ship is in port is estimated to be approximately 1 tonne per day.

Table Error! No text of specified style in document.**-3: Typical engine size for a bulk carrier**

Ship type	Main engine (kW)	Auxiliary engine (kW)	Auxiliary boiler (kW)
Bulk Carrier	10,163	1,812	132

Therefore, using a screening methodology approach the total amount of additional fuel combusted by ships less than 1 kilometre from the location of the tanks and approximately 1 km from sensitive receptors is between 24 and 130 tonnes per year and the maximum fuel consumption over a day is 5.8 tonnes per day. Combustion emissions from ships include the following air pollutants:

- OXIDES OF NITROGEN
- NITRIC OXIDE
- NITROGEN DIOXIDE
- AMMONIA (TOTAL)
- SULFUR DIOXIDE
- TOTAL SUSPENDED PARTICULATES (TSP)
- PARTICULATE MATTER 10µm
- PARTICULATE MATTER 2.5µm
- TOTAL VOCS (AND INDIVIDUAL ORGANIC TOXICS (PRODUCTS OF INCOMPLETE COMBUSTION))
- CARBON MONOXIDE
- POLYCYCLIC AROMATIC HYDROCARBONS
- POLYCHLORINATED DIOXINS AND FURANS
- LEAD & COMPOUNDS
- CADMIUM & COMPOUNDS
- MERCURY & COMPOUNDS
- ARSENIC & COMPOUNDS
- CHROMIUM (III) COMPOUNDS

- CHROMIUM (VI) COMPOUNDS
- COPPER & COMPOUNDS
- NICKEL & COMPOUNDS
- SELENIUM & COMPOUNDS
- ZINC & COMPOUNDS
- VANADIUM & COMPOUNDS

Additional combustion emissions in the area will add to an already constrained airshed and an assessment has not been made on the impact this proposed facility will have on the air environment of these pollutants.

The EPA recommends that the impact of combustion from ships using the proposed facility is included in the revised air quality assessment. The air quality assessment should include an assessment of cumulative impacts for relevant pollutants.

1.2.2 Combustion from Trucks distributing Fuel from the Facility

The air quality assessment also does not include combustion emissions from trucks loading fuel from the facility. This is an additional air emission source in the area, due to the proposed facility. Air pollutants released from diesel combustion in trucks are similar to the combustion emissions from ships.

ATASU recommend that the revised air quality assessment includes the additional combustion emissions from trucks using the facility.

2. NOISE AND VIBRATION ASSESSMENT

The EPA has reviewed the '*Marstel Bulk Fuel Facility - Noise and Vibration Impact Assessment*' (NVIA) prepared by AECOM dated 5 August 2011 that forms part of the EA. The EPA has the following comments on the NVIA and EA.

- The ambient noise monitoring results in Section 2.2 of the NVIA are taken from a report prepared by Spectrum Acoustics in 2008, which in turn refers to noise monitoring results from a report prepared by Heggies Australia in 2006. A brief summary of the results is presented in Table 2 of the NVIA, however no noise logger charts or attended noise monitoring results are included. The results of the Spectrum Acoustics report should have been reproduced in the NVIA as they form the basis for the assessment. In order to support and increase confidence in the results presented in Table 2 , they should have been supplemented by other noise monitoring data from other studies undertaken in the locality, and/or from fresh monitoring undertaken by AECOM for this project. In the context of the changing land uses in the locality over time, this would help to establish whether the measured noise levels in Table 2 are still representative of the ambient noise environment in 2011, and the character and contributions of ambient noise sources in the area.

- Table 4 of the NVIA states that the daytime noise management levels are Rating Background Level (RBL) +15 dB. The EPA considers that this should have been the RBL+10 dB.

- NAU notes that construction and operational vibration levels from the site are not expected to raise any issues due to the large distance (900m) to the nearest sensitive receivers.

- The intrusive noise criteria in Table 6 of the NVIA should show an adjusted RBL of 46 dB(A) and intrusive criterion of 51 dB(A) for Mayfield during the evening period, as per the EPA's Industrial

Noise Policy (INP) application note relating to when RBLs for the evening and night are higher than for daytime.

- Table 8 of the NVIA summarising operational noise criteria should also be adjusted as per the point above, and the controlling Project Specific Noise Levels clearly identified.

- Section 4.3.1 of the NVIA states that the 'existing ambient noise levels' in Table 2 (from all sources) exceed the road traffic noise criteria in Table 11. No information regarding the relative levels of road traffic noise versus other ambient noise are provided to support the implicit assumption that the ambient Leq in Table 2 is dominated by road traffic noise. Further information should have been provided to support this assumption prior to applying the 2 dB allowance criterion.

- The NVIA also states in Section 4.3.1 that the proposed access route will generate less than 40 vehicle movements per day from operational activities. This statement is at odds with the adopted vehicle movements of 56 per day in 2012 and 108 movements per day in 2016 quoted in Section 6.6 of the NVIA. The further statement in Section 4.3.1 that 'it is considered unlikely' the proposed <40 operational vehicle movements would exceed the applicable noise criteria on Industrial Drive is clouded by the next statement relating to construction traffic. The traffic noise mitigation and management measures discussed in Section 4.3.1, which purports to relate to criteria, would also have been better placed in Section 7.0. NAU considers that the construction and operational traffic noise criteria and assessment sections should have been reviewed and revised as necessary to clarify traffic criteria, volumes and predicted impacts.

- Section 5.1 of the NVIA states, in the paragraph preceding Table 12, that construction outside standard hours may be undertaken when 'a task is near completion close to 6.00pm...so that the overall construction works can be carried out in minimal time' with the intent to 'shorten the overall length of the noise exposure to nearby receiver locations'. The EPA considers that any out of hours construction works should be subject to the requirements of Section 2.3 of the Interim Construction Noise Guideline.

- Section 5.2.2 of the NVIA identifies two truck movements per hour (22 per day for a 7am – 6pm day) in the construction noise assessment. This figure needs to be reconciled with the <40 vehicles per day in Section 3.3.

- The construction criteria for standard hours in Table 14 of the NVIA should have been reviewed in the light of any revisions to Table 4. Predicted noise levels for any out-of-hours works should also be provided.

- Section 6.1 should have identified the presence or absence of any tonal noise characteristics, and associated INP penalties, for equipment operating at the site.

- Section 6.2.2 adopts a prevailing wind of 3m/s from the north-west as representing a worst case assessment for sensitive receivers at Carrington. No further assessment of prevailing winds is presented. The NVIA should have explained why a prevailing wind from the north-east had not also been adopted as representing a worst case assessment for the closer sensitive receivers at Mayfield.

- The modelled operational scenario for amenity in Section 6.2.3 states two truck movements per hour were included; this should perhaps have been revised to three movements per hour in line with Section 6.1.3.

- Table 19 shows predicted noise levels for a worst case north-west wind as being identical to those in the column for a Class F temperature inversion. The EPA considers this is possibly in error.

- Section 6.4 includes an assessment of a reversing beeper in regard to sleep disturbance impacts. Any penalty associated with tonality should also have been included in this assessment.

- It is unclear if in Table 20, the result for reversing alarms (column 5) also includes the contribution from equipment excluding reversing alarms (column 3). If it does, it is unclear why the reversing alarm result for receivers R9 and R10 are 5 dB and 9 dB lower than the equivalent results excluding reversing alarms.

- It is assumed that the traffic counts for Industrial Drive in Table 23 are AADTs and that the entry for 1998 of 2954 is in error.

- The traffic noise levels in the Spectrum Acoustics report should have been reproduced in the NVIA as part of Table 24 to show existing and predicted (with project) levels.

- The Statement of Commitments relating to noise on Table 44 of the EA contains a rather cryptic entry. The EPA recommends that statement be removed and replaced with a commitment that the noise and vibration mitigation and management strategies detailed in Section 7.0 of the NVIA, as well as the entries in the last paragraph of Section 4.3.1 will be adopted and implemented.

Environment Protection Authority
December 2011

FIRE & RESCUE NSW

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STRUCTURAL FIRE SAFETY UNIT
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Locked Bag 12 Greenacre NSW 2190

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Your Reference:
File No: NFB/02568
Contact Officer: Alan Bruce

Telephone: (02) 9742 7400
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Email: firesafety.nswfb@fire.nsw.gov.au

20 January 2012

NSW Department of Planning & Infrastructure
23-33 Bridge Street
SYDNEY NSW 2000

Email: information@planning.nsw.gov.au
CC: Nicholas.hall@planning.nsw.gov.au

Attention: Nicholas Hall

Dear Sir

RE: ASSESSMENT OF MARSTEL BULK FUEL STORAGE AND DISPATCH FACILITY (MP 08_0130) INDUSTRIAL DRIVE, MAYFIELD NORTH

I refer to your correspondence dated 18 January 2012 requesting Fire and Rescue NSW (FRNSW) to review and comment on an Environmental Assessment (EA) for the proposed Marstel Bulk Fuel Storage and Dispatch Facility. The EA, (Version 60212465 revision C) dated 4 November 2011, was prepared by Jessica Miller and Simon Murphy of AECOM Australia Pty Ltd.

FRNSW has reviewed the submitted EA and the following comments are provided:

1. FRNSW believes that the site's operators should prepare and submit to FRNSW an Emergency Plan (EP). It is recommended that the EP follow FRNSW Policy No 1: *Guidelines for Emergency Plans at Facilities Having Notifiable Quantities of Dangerous Goods* and Hazardous Industry Planning Advisory Paper (HIPAP) N0.1

2. Referring to Sections 3.6.12 and 7.3 of the EA, FRNSW concurs that a Fire Safety Study (FSS) should be prepared, and further recommends it be prepared in accordance with HIPAP No. 2. If deemed appropriate by the Approval Authority, FRNSW can provide comment on the FSS.

Should you have any further enquiries regarding any of the above matters, please do not hesitate to contact the Structural Fire Safety Unit.

Yours faithfully

Electronically approved for release

For Commissioner

Nicholas Hall - Marstel Bulk Liquid Fuel Storage Facility EA 08_0130

From: Valentina Misevska
To: Nicholas Hall
Date: 12/23/2011 12:15 PM
Subject: Marstel Bulk Liquid Fuel Storage Facility EA 08_0130

Nick,

Please see HDC's comments on the Marstel Environmental Assessment (EA).

Servicing

The EA states that there is a contractual relationship between Marstel and NPC under which NPC is to provide access and services to the project site boundary. During the operational phase NPC will provide a permanent road and services access from Ingall Street and Steelworks Rd (Section 3.3 and 3.4). The EA also states that certain access and service connections are to be provided as part of the initial stage of the Intertrade Industrial Park development and if they are not available in a time frame that meets the requirements of the Mastel proposal there will need to be further detailed investigations on alternative options (section 3.5.5).

HDC notes that currently, NPC does not own or have any rights to carry out such works to the extent that they are required on the Intertrade Industrial Park lands. While it is expected that Buildev Intertrade Consortium Pty Ltd, as the developer of those lands, will construct roads and service connections along Steelworks Rd at some time during Marstel's operational phase, the timing and design of such roads and service connections has not been finalised. They are currently expected in the second stage of development, not the initial one, and in the case that such roads and service connections are not provided within Marstel's time frames or at all, alternative arrangements would need to be considered.

Remediation

A Contaminated Site Management Plan (CSMP) has been prepared by the State, intended to provide a frameworks for management of risks associated with contaminated soil and groundwater during redevelopment and future occupation. It is also provided to ensure the remediation is protected and maintained into perpetuity. The CSMP is acknowledged by the EA but it is not clear how the State intends to legally implement it. HDC understands from NPC that the application of the CSMP is a condition of the Marstel lease. Planning may consider whether to also call up the CSMP in the Project Approval conditions.

Stormwater

The site has been capped with a low permeability clay as a part of the State's remediation. The clay is excellent in reducing infiltration however it remains sensitive to changes in hydraulic flows that can potentially cause erosion of the clay cap.

We note that stormwater is necessarily diverted around the Marstel facility. If appropriately managed, this is not expected to have any impact to the clay cap, provided there is a requirement of the project that any flow concentrated around the facility is conveyed all the way to the downstream western drain receiving waters via an engineered open channel. The flow should be discharged to western drain via an engineered pit / drop structure to prevent any erosion of the western drain batters.

Regards
Valentina

Valentina Misevska
Development Manager

Hunter Development Corporation

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Future City: G.Mansfield
Reference: ECM # 3579743

23 December 2011

Ms Felicity Greenway
Team leader - Industry
Mining & Industry Projects
Department of Planning and Infrastructure
G.P.O. Box 39
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Great Place, Great Lifestyle, Great Future

Att: Nick Hall

Dear Ms Greenway

PORT 3A MAJOR PROJECT (MP08_0130)
MARSTEL BULK LIQUID FUEL STORAGE FACILITY.

I refer to your letter of 14 November, 2011 concerning the public exhibition of the Environmental Assessment (EA) for the above mentioned project on a portion of the former BHP steelworks site located along the South Arm of the Hunter River.

The above document has been reviewed by Council Officers and the following comments are submitted for your consideration in the assessment of the application:

1. Mayfield Site Port Related Activities concept plan.

According to the EA, the proposed facility is to be located on land which would be leased from Newcastle Point Corporation (NPC) and is currently subject to a concept approval application MP09_0096 currently being assessed by the Department.

It is advised that a meeting held on 20 December 2001, Council resolved to write to The Honourable Duncan Gay MP, Minister for Roads and Ports and The Honourable Brad Hazzard, Minister for Planning and Infrastructure, to impress on both ministers that no decisions should be made regarding the Mayfield Site Port Related Activities Concept Plan lodged by the Newcastle Port Corporation until the following has occurred:

a) The Council and the local community are fully briefed on the Concept Plan as currently proposed;

b) The concerns of the Council and the local community are properly addressed;

c) A proper community consultative process regarding the former BHP Steelworks site at Mayfield has been carried out; and

d) The Newcastle Port Corporation's overall Strategic Development Plan for the entire Port of Newcastle is released for public comment.

The Council has made two submissions to the Department of Planning and Infrastructure on 10 September 2010 and 3 March 2011 in response to invitations to comment on the proponent's (NPC) Environmental Assessment report and

subsequent 'Response to Submissions' Report, respectively Copies of Council's submissions are attached.

Both of Council's submissions expressed concern over various elements of the proposed Concept Plan; however, the Department has not engaged Council in discussions on the issues raised since Council's letter of 3 March 2011.

More recently, Council officers were unable to comprehensively respond to an invitation from the Department of Planning and Infrastructure to comment on the proposed draft conditions of approval pertaining to the Concept Plan because the scope of the Concept Plan apparently had been modified following discussions with other government agencies and the proponent.

Council represents the residents and ratepayers who live in the suburbs around the Newcastle Port and the situation that Council now finds itself, being excluded from discussions regarding this important site, is considered untenable and a matter of paramount concern to local residents who rely on Council's representations on such matters.

With regard to item d) above, Council was advised by the Public Affairs Officer for the Newcastle Port Corporation on 19 October 2011 that the draft Strategic Development Plan was expected to be released for public comment in February 2012.

In accordance with Council's resolution, it is requested that briefings of the Council and local communities be undertaken in respect of the current Concept Plan for the former BHP lands and the wider Newcastle Port lands before determination of the Mayfield Site Port Related Activities Concept Plan and the Marstel Project occurs.

2. Proposed access roads and street lighting.

It is noted that Marstel's agreement with NPC is such that the Corporation is required to construct the proposed access roads and intersection improvements and that these works form part of MP 09_0096. Marstel's should be required to commit to constructing these works in the event that MP09_0096 is not approved.

Also, it is noted that Marstel's may utilise the proposed construction traffic access road and Selwyn Street for operations beyond commencement if the other roads are not built by NPC. On 3 September 2009 NPC committed to the provision of street lighting to Selwyn Street and the intersection of the construction access road with Selwyn Street in the event that operations on the port land expanded beyond the 'start up' facilities for which NPC built the upgraded road infrastructure. Operations of the Marstel proposal via Selwyn Street would clearly be an intensification of the use of Selwyn Street beyond the NPC start up facility and hence will require NPC to fulfil their commitment to install the necessary street lighting.

3. Stormwater

The proposal should be designed and constructed in accordance with the relevant flood and stormwater requests of the Newcastle Development Control Plan, 2005. In this regard all-proposed building and tanks should be at the flood planning level of 2.5m Australian Height Datum (AHD). It being noted a level of 1.9m AHD is proposed in the EA.

4. Contamination

The subject site was part of the former BHP Steelworks which was subject to extensive contamination investigation and remediation works. This was undertaken through a Voluntary Investigation and Remediation Agreement (VIRA 26025) including installation of a capping layer. Council has concerns that the capping layer may be compromised during earth works in the construction stage of the proposed development.

Section 11.2 of the Environmental Assessment prepared by AECOM states:

> *'It is anticipated that the capping layer would not be significantly disturbed by the proposal. The tank farm, roadways, building and associated infrastructure would be placed above the capping layer. The foundations for the tanks would be constructed using pile driving techniques'.*

It is recommended that the proponent be required to prepare a Constructions Management Plan including contingency measures for disposal of potential contamination prior to determination.

5. Onsite Sewage disposal

It is noted that the proposed development includes an office which incorporates amenities. However, the site is currently unsewered. It is recommended further information be sought from the proponent regarding sewer infrastructure to be provided for the proposed development.

6. Section 94A Contribution.

A monetary contribution pursuant to section 94Aof the *Environmental Planning and Assessment Act, 1979* is applicable to the project. Under the provisions of Council's S94A Development Contributions Plan 2009 the maximum section 94A levy on the proposal is 1.0% of the proposed cost of the development.

Should you require any further clarification of any of the abovementioned matters, please contact me on telephone 4974 2767.

Yours Faithfully

G. Mansfield
DEVELOPMENT & BUILDING COORDINATOR
DEVELOPMENT ASSESSMENT TEAM

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10 September 2010

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Ms Rebecca Newman
Senior Environmental Planning Officer
Infrastructure Projects
Department of Planning
PO Box 39
SYDNEY NSW 2001

Dear Ms Newman

PART 3A MAJOR PROJECT EXHIBITION (MP09_0096)
MAYFIELD SITE PORT RELATED ACTIVITIES CONCEPT PLAN

I refer to your letter dated 29 July 2010 inviting Council to comment on the Environmental Assessment of the Concept Plan developed by Newcastle Port Corporation (NPC) for proposed port related facilities and activities on a portion of the former BHP Steelworks site at Mayfield North. I also refer to the agreement with Ms Chan of your office to a one week extension to the notification period in order for Council to provide such comment.

It is understood that this Concept Plan will be assessed under Part 3A of the *Environmental Planning & Assessment Act, 1979* (NSW) and that the Minister is the consent authority.

Council officers have reviewed the documentation provided and the following comments are made in regards to the proposal:

1. **Traffic & Transport**

1.1 Traffic Impact

It is considered that the submitted Environmental Assessment does not satisfactorily address the Director General's Requirements with regard to assessing and mitigating the impact of traffic and transport.

It is a matter of concern that the transport assessment has focussed only on the two existing intersections intended for access and egress from the subject land and the submitted assessment makes no assumptions for the future transport requirements of the neighbouring Intertrade Industrial Park (IIP).

The transport assessment makes assumptions regarding modal split and distribution, but stops short of identifying the most probable destinations for the cargo and the associated haulage routes. The resulting heavy vehicle traffic and will obviously have an adverse impact on the wider road network beyond the frontage of the development site.

The background traffic growth adopted in the assessment is based on older RTA counts and would not account for recent or future traffic growth associated with the following growth areas:

a) The existing Steel River Industrial Estate;
b) The new coal loaders and other significant operations recently commenced or planned on Kooragang Island;
c) Other existing port related land in Mayfield East, Mayfield North, Tighes Hill and Maryville;
d) The Newcastle Airport;
e) The Williamtown Defence and Airport Related Employment Zone (DAREZ);
f) The land subject of *SEPP (Major Development) - Three Ports;* and
g) Other residential developments and industrial developments identified in the Lower Hunter Regional Strategy (Department of Planning, 2006).

Each of these growth areas will contribute to an incremental and cumulative increase in vehicles numbers entering the city via Industrial Drive and other roads to be relied on by the NPC and IIP proposals.

It is considered imperative that the cumulative impact that all the abovementioned developments will have on Industrial Drive and the surrounding road network is known before any determination is made in respect of the NPC Concept Plan.

In this regard, it is strongly recommended that the transport assessment consider the impacts of haulage to and from the proposed NPC and IIP developments on the wider road network, including, but not limited to the following:

1. Industrial Drive / Tourle Street intersection;
2. Pacific Highway / Industrial Drive intersection;
3. Intersections along Newcastle Road, Thomas Street and the F3 Link Road from Jesmond to the F3 Freeway; and
4. The capacity and current condition of other classified and local roads in the vicinity of the site that might reasonably be used for haulage.

It is also recommended that the transport assessment have regard to the approved RTA projects for Highway 23 (H23) from Jesmond to Sandgate, the Hunter Expressway, the RTA's current *F3 to Newcastle Route Study* and consider the potential rail freight corridor identified in the *Freight Hub Hunter Part 1 – Executive Summary Report, October 2008* (NSW Department of Premier and Cabinet).

The submitted transport study contains what appear to be false assumptions that may significantly alter the anticipated degree of impact on the surrounding road network. For example, container truck generation rates are based on all trucks having a capacity of 2 TEU, yet the assessment assumes a standard truck length of only 12.5m. It is unclear how such a vehicle is expected to carry such a load and it is more likely that trucks will be articulated trucks having a significantly longer length of between 19.5m and 25m. Accordingly, the queue lengths calculated at both the existing intersections, as well as the queuing at the rail crossings, has obviously been significantly under estimated.

The author of the transport assessment should be asked to confirm the traffic generation rates adopted based on existing known data for similar sites, such as Port Botany. There also appears to be errors in the calculation of traffic generation rates associated with bulk liquid haulage.

1.2 Future Transport Infrastructure

On numerous occasions within the submitted documentation, reference is made to a need to construct an internal link road to provide a better, more controlled, spread of heavy vehicle movements between the two intended access points on Industrial Drive. However, the reports do not give any indication as to the required timeframe for delivery of this road, a commitment to the roads construction nor does it assign responsibility for the construction or identify the future owner(s) of this road and how individual site security will be managed for each precinct.

It is also unclear how the NPC propose to determine who will be responsible for the construction of this road, any necessary upgrades to existing intersections or roads, the recommended grade separation of rail and road transport or how cost sharing for all these works is to be proportioned to the future individual Projects.

The proposed mitigation measures relating to the separation of rail and road transport is supported; however, there appears to be no strong commitment to the delivery of such infrastructure nor does NPC identify who is to be responsible for delivery of this infrastructure or when it will be required.

The submitted documentation also makes various references to an intention to develop Workplace Travel Plans intended to promote access to the site by walking, cycling and public transport. In this regard, it is noted that neither Selwyn Street or the access road of Ingall Street currently provide a suitable configuration or the necessary infrastructure to accommodate such alternate means of transport. In particular, part of Selwyn Street consists of only a 6m carriageway, generally unlit, with no provisions for parking or pedestrian or cycle activity. It will be necessary for the proponent to upgrade or reconstruct Selwyn Street and Ingall Street to a standard considered by Council to be sufficient to accommodate these alternate means of access.

Local Area Traffic Management (LATM) works are likely to be required. The nexus between development and required road works needs to be clearly defined. Currently, the full extent of development and concomitant traffic works are undetermined. Council seeks assurance that NPC will commit to providing of LATM controls or that funding will be provided to Council by NPC to implement works as required.

As mentioned above, the Environmental Assessment is silent on the impact of traffic generated from the Concept Plan on the existing local road network. Ingall Street is now catering for around 4,000 vehicles per day of which a high number are assumed to not have destinations on Ingall Street. It is recommended that, as a minimum, NPC are conditioned in any approval issued to provide the following LATM devices and also any other road improvements considered necessary resulting from the further studying of the likely full impacts of traffic on the surrounding road networks, as discussed above.

1. A roundabout at the Ingall Street and George Street intersection to slow traffic along the length of Ingall Street.
2. Four traffic calming devices, such as speed humps or chicanes, along Ingall Street between Industrial Drive and Maitland Road to maintain residential amenity and to discourage bypassing traffic.
3. Five traffic calming devices, such as speed humps or chicanes, along Crebert Street between Bull Street and Industrial Drive to reduce traffic speed.
4. Two traffic calming devices, such as speed humps or chicanes, along George Street between Industrial Drive and Ingall Street.

NPC, through its traffic consultant and with consultation with Council, should be required to carry out all community consultation with the affected residents on the proposed traffic management devices.

Depending on the results of the further investigations into increased heavy vehicle traffic using local roads, it is possible that light traffic thoroughfare zones will be introduced within the Mayfield area. Any recommendation from the Newcastle City Traffic Committee for signposting and linemarking are to be met by NPC.

1.3 Upgrading Freight Rail Network and Level Crossings

Council seeks confirmation of the status of works on the Northern Sydney Freight Corridor Project, the scope and timing of works. It is recommended that greater certainty over completion of the upgrading of the North Sydney Freight Corridor is known before assumptions are made on capacity of the freight network (p105).

The report anticipates three trains per day from Sydney running to the site as part of the initial operations scenario. The Environmental Assessment does not adequately address the likely impact these additional trains will have on local traffic that uses the level crossings at Glebe Road, Adamstown and Clyde Street, Islington. The level crossing at Adamstown is currently subject to excessive delays.

The *Lower Hunter Regional Strategy* reiterated the need to investigate a rail freight bypass for Newcastle, which, if implemented would remove some freight movements from suburban Newcastle and reduce the freight-passenger conflict within the Newcastle rail network. Removal of freight trains from the urban passenger network would enable more efficient operation of the current level crossing near Adamstown Station, which is currently subject to excessive delays. Identification and reservation of the corridor is required in the short term.

This project has been advocated by Council and various other transport stakeholders, including the Hunter Business Chamber, which listed the project as high priority in its *Hunter Integrated Transport Strategy* (http://www.hunterbusinesschamber.com/), to remove freight traffic from the domestic rail corridor in inner Newcastle suburbs and provide enhanced access to the Port.

2. Flooding, Stormwater and Water Quality Management

The Environmental Assessment states that a Stormwater Management Concept would be prepared in accordance with a number of Council Development Control Plans (DCP's) that were, however, repealed by Council upon adoption of the consolidated Newcastle DCP in 2005 (NDCP2005). Element 4.5 of NDCP2005 now applies to stormwater and it is recommended that the objectives and water quality targets specified by NDCP2005 are adopted for this proposal. The NPC proposal, being a major development, would require the preparation of a comprehensive water cycle management plan and many of the principles identified within the report would be acceptable within the water cycle management plan with stormwater harvesting off roof areas for re-use and water quality controls considered important areas within the plan.

As a capped site the site would be similar to the Steel River Industrial estate. The requirements of Element 4.5 NDCP2005 have not been applied to individual development lots within Steel River Estate as it is desirable to avoid the use of underground retention or infiltration trenches within the subdivision due to the likelihood of recontamination by ground contaminants.

As the site lies adjacent to the Hunter River and at the bottom of the Hunter River catchment there is little value in retaining flows and such a strategy could in fact increase flooding in the area by detaining peak flows to coincide with peak flows from further up the catchment. Retention of stormwater flows should only be seen as a water quality control rather than a water quantity control.

The water cycle management plan should clearly define who will be responsible for the delivery, timing and funding of each element of the plan to ensure sufficient and appropriate controls are present on site at all times during the phased development of the site.

All water quantity and quality controls identified within the water cycle management plan are to be retained in the ownership of the respective developments and, under no circumstances, should they be transferred to the ownership of The City of Newcastle.

3. Contaminated Land

It is understood that remediation works at the Closure Area approved in 2001 by DIPNR are continuing in accordance with a 2005 Voluntary Remediation Agreement (VRA) with the NSW Department of Environment, Climate Change & Water (DECCW). Remediation works in relation to stage 1 have been completed; however stage 1(b) and stage 2 are scheduled to be completed by 2012. Further investigation, remediation, validation and site auditor assessment is required in accordance with the VRA.

The following contamination documentation has been provided as part of the Concept Plan:

- Report: Contaminated Site Management Plan, Intertrade Industrial Park (Incomplete extract, no appendices included)
- DECCW Voluntary Remediation Agreement letter.
- Report: Closure Area, Former BHP Steelworks, Mayfield Remediation and Validation Report. Prepared by Coffey Environments Pty Ltd 30 June 2008.

Copies of the following documents referenced in the Environmental Assessment have not been provided for review:

- Detailed contamination investigation reports
- The Remediation Action Plan (completed in 2004)
- Any site audit statements/reports which may have been completed to date.

Electronic copies of the above referenced contamination reports should be provided to Council for inclusion on the property's Planning Controls. This will allow Council to maintain a complete record of contamination information relating to the property and assist in the assessment of future Project Applications or Development Applications for the site.

3.1 Potential dedication of contaminated assets to Council

A key principle of Element 4.2 - Contaminated Land Management of DCP2005 (a policy of the Council adopted in accordance with the *Contaminated Land Planning Guidelines* notified under section 145C of the *Environmental Planning and Assessment Act 1979*) states that remediation of land should:

> *"Not place a public agency in a position where it may have to become involved in any future management or monitoring of contaminated land. In this regard, any ongoing management and monitoring requirements need to be clearly and legally assigned to the proprietors of newly created lots. It will need to be demonstrated, to the satisfaction of Council, that any further remediation required as a result of ongoing management or monitoring requirements can be legally and practically enforced."*

Future roads, stormwater infrastructure, footpaths or other assets affected by contamination are not to be dedicated to Council unless the objectives and requirements of Element 4.2.3 DCP2005 are fully considered and met in their entirety.

3.2 Environmental Commitments and Performance

The Environmental Assessment indicates that potential impacts (such as noise, water and air quality) could affect nearby environments and residential amenity should appropriate environmental mitigation and management measures not be implemented as part of the construction and operation of the proposal.

It is considered appropriate that the proponent be required to revisit the potential for exceedances of traffic noise criteria having regard to the likely impact the additional heavy vehicle numbers will have on residences other than those with an immediate frontage of the development site as discussed above in Section 2.1.

Section 11 of the Environmental Assessment outlines Environmental Commitments and Performance Criteria proposed to apply to future project applications. These criteria have been designed to be used in determining project specific Statement of Commitments for assessing future major projects to ensure overall environmental impacts of the site are appropriately mitigated.

Concern is expressed as to how these criteria will be practically integrated into a future development assessment process should it eventuate that individual Development/Project Applications are required to be approved within the NPC proposal and/or the proposed IIP. Similar type management strategies for ensuring environmental performance for large scale development have in some instances proven to be problematic in terms of being overly onerous when applied to smaller development applications within an industrial estate.

As the NPC Concept Plan purports individual Project Applications being lodged for each separate precinct, it is not clear who will be made responsible for the planning, cost sharing, delivery, monitoring and reporting of all of the recommended mitigations measures. An example of this is the proposal to mitigate noise impacts by undertaking improvements to affected receivers. Will the proponent of the first development approved on site be responsible for these mitigation measures or will the responsibility rest with the majority noise generator? And what if the majority noise generator is the last to develop on site, will installation of the mitigation measures be deferred until that development is commenced?

It is recommended that the NPC be made responsible for delivery and monitoring of all proposed mitigation measures via appropriate conditions imposed under any approval issued by the Minister in respect of the current Concept Plan.

It is also recommended that the existing Air Quality study be expanded to include a Greenhouse Gas Assessment having regard to the significant future heavy vehicle numbers associated with the proposal.

4. Provision of Services

The Environmental Assessment gives no indication as to when, where or by whom public utility services are to be provided to the NPC site. Delivery, capacity and staging of the individual services needs to be planned in detail to ensure services are available to each precinct of the site as required.

It is recommended that clarification be sought from NPC how services will be delivered through the future IIP, as is suggested in the Environmental Assessment, when the details of the IIP site are yet to be known.

5. Section 94A

The Environmental Assessment fails to address payment to Council of appropriate Section 94A contributions. In this regard, it is requested that a condition be imposed in any approval issued by the Minister in regards the subject NPC Concept Plan requiring the current proponent or proponents of individual developments within the Concept Plan to make full payment of their respective contributions in accordance with Council's adopted Section 94A Development Contributions Plan 2006.

Should you require further clarification of any of the matters raised in this letter please contact myself on 49742767 or Senior Development Officer Brian Cameron, on 4974 2637, respectively.

Yours faithfully

G. Mansfield.

Geof Mansfield
DEVELOPMENT AND BUILDING SERVICES CO-ORDINATOR
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3 March 2011

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Dear Ms Newman

PART 3A MAJOR PROJECT EXHIBITION (MP09_0096)
MAYFIELD SITE PORT RELATED ACTIVITIES CONCEPT PLAN

I refer to your letter dated 10 February 2011 inviting Council to comment on the Submissions Report (AECOM 20/12/10) developed on behalf of Newcastle Port Corporation (NPC) for proposed port related facilities and activities on a portion of the former BHP Steelworks site at Mayfield North.

Council officers have reviewed the documentation provided and the following comments are made in regards to the proponent's responses to the matters discussed in Council's letter dated 10 September 2010. For your convenience, similar subject headings and numbering has been used.

1. **Traffic & Transport**

1.1 Traffic Impact

It is considered that the revised Transport Assessment (TA) report (AECOM dated 20/12/10) does not satisfactorily address the Director General's Requirements with regard to assessing and mitigating the impact of traffic and transport nor does it satisfactorily address all of the matter raised in Council's original submission.

It is noted that the revised TA includes amended assumptions for traffic modelling associated with the NPC Concept Plan and also provides assumed traffic generation rates for the neighbouring Intertrade Industrial Park (IIP).

The revised TA finds that, as a direct result of the combined traffic volumes from the NPC and IIP developments, the adjoining section of Industrial Drive will fail by 2024 (initial NPC operations) having regard to both mid block and intersection capacity. The revised TA, at Section 6.3, suggests substantial mitigation measures that are required in order to mitigate this failure.

Consideration of the likely impacts of the NPC proposal on the broader road network was not satisfactorily addressed in the revised TA. Now, with this evidence that the combined effect of the NPC and IIP proposals will cause significant failures of the arterial road network immediately adjacent the site, it must be assumed that this additional traffic will also have significant impact and potentially cause failure of other roads and intersections not immediately adjacent to the site.

Section 4.3.2 of NPC's Final Statement of Commitments states that '*Heavy vehicle movements generated by the Concept Plan will be required to use a designated truck haulage route using the arterial road network...*', yet nowhere within the Submissions Report, revised Transport Assessment or Statement of Commitments is this haulage route identified other than to specify that the origin and destination for the majority of cargo will be Sydney. It is assumed the route will be via either the Pacific Highway/New England Highway to Beresfield (a trip of approximately 29km) or Sandgate Road / SH23 / Newcastle Road / Link Road to West Wallsend (a trip of approximately 11km).

If NPC have identified this designated haulage route, then it is considered reasonable, appropriate and necessary that this route is studied, in detail, to ensure it will be able to adequately cater for the identified traffic increase.

As the Department may be aware, the RTA is currently exhibiting a suite of six proposed key intersection upgrades along MR82 between the F3 freeway and Newcastle considered necessary to cater for a significant increase in traffic numbers expected to occur along this road following the opening of the Hunter Expressway in 2013.

Therefore, it is considered imperative that, before a determination is made in regards the Concept Plan, NPC be required to nominate the proposed haulage route and prepare, in consultation with the RTA, a Paramics model of the proposed haulage route between the subject site and the F3 Freeway. This modelling can then be utilised to determine adequacy and capacity of the existing roads and assist in identifying what other road upgrades may be required in order to satisfactorily accommodate the additional traffic anticipated from the NPC, IIP and other port related lands.

The NSW State Government may then, through its road agency, the RTA, undertake the necessary planning for the route upgrades so that appropriate State Infrastructure Levies can be imposed on the various developments to ensure a fair and equitable cost sharing strategy.

1.2 Future Transport Infrastructure

In the original Environmental Assessment, numerous references were made to a need to construct an internal link road to provide a better, more controlled, spread of heavy vehicle movements between the two intended access points on Industrial Drive. It is noted that in the Submissions Report it is now proposed to provide this Link Road '*within or external to the site*'. The Submissions Report does not give any indication as to agreement being reached with any party 'external' to the subject site with regard this road. Also, the Submissions Report does not adequately address the previous request for details on the timeframe for delivery of this road, a commitment to the roads construction nor does it assign responsibility for the construction or identify the future owner(s) of this road and how individual site security will be managed for each precinct.

Further, it remains unclear how NPC propose to determine who will be responsible for the construction of any necessary upgrades to existing intersections or roads, the recommended rail upgrades or grade separation of rail and road transport, or how cost sharing for all these works is to be proportioned to the future individual Projects.

As mentioned above in Section 1.1, it is a matter of great concern that the combined NPC and IIP proposals cannot co-exist and will cause Industrial Drive to fail by the year 2024, NPC's identified period for '*initial operations*' only. The revised TA report suggests that major works such as construction of additional lanes on Industrial Drive (requiring significant property acquisitions), further intersection construction and intersection upgrade works including possible grade separation of one or both of the key intersections. Based on a presumption that the proponent of the IIP will also make application for consent under Part 3A of the Environmental Planning & Assessment Act, 1979 (EP&A Act), how does the Department perceive that these mitigation measures are to be achieved?

Notwithstanding, it is considered reasonable and appropriate that NPC are required, by way of conditions included in any approval granted by the Minister, to undertake the following works prior to any of the five proposed precincts becoming operational:

i) Construction of the Link Road
ii) Upgrade works to the Industrial Drive / Ingall Street intersection.
iii) Upgrade works to the Industrial Drive / George Street intersection.
iv) Upgrade George Street, Selwyn Street and Ingall Street to meet the minimum requirements of Newcastle Development Control Plan 2005 – Element 4.11 (Subdivision), or as otherwise agreed by Council.
v) Upgrade rail level crossings to Selwyn Street.
vi) Installation of recommended acoustic mitigation measures to all identified affected residences.

1.3 Local Area Traffic Management (LATM)

In Section 5.4.3 of the revised TA report it is stated that '*A detailed assessment of the impact of the Concept Plan on the condition and geometry of the local road network has not been undertaken…*'. It is also suggested in the revised TA report that the total predicted volume of traffic generated by the proposed concept in 2034, combined with the assumed traffic generation from development of the IIP site, is within the midblock capacity of the existing local road network. Notwithstanding, satisfying mid-block capacity guidelines does not guarantee that management of the additional traffic volume and any resulting driver behavioural changes will not be required by the introduction of additional LATM controls.

An assurance is again sought that NPC commit to providing future LATM controls or that funding will be provided to Council by NPC to implement works as required.

1.4 Upgrading Freight Rail Network and Level Crossings

It is understood that planning and delivery of the Northern Sydney Freight Corridor (NSFC) project has been delayed as a result of the recovery efforts associated with disaster relief in Queensland.

It is also understood that the proposed freight bypass of Newcastle was not part of the scope of the NSFC project but that it was to be considered in 2010 as part of the NSW Freight Strategy by NSW Transport in conjunction with the NSW Freight Advisory Council. However, the findings of this Strategy have not yet been publicly disclosed.

The revised TA report acknowledges that increased reliance (up to 100%) on container movement by road would be necessary during initial operations of the proposed container terminal. Given that these critical rail infrastructure upgrades may now be further delayed, it is important that the Department is satisfied that the additional impacts on the road network, in this interim period, can be adequately mitigated.

Alternatively, the Minister may wish to impose limitations, by way of appropriate conditions, on operations within the proposed precincts pending delivery of the required rail infrastructure upgrades.

Section 3.4.6 of the Submission Report identifies a range of upgrades required to be carried out on site with regard to rail infrastructure. This section also identifies that over the longer term of the Concept Plan the at grade crossings of the rail lines *'...may constrain truck movements and the efficiency of port operations'* and *'...as a result it may be necessary to carry out works to grade separate road and rail movements at one or more crossing locations'*. It is again requested that NPC provide a firm commitment to funding and undertaking these works should this scenario eventuate.

2. Flooding, Stormwater and Water Quality Management

It is acknowledged that NPC propose that the site-wide Stormwater Management System (SMS) will be developed having regard to the requirements of the Newcastle Development Control Plan 2005 (as amended).

However, it remains a concern that NPC propose to include in the SMS stormwater management techniques such as vegetated swales and stormwater harvesting for irrigation purposes as these techniques are likely to result in recontamination by ground contaminates found on site.

As mentioned below in Section 3.1, it is acknowledged on-site stormwater management infrastructure will not be transferred to Council's ownership.

3. Contaminated Land

The amending and additional information relating to site contamination is considered to be generally acceptable. However, copies of the following documents referenced in the Environmental Assessment have not yet been provided for review:

- Detailed contamination investigation reports
- The Remediation Action Plan (completed in 2004)
- Any site audit statements/reports which may have been completed to date.

It is again requested that electronic copies of the above referenced contamination reports be provided to Council for inclusion on the property's Planning Controls. This will allow Council to meet it's statutory obligations, maintain a complete record of contamination information relating to the property and assist in the assessment of future project applications or development applications for the site.

3.1 Potential dedication of contaminated assets to Council

The statement made in the Submissions Report at Section 3.11.1(c) that *'It is not NPC's intention to dedicate to Council any future roads, stormwater infrastructure, foot paths or other assets located at the site'* is acknowledged and endorsed.

It is requested that the Minister include, in any Concept Plan approval or subsequent Project Approval given, a condition that reinforces this statement.

3.2 Environmental Commitments and Performance

The proponent's modelling of traffic related acoustic impacts confirms that there will be adverse impacts on residences fronting Industrial Drive as a direct result of increased traffic movements, particularly heavy vehicles, resulting from the proposed development. However, the impact modelling is restricted to only those receivers in close proximity to the subject site. Clearly, the increased traffic noise resulting from the proposed increased traffic will not cease to exist once the vehicles have left the immediate proximity of the subject site.

As mentioned above in Section 1, the proponent has net yet provided any details regarding the proposed or likely haulage routes to/from this site to Sydney as the nominated predominate destination. Without such information being fully disclosed and studied, it is unclear how the Department can properly determine the true and full extent of properties affected by this increased traffic noise. For example, if it is determined that heavy vehicles will traverse through the predominately residential suburbs of Jesmond and Wallsend to access the F3 Freeway versus access to the F3 Freeway via the Pacific and New England Highways, then what additional residences are likely to be impacted by the significant increase in traffic numbers proposed?

Also, as mentioned above, it is considered that the proponent has not yet adequately demonstrated who will be made responsible for the planning, cost sharing, delivery, monitoring and reporting of all of the recommended mitigations measures. For other developments, such as residential or industrial subdivisions, the responsibility for delivery of new works and services, infrastructure upgrades or environmental mitigation measures resulting from the likely future use of the lots created typically rests with the subdivider and not the future purchaser and developer of the individual allotments. Hence, it seems appropriate that the proponent of a Concept Plan to significantly increase use of a parcel of land should be made responsible for ensuring any and all mitigation measures or upgrades are provided to offset the anticipated impacts.

Therefore, it is strongly recommended that the NPC be made responsible for delivery and ongoing monitoring of all proposed mitigation measures via appropriate conditions imposed under any approval granted by the Minister in respect of the current Concept Plan.

Any other environmental impacts resulting from future Project applications, over and above those considered under the Concept Plan, could then be clearly attributed to, and be the sole responsibility of, the proponent of the individual Projects.

4. Provision of Services

As previously mentioned, it is considered appropriate for NPC to commit to delivering the works, services, upgrades, mitigation measures and land acquisitions identified as necessary to adequately support their proposal.

It is noted that NPC have identified some key infrastructure constructions and upgrade works and the anticipated timing for these works, but have not given a firm commitment to actually delivering such works. It would seem that NPC are seeking to deflect the responsibility for delivering these facilities onto the developers of the individual precincts within the Concept Plan.

Also as mentioned above, it is considered appropriate that key infrastructure components such as the internal link road, adjustments to rail crossings, road upgrades for Selwyn Street and Ingall Street and the intersection upgrades are provided by NPC prior to operations commencing on the site.

Accordingly, it is requested that a condition be imposed in any approval issued by the Minister in regards the subject NPC Concept Plan requiring the delivery of those integral components prior to operations commencing on any of the proposed precincts.

5. Section 94A

The statement made by the proponent at Section 3.2.1 that '*It is important that the Concept Plan establishes a mechanism to identify the key infrastructure upgrades required to support the development over the extended timeframe of the project and to ensure that the infrastructure upgrades are appropriately funded and provided in a timely and equitable manner.*' is strongly supported.

The proponent also correctly asserts that '*...the use of Section 94 development contributions is not considered to be the most appropriate mechanism...*' for funding and delivery of these upgrades. However, the mechanism suggested by the proponent is for establishment of a Strategic Infrastructure Plan (SIP) requires clarification as there appears to be no current legislative framework to establish, operate or administer an SIP.

It is considered that funding and delivery of the '*key infrastructure upgrades required*' to support the class of development proposed under the Concept Plan is the responsibility of the proponent of the activity that directly necessitates such upgrades. The proponent is, therefore, again requested to commit to funding and delivery of all new infrastructure, required upgrades to existing infrastructure and delivery of all identified mitigation measures in association with their proposed Concept Plan.

Section 94A(4) of the EP&A Act states:

> *(4) A condition imposed under this section is not invalid by reason only that there is no connection between the development the subject of the development consent and the object of expenditure of any money required to be paid by the condition.*

The NPC Concept Plan is not exempt from payment of s94A contributions. Further, the Minister has deemed it appropriate to levy s94A contributions on other Major Projects such as Orica (MP08/0129) and Knauff (MP09_0101) and Council has imposed s94A contributions on other developments such as Steel River Eco-Industrial Park and the Freeway South Business Park at Beresfield.

Accordingly, it is again requested that a condition be imposed in any approval issued by the Minister in regards the subject NPC Concept Plan requiring the current proponent or proponents of individual developments within the Concept Plan to make full payment of their respective contributions in accordance with Council's adopted Section 94A Development Contributions Plan 2006.

Should you require further clarification of any of the matters raised in this letter please contact myself on 49742767 or Senior Development Officer Brian Cameron, on 4974 2637, respectively.

Yours faithfully

Geof Mansfield
DEVELOPMENT ASSESSMENT TEAM COORDINATOR

Department of Primary Industries
Office of Water

Contact Rohan Macdonald
Phone 02 4904 2642
Fax 02 4904 2503
Email rohan.macdonald@water.nsw.gov.au

Our ref ER20173
Your ref S07/01027

Major Projects Assessment – Mining and Industry
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attention: Nick Hall

Dear Nick

MARSTEL BULK LIQUID FUEL STORAGE FACILITY (08_0130)

I refer to your letter of 14 November 2011 regarding the exhibition of the Environmental Assessment (EA) for the above proposal. The NSW Office of Water (Office of Water) has reviewed the EA and has no objections to the proposal. It is requested that the following be included as a condition of approval should such approval be granted:

> The proponent must obtain relevant licences to the satisfaction of the NSW Office of Water for all activities which intercept or extract groundwater prior to commencement of these activities.

The Office of Water provides this advice on the basis that the former legislative provisions under Part 3A of the *Environmental Planning and Assessment Act 1979* apply to this proposal.

If you require further information please contact Rohan Macdonald, Planning and Assessment Coordinator on (02) 4904 2642 at the Newcastle office.

Yours sincerely

Mark Mignanelli
Manager Major Projects, Mines and Assessment
16 December 2011

Ref: A272138

PCU029176

NEWCASTLE PORT CORPORATION

16th December 2011

Mining and Industry Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Nick Hall

Dear Mr Hall

SUBMISSION TO APPLICATION NO. 08_0130 – MARSTEL BULK LIQUID FUEL STORAGE FACILITY

I refer to the Marstel Bulk Liquid Fuel Storage Facility Project (08_0130) currently on exhibition as advised in your correspondence dated 14 November 2011.

This is to advise that Newcastle Port Corporation generally supports the proposal, particularly since the proposal is consistent with the Mayfield Concept Plan which was lodged with the Department of Planning in May 2009, and is currently under assessment.

Having reviewed the Environment Assessment (EA) prepared by AECOM dated 4 November 2011, Newcastle Port Corporation requests that the following issues be considered in the assessment and additional information sought:

1. The EA indicates that ground surface levels and works are to be undertaken by Newcastle Port Corporation on the adjoining land. Newcastle Port Corporation has not given any undertaking to the Proponent to complete this work as part of the application. Accordingly, confirmation is required if approval will be sought from NPC and the nature of the work proposed;

2. Road, stormwater and other infrastructure information is required to ensure that the proposed infrastructure for the site is able to align with proposed external services;

3. Details of the overland flow paths through the site for stormwater flood events up to the 1% Annual Exceedance Probability to ensure that flood events and consequent impacts are managed;

4. The proposed entry driveway width is considered excessive and would require an expansive pipeline service corridor. The submission of truck delivery driveway turning paths to justify the width of the proposed driveway is required.

Newcastle Port Corporation ABN 50 825 884 846
6 Newcomen Street (PO Box 663) Newcastle NSW 2300 Australia
Telephone: 02 4985 8222 **Toll Free NSW:** 1800 048 205 **Facsimile:** 02 4925 0600
Email: mail@newportcorp.com.au **Website:** www.newportcorp.com.au

5. The car park landscaping, fencing and gate configuration proposed for the site frontage are to be designed to ensure the development matches the amenity themes for the Precinct. In this regard the car park area is to be setback 5 metres from the front boundary.

   The landscaping of the site shall include a 5 metre wide landscape buffer strip to be established within the lease area fronting a port access road. The landscape strip is to be boarded by timber edging and is to have the perimeter security fencing located behind the landscaping. Species shall include native and drought-tolerant planting, and all landscape areas are to be irrigated by automated drip irrigation systems. The use of captured stormwater or roof rainwater is encouraged.

   Security fencing and gates shall be either galvanised or black powder coated style fencing. Gates are to be constructed of either chain wire fencing set within a framed rim (with optional 3 strand barbed wire on top), or palisade slide gates. Gates are to be setback from the boundary so as to be wholly contained within the lease area when open.

Should the application be approved, NPC requests that the following condition be included prior to the issue of Construction Certificate

1) *The Proponent shall obtain approval of the construction drawings from the Newcastle Port Corporation (NPC) prior to the issue of a Construction Certificate. The construction drawings and/or provided information shall ensure that:*

   (a) all expected services, utilities or infrastructure required for the site meet the operational demands as specified in the Environmental Assessment for this application;
   (b) stormwater, ground surface, roads and services align with the Mayfield Site remediated land form and Contaminated Site Management Plan (CSMP), and NPC's Bulk Liquids Precinct road configuration;
   (c) stormwater complies with water quality standards and CSMP requirements; and
   (d) site driveway, gates, fencing and landscaping are in accordance with NPC requirements.

Please note that the Maritime Services Board of NSW to whom the letter was address was disbanded in 1990. Newcastle Port Corporation is the current owner of the land under arrangement with the State Property Authority. Any future correspondence should be addressed to Newcastle Port Corporation at the address below. It would be appreciated if your property database could be updated accordingly.

Should you have any enquiries regarding this matter, please contact Rebecca Johnston – Planning Officer on 02 4985 8327.

Yours sincerely

Gary Webb
CHIEF EXECUTIVE OFFICER

Hunter New England Local Health District
Hunter New England Population Health
Direct Contact Details
Phone: (02) 4924 6494 Fax: (02) 4924 6602
Email: Kelly.main@hnehealth.nsw.gov.au

NSW GOVERNMENT | Health
Hunter New England
Local Health District

1 January 2012

Mr Nick Hall
Senior Planner
Major Projects Assessment
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Hall

MARSTEL BULK LIQUID FUEL STORAGE FACILITY

I refer to the Environmental Assessment for Marstel Bulk Liquid Fuel Storage Facility application number 08_0130 proposed to be located at the former BHP Steelworks site, Mayfield East, Newcastle.

The environmental assessment has identified and addressed major foreseeable potential public health risks in the various risk assessments and safeguards. There are however some areas that require further clarification and consideration prior to the commencement of works.

The proposal mentions that the company anticipates and plans to double the processing and transporting capacity within 12 months from 300ML to 600ML per year. All aspects of the physical facility as well as the environmental assessment must consider and plan for this impact particularly in relation to product containment (slops, separator and tank holding capacities), cumulative noise, waste management, hazards and risks on site.

Several safeguards are documented for the liquid transfer pipeline. However, they should also include an inspection and maintenance schedule to maintain pipe integrity.

Various safeguards are documented for spill containment to be deployed as necessary around the ship and wharf. Spill containment equipment and spill kits must be in close proximity and easily accessible to allow immediate response and prevent contamination of the river. This is particularly important as the hose pressure connecting the flexible hoses in the transfer manifold system is five times the shipping pressure.

It is unclear whether there will be blending with other distillates on site or the type of products in the additive tank. The hazard and risk assessment should include any required safeguards.

Hunter New England Local Health District
ABN 63 598 010 203

Hunter New England Population Health
Locked Bag 10
Wallsend NSW 2287
Phone (02) 4924 6477 Fax (02) 4924 6490
Email PHEnquiries@hnehealth.nsw.gov.au
www.hnehealth.nsw.gov.au/hneph

11 November 2011

It is noted that waste water will be managed by an onsite septic tank system. If possible preference would be for waste to be connected to Hunter Water Corporations sewerage system and this possibility should be discussed with Hunter Water.

It is unclear whether the existing gantry underneath the proposed transfer pipeline is of adequate volume to accommodate and contain a leak or spill (this existing gantry also services Kopper's pipeline). In the event of a leak or emergency, will the gantry be able to contain products in the Kopper's pipeline as well as products from Marstel?

Potential risks and safeguards for products in the Kopper's pipeline that may react with diesel and or biofuel should be included in the risk management.

Will the facility have wash down areas for tankers in the event of an overspill? This would prevent product spillage on roads outside the facility, and prevent dangerous and slippery driving conditions.

The proposal mentions cleaning of the transfer pipes, however there is no indication of the specific products that will be used, how the tanks will be cleaned, the anticipated water volume to be used, and whether the slops and separator tank/s will be large enough to contain and process this volume of water. It is also mentioned that the lines will be pigged to prevent product being stored in the transfer pipes. If water is to be used to pig the line, then the slops and separator tank/s need to be of sufficient volume. There is limited information of volume capacity and length of time to process waste in the separator.

It is noted that part of the Director-General's Requirements include consultation with particular organisations and government authorities. Whilst stakeholder consultation has been undertaken we have significant concern that no comments have been received from key regulatory authorities including the NSW Office of Environment and Heritage, Newcastle Port Corporation, Newcastle City Council and the NSW Department of Primary Industries. It is highly recommended that comments be sought directly from these authorities prior to commencement of the development.

Should you require any additional information, please contact Mrs Kelly Main, Environmental Health Officer on 4924 6602.

Yours sincerely

Professor David Durrheim
Service Director - Health Protection
Hunter New England Population Health

PCU029272

Transport Roads & Maritime Services

19 December 2011

SF2011/001260
CR2011/000213
BK

Director, Major Projects Assessment
NSW Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Nick Hall

Dear Mr Hall,

INDUSTRIAL DRIVE (MR316): MARSTEL BULK FUEL STORAGE AND DISPATCH FACILITY – EXHIBITION OF ENVIRONMENTAL ASSESSMENT (08_0130)

I refer to your letter dated 14 November 2011, received on 17 November 2011, (Your reference: 08_0130) requesting comment from Roads and Maritime Services (RMS) regarding the Environmental Assessment for the subject application. I also refer to RMS's previous letter dated 27 October 2011 regarding the Port Related Activities Concept Plan (09_0096).

RMS Responsibilities and Obligations

RMS's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

In accordance with the *Roads Act 1993*, RMS has powers in relation to road works, traffic control facilities, connections to roads and other works on the classified road network. Industrial Drive (MR316) is a classified (State) Road. RMS concurrence is required for connections to the road with Council consent, under Section 138 of the Act. RMS consent is required for traffic control signals and facilities under Section 87 of the Act. Council is the roads authority for this road and all other public roads in the area. Should road works be required on the classified (State) road, RMS would exercise the functions of roads authority under Sections 64 and 71 of the Act.

RMS Response and Requirements

RMS has reviewed the information provided and notes that the proposed development is located within the area of the Mayfield Port Related Activities Concept Plan, which is currently being considered by the Department of Planning and Infrastructure. RMS has previously provided its

requirements for the proposed Mayfield Port Related Activities Concept Plan in my letter dated 27 October 2011. All matters raised in this letter still apply.

However, given the predicted relatively low trip generation of the subject development, it is considered this development would be able to operate without additional infrastructure at the intersections of Industrial Drive with Ingall Street and George Street. Accordingly, RMS would have no objections to or requirements for the proposed development.

On the Minister's determination of this matter, it would be appreciated if a copy of the Project Approval is forwarded to RMS for record and / or action purposes.

Please contact me on 4924 0240 if you require further information.

Yours sincerely,

Dave Young
Manager, Land Use Development
Infrastructure Services
Hunter Region

CC General Manager
Newcastle City Council

Catherine Barlow
Transport for NSW

Transport
Roads & Maritime
Services

Ms Felicity Greenway
Team Leader - Industry
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attn: Mr Nicholas Hall

File ref: MA11/3506

Dear Ms Greenway

Marstel Bulk Fuel Storage and Dispatch Facility (MP 08_0130)
Environmental Assessment (EA)

I refer to your letter of 14 November 2011 seeking NSW Maritime's (Roads and Maritime Services) comments on the EA.

Roads and Maritime Services' interest in the project relates to the construction activities proposed adjacent to, or on, land under the ownership of Roads and Maritime Services.

As you may recall, NSW Maritime (RMS) previously asked for clarification as to whether any works were proposed on our land. I note that Part 2.4 of the EA has been amended to state that NSW Maritime land "would not be impacted upon by the proposed project". From the details provided in the EA, Wharf M4 is located, at least partly, on NSW Maritime (RMS) land together with the adjoining berth.

RMS requests DP&I to ensure landowners consent is provided prior to determination of the project.

As an ancillary consideration, please also note that an updated occupation agreement between RMS and Newcastle Port Corporation for the proposed berthing arrangement by Marstel may be required prior to its use.

Thank you for consulting with Roads and Maritime Services. Should further discussions on the proposal be required, please contact Roads and Maritime Services' Assessments Officer, Ian Tait, on 9563 8812 or at: itait@maritime.nsw.gov.au.

Yours sincerely

Susannah Webb
A/ Manager
Planning, Environment and Spatial Information
CC: nicholas.hall@planning.nsw.gov.au

Appendix B

Private Individual Submissions

Appendix B Private Individual Submissions

Rick Banyard

14 Bell St

Maryville

cdcopy@hunterlink.net.au

0419993867

The Department of Planning

plan_comment@planning.nsw.gov.au

project number 080_130 Contact Nick Hall

Nicholas Hall

NSW Planning

nicholas.hall@planning.nsw.gov.au

I wish to make a submission about the proposed Fuel terminal to be constructed on the Fuel Precinct of the Newcastle Port Corporations Mayfield Portside Concept Plan adjacent to wharf M7

Before raising my objections I wish to acknowledge the effort the proponent has gone to to inform the community and to respond to questions raised by the community.

I am a member of the Mayfield Community Consultative Committee administered by the Hunter Development Corporation. Despite many members of the committee calling for meetings the Chairperson and the HDC has not seen fit to hold a meeting. As such the Marstel proposal has not been discussed by the group.

I consider the proponent has developed a very thorough proposal however the issues beyond their fence cause me not to support the proposal.

I therefore wish to register a very strong objection and call for the proposal to be rejected.

Specific grounds for objection

1. Concept Plan not yet approved

The proposed site is part of one of the precincts within the Newcastle Port Corporations Mayfield Concept Plan. This concept plan is not yet approved and there are no approval conditions set for the total site and in particular for the Liquids Precinct.

I can not comprehend how the Concept Plan can be approved without a number of major approval conditions related to transport and freight movement to and from the area.
Given that there are no details relating to transport and freight movement from port side including but not limited to:-

- The provision of the port side rail line and associated roadway,
- The Newcastle Sydney rail corridor freight upgrade recently announced
- and very importantly the adjustments to the Port Botany container facilities
- The requirement of the 2021 State Plan

it is hard to in visage the final Mayfield Concept Plan and its associated approval conditions.

To even consider the Marstel proposal in the absence of an approved Concept Plan is unthinkable.

2 There is no Port Master Plan.

The absence of a Port Master Plan makes it absolutely impossible to judge if the Marstel site is suitable or the most suitable site for a fuel terminal.

If the Port Master Plan (or parts of it) do exist and are being withheld then clearly it would be breach of one of the key strategies of the NSW 2021 State Plan.

It would seem prudent that the ports fuel and bulk liquids terminals all be located in a similar area and share common wharf facilities and safety infrastructure.

The proposed arrangements will have ship tankers using D2, M4, M7, B4 and K2. There are in very separated parts of the harbor. A Port Master Plan would also show the rail and road freight transport arrangement for the Harbour.

It should be noted that BP import fuel into Newcastle Harbour by ship to D2. The statement in the Marstel document fails to acknowledge this.

3 Port site map and basic infrastructure.

The Marstel project is to be established on a new virgin site. The site is the product of the clearing of all the BHP structures and extensive remediation to the total area. The Marstel site does not even have a frontage to a roadway.

I ask how can the impacts of a proposal be assessed when there is not even a locality plan showing roadways and essential services.

4 Marstel site layout.

The Marstel proposal is a staged development of at least three stages.

Firstly the project will use M4 wharf and at a later time will relocate to M7 wharf. The proposal will

therefore change it's impact.

Secondly the project will use a temporary road access for an unspecified time until a new roadway is built. There are no details of this roadway or it's design. The proposal will therefore change it's impact.

Thirdly the project approval application is only for stage one of the sites proposal. A second and third set of tanks have been discussed with the community. The site layout would indicate this also.

This application is for diesel only however the potential in the future to handle petrol and other fuels have been raised.
I consider that if approval is to be considered for a fuel terminal on that side then the application should be for the full proposal and the consent conditions should allow for staged construction.

Quote from Marstel document detailing stage one.

> *"This proposal is seeking the approval of an initial operation phase at the Facility. During this initial operation phase, daily road traffic movements would consist of biodiesel tanker deliveries, the dispatch of diesel and biodiesel by fuel tanker, and the movements of employees and visitors. It is anticipated that Marstel would, in the future, seek approval to expand the operation of the facility when throughputs increased. Estimated truck movements at start up would be 18 trucks delivering to or dispatching from the Site per day. Ship movements would be in the order of 8 Medium Range vessels per year for imports of diesel*
> *The Facility would be open for product dispatch via road and fuel delivery by ship 24 hours per day as required. Marstel is therefore seeking approval for 24 hour operations provided that noise levels from the Facility meet amenity criteria at sensitive receptor locations. Shipping operations would be undertaken as required, which could be at any time or day of the week, with unloading typically undertaken over a 36 hour period".*

5 Neighbours

Because this is the first proposal on a "virgin site" the commercial activities of the neighbours will be restricted by the presence of this fuel terminal.
The restrictions caused must not down value or quarantine the potential of the site

6 Remediation

If consent is granted an approval condition should state that when Marstel cease to use the site as a fuel terminal the site should be remediated to it's "virgin site". In the event of ownership change this condition must be transferred.

7 The Port SEPP

The Marstel proposal is on port controlled land and is governed by a SEPP.

The key function of this SEPP is to stimulate employment and economic activity on Port Side land.

The Marstel proposal does neither to a significant level.

The terminal has only 3 on site full time staff, is a 24 / 7 operation that is unmanned much of the time. The project is to be managed and operated from Melbourne.

Truck drivers will be from national freight companies and there is little evidence that the drivers will live or be based near the Port. Trucks will not be stationed within the depot. This also raises the question as to where laden trucks will be parked once loaded.

The economic benefit of the terminal would not seem to relate to the economic benefits of the Newcastle Port SEPP.

The proposal economic or employment benefit is not compared to other possible uses of the site therefore the proponent has not demonstrated the project meets the requirements of the SEPP.

8 Commitment of the NPC and government to the proposal.

It would seem that the NPC and the Government has a vested and pecuniary interest in the proposal.

This interest is not clear and transparent. I sport this notion with the following examples.

- Firstly. There seems to be a deal to initially use M4 then a some time in the future transfer to M7. There are no details provided.
- Secondly The State budget made provision for $1.2m infrastructure works for the fuel precinct. This indicates that funding is provided prior to planning approval being issued. It is noted that no other precincts within the Port Concept plans were given budgets. There seems to be no details readily available for this funding.
- Thirdly The Port Corporation is the landlord for the applicant. By perception this must give NPC and the Government (as owner of NPC) a pecuniary interest.

9 Transport Arrangements

A major component of this project is the transport arrangements to and from the site of product.

With the two main products being bulk ethanol and diesel being transported mostly from 50kms to 500kms from the site.

This places other road users at major risk because of the nature of the substance and the sheer volume of large trucks.

The proponent has stated movement number and safety precautions in their document. This information seems to be from a "perfect world" and minimum vehicle numbers. Small trucks, part loads and other customer requirements could raise the number of trucks, routes and even the load content considerably. It is even conceivable that multi compartment trucks could come to the site with compartments of petrol or other flammable liquids already loaded.

The Department of Planning would be aware of conditions of approval that prevent the use of B doubles to various potential customers.
Marstel does not appear to be contributing to road infrastructure to assist with meeting the demands placed on community infrastructure as a result of their transportation of product.

10 Use of pipeline

Much of Newcastle's fuel comes to the area via a pipe line from Sydney. This was to overcome the safety issues of transporting fuel by road or rail.

Whilst there are some limitations to the transport of fuel by rail the Marstel proposal does not consider the proposed port side rail line and associated roadway.

Given that almost all of the Marstel fuel will be delivered to Customers west of Rutherford and mostly West of Singleton it is logical that the fuel distribution terminal be located up the Valley and not on the port site.

Correct planning and infrastructure for the Hunter Valley would make the pipeline mandatory for such projects.

A pipeline could be contained in the same trench as other proposed pipe lines for gas and water. The pipeline could be shared and the cost minimised. This could remove other fuel tankers from the very busy and choked roadways that daily risk the lives of other road users.

It should also be noted that about 10% of the fuel will be carted by road to the Newcastle terminal for blending with the ship imported fuel.

Whilst it is a State policy to increase the use of biofuels to implement this strategy in a highly wasteful and environmentally un-friendly manner is certainly not part of the State 2021 Plan.

The only reason given by Marstel for not using a pipeline related to the ability to unload ships quickly. If the pipe line up the valley is not capable of economically transferring the fuel direct from the ship then a bulk storage tank could be located port side. Fuel would then be transferred to the distribution centre located up the valley in a smaller and more viable pipe. There would be major freight cost savings to Marstel as each load to customers would save about 70kms plus of on road travel.

The elimination of all the truck movements from the Lower Hunter roads would be a major benefit to road safety and to the environment (a key State 2021 Plan objective).

The pipeline form portside to say Rutherford would eliminate the need to cart 10% of the fuel (ethanol) from Rutherford to Mayfield and then back to Rutherford as part of the blended fuel.

Stages two and three of the project would also benefit from the distribution terminal being located at a location west of Maitland.

Has The Department of Planning sought comment on the Maitland City Council about the Marstel fuel terminal and the massive transport of dangerous product through its LGA?

11 The Cumulative Impact

The cumulative impacts of the Fuel terminal are massive for such a small project due to the huge off site activity generated by the fuel transportation.

Marstel and Shell have indicated that the stage one of the project will involve the transportation of 3m litres per annum of diesel fuel, blended diesel fuel and blending product involving the use of B double truck.

Over some of the states most heavily used roadways. There are already many serious choke points and grid lock is common. In no way does this project address this key issue.

The transport issue will also change as new vehicle types are introduced and regulations change. The introduction of B triples is an example

Although Marstel and Shell indicate that the fuel trucks (both empty and full) will only use dedicated B double routes neither company are in a position to police and enforce this.

The cumulative impact of the cartage of diesel on the same route as the extensive cartage of ammonium nitrate could be catastrophic according the Work Cover as these two products when combined are the key explosives used for mine blasting.

This cumulative impact of fuel transportation is not only a major safety issue but also will act as an economic negative on many other businesses, industries and communities.

A large number of vehicle have no choice other than to use roadways such as Industrial Drive. It is grossly unreasonable and very poor planning to force these people to compete against an operation that has a viable alternative via a pipeline and is simply using a roadway as an easy way out.

This cumulative impact is simply unacceptable given that the fuel could be transported readily by rail or pipeline.

The Sydney Newcastle pipeline is proof that it can be done and that the benefits are substantial.

Conclusion

In conclusion the additional activity in Newcastle Harbour is beneficial provided that the infrastructure is within the agreed Port Master Plan. This Master Plan is yet to happen.

The use of temporary wharfage and a fuel terminal within a yet to be serviced "Precinct" in an un approved Concept Master Plan hardly fits the mould of quality planning, sound economic evaluation and quality environmental assessment require by a SEPP and planning process dedicated to these items.

For the associated transportation to impede on the community and other economic activity to the point where any benefits are heavily outweighed by negatives is unacceptable and certainly in conflict with the 2021 State Plan.

Whilst Shell clients require fuel for their operation the use of a shoreline terminal and lots of trucks is not an appropriate operation for the Hunter as it moves forward on very inadequate and congested roads.

Newcastle as a port is heading towards exporting a coal volume in the near future to the entire world export volume now.

The transport of fuel need to for safety reasons, for efficiency and the environment utilise where possible pipelines and railways and not road trucks.

I reserve the right to do make additions and modifications to this submission prior to the 15th January 2012.

I am available to discuss the content of this submission and to answer any questions.

Rick Banyard

23 12 2011

Tanker rolls, shuts road at Sandgate

10 Sep, 2011 04:00 AM Newcastle Herald.
MAITLAND Road was partly closed for several hours last night after an accident involving a petrol tanker truck at Sandgate.

Police said an eastbound lane was shut soon after 6.30pm when the truck left the road near the Wallsend Road turnoff, rolled down a bank and hit power lines.

The driver was taken to John Hunter Hospital with non-life threatening injuries.

The vehicle was opposite Sandgate cemetery

Hi All

The Marstel fuel terminal will provide about 50 more chances per day for this type of thing to happen!

All the more reason for the fuel to be piped up the valley.

Nicholas Hall - Submission Details for George barnes

From: George barnes <georg123@bigpond.com>
To: <Nicholas.Hall@planning.nsw.gov.au>
Date: 12/21/2011 8:44 PM
Subject: Submission Details for George barnes
CC: <assessments@planning.nsw.gov.au>

Disclosable Political Donation: no

Name: George barnes
Email: georg123@bigpond.com

Address:
26 margaret st

Mayfield East, NSW
2304

Content:
Marstel has no apparent interest in specifying the practices and procedures of its customers, (eg Shell) and will not engage the community by requiring Liquid Fuels from its terminal to be restricted to an approved and adequate road network or other suitable infrastructure

IP Address: cpe-124-183-253-128.lns14.ken.bigpond.net.au - 124.183.253.128
Submission: Online Submission from George barnes (object)
https://majorprojects.affinitylive.com?action=view_diary&id=25158

Submission for Job: #2506 Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield
https://majorprojects.affinitylive.com?action=view_job&id=2506

Site: #831 Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield
https://majorprojects.affinitylive.com?action=view_site&id=831

George barnes

E : georg123@bigpond.com

Nicholas Hall - Objection to Bulk Liquor facility Mayfield

From: "Tony Brown" <amb@idl.com.au>
To: <nicholas.hall@planning.nsw.gov.au>
Date: 12/23/2011 4:00 PM
Subject: Objection to Bulk Liquor facility Mayfield

Dear Mr Hall

I respectfully oppose approval of an application by Marstel Terminals to construct and operate a Bulk Diesel Tank Farm Terminal on Newcastle Port Corp (NCP) Land (part of the Old BHP Steel works site), adjacent to Wharf 7 at Mayfield.

As a long term family of Newcastle, we consider their insufficient regard to the serious health, safety and amenity impacts of this development.

An unacceptably high level of trucks will through resident streets.

The recent Orica debacle at the nearby K Island poses an unacceptably high risk with a fuel storage facility.

We have additional concerns we also would like to specify

Rgds

Tony
Tony Brown
BEc, Dip Ec St, LLB(Hons)
Managing Director

AMB Workplace Solutions Pty Ltd
ph/fax. 02 49252277
mobile. 0427252860
email. amb@idl.com.au
skype: tonybrownnewie

23 Dec 2011

OBJECTION: to proposed Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield

Objections

1. The proposal is not the highest nor the best use for the land. Newcastle needs high added value clean industries which will generate high employment.

2. Mayfield does not need another era of dirty & hazardous industires which generate few jobs and sterilise large areas of land because they require large separations from population intensive uses.

3. The land has recently been cleaned up (part of the $600 million cleanup) and it would be a waste of opportunity and money to use the now clean land for a development likely to result in chemical spillage.

4. The proposed Marstel site at Mayfield is too close to housing and to the Mayfield East Public school and to the Nursing home.

5. Mayfield is zoned to allow increased residential densities so there should be more people coming to live there. Marstel/Shell's potentially explosive development is not compatible with the densification allowed for in the-zoning

6. Alternative land is available at Kooragang which was specifically dredged and set aside in the 1960's for fuel storage type industries and is far better separated from school, nursing home and residential uses. Marstel already has an approval for Kooragang. The EA does not give substantial justification for Marstel walking away from its Kooragang site. If the development was not good enough to be near Stockton people it is not good enough to be near Mayfield people.

7. The proposed Industrial Drive truck routes are not suitable for B-Double fuel tankers as the route has houses and schools (Mayfield East & the Baptist School in Kerr Street) immediately on it. The

Industrial Drive was designed for smaller tankers with potentially less serious fire and explosion risks. The proposal to use George Street ignores that George Street is an ordinary residential street.

8. The EA is misleading or inadequate or incomplete. The EA at page 37 says: "The current proposed Facility would **recover**, store and distribute diesel and biodiesel only." No recovery operations are described nor assessed in the EA.

9. **EA is dishonest in stating that the Caltex operated pipeline has no spare capacity**. The Caltex pipeline has spare capacity and is able to carry extra diesel. The pipeline makes a very big improvement to fuel security in Newcastle and took many trucks off the road. Caltex's person responsible for answering queries about the pipeline, Rob Moore, (just ring the main switch & get put through to his office at Bankstown) confirmed the spare capacity to me this week. The pipeline was set up with a regulatory arrangement to enable commercial rival to access the pipeline and Marstel and Shell can use the pipeline without the need to bring ship loads of diesel into Newcastle with the unnecessary risk of spills in sensitive waterways.

10. The EA does not explain the competence of Marstel to supervise and operate a hazardous development in a sensitive area. Marstel is a relatively small company.

11. The EA does not explain why Shell is not putting its name and reputation behind this proposal. Shell is a very experienced company in operating hazardous developments. Shell has expert engineers all over the world to help when problems arise. If this project is not good enough for Shell to put its name to then it is not good enough for Mayfield. Paul Zennaro of Shell has confirmed by phone conversation that Shell proposes to use the Marstel facility. http://www.shell.com.au/home/content/aus/aboutshell/media_centre/news_and_media_releases/2011/newcastle_diesel_storage_04042011.html

12. Given that Shell's role which seems to be that of the substantive proponent is NOT spelled out in the EA, then the **EA would seem to be void** due to the absence of mandatory information.

13. If Shell's expert engineers have scrutinized the details of the design and safeguards then shouldn't their opinions and any reservations be included in the EA? If Shell's experts have not scrutinized the proposal then why not?

14. What liability arrangements apply in the event of an accident at the plant which harms the nearby residents? Which of Shell & Marstel would accept liability for a fumes from a fire or other forseeable incident at such a fuel storage facility ? Which corporation would pay for any hospitalisation or treatment?

15. What are the liability arrangements in the easily forseeable event that a B Double tanker on its way to or from the plant tips over in Mayfield and the resulting fire exposes many school children and residents to fumes? Does Marstel or Shell provide the coverage? One web site says that an ordinary B Double fuel tanker is only required to have $2.5 million coverage, is this enough if an explosion and fire from a tanker spread ? How does an affected resident sort out the liability of the tanker operator & facility operator?

16. Shell already has land and depot at Hamilton North which provides an alternative site with direct access to the pipeline. The site already has supervisors and managers with relevant experience. If the Marstel/Shell development is not safe enough to go near the residents of Hamilton North then it is not safe enough to go near Mayfield residents.

17. Biodiesel is frequently described in other sources as having **strong solvent properties & particularly attacks paint and even brass and copper**. BUT the EA does not once use the word "solvent" and does not assess any of the potential impacts. What will be the impact on the paint of Mayfield houses & cars of the bio-diesel emissions? How does Marstel/Shell propose to pay for the more

frequent painting required? Mayfield is a suburb of mainly painted weatherboard houses with mainly painted iron roofs and mainly painted fences. How does Marstel/Shell propose to protect external water pipes and taps of copper & brass such as go around the outside of our house?

18. The reduction of hazardous storage facilities in inner Newcastle was a major achievement of the Department of Planning in the 1980s & 1990s. **Dr Sam Haddad was a key person in this achievement and I ask that Dr Haddad give this application his direct personal attention**. The whole safety of inner Newcastle was improved. The Tighes Hill storages immediately adjoining the residential areas were removed. Other tanks were shifted and removed. At Comsteel many fuel storage tanks were removed with the arrival of the fuel pipeline from Sydney and natural gas.

19. New fuel storage capacity and additional hazards should not be put back into Newcastle and Mayfield. Allowing Marstel/Shell's proposal at Mayfield compromises the whole long effort to clean up Mayfield and Newcastle and make them safer.

20. The EA does not include any hazard or risk contour diagrams. The EA does not assess the cumulative risk issues. Given that these are critical issues the EA should include them so residents can comment.

21. The EA air quality analysis does not properly attend to the risk of a major leak or vent incident during a time of low wind & inversion. The visible plumes from Kooragang clearly show that quite concentrated undispersed streams can travel up & hit the inversion limit & then travel horizontally & then hit the interface between on & off shore air and come straight down. Thus a relatively concentrated flow of pollutant hits the ground where people are exposed. This is probably what has been happening recently & causing the concentrated smell & chemical incidents in Mayfield (eg ammonia from Orica). Concentrated diesel or biodiesel vent incidents are almost inevitable with this plant. The inversions and stable air conditions frequently experienced in Mayfield make this a bad area for such a plant.

22. 2009 was not a very still year so the 2009 air conditions used do not assess a worst case scenario.

23. The Marstel proposal for Mayfield should be refused.

Claire Charles
Andrew Parker

36 Crebert Street, Mayfield 2304
claircharles1964@hotmail.com

Nicholas Hall

NSW Planning

nicholas.hall@planning.nsw.gov.au

Submission Marstel Terminal Mayfield

Based on the following background we wish to object to approval being granted and particularly draw attention to the following:-

1 The NPC Concept Plan for the Mayfield site has not been approved.

The Marstel Terminal sits within the NPC Concept plan which has not been approved
We object to a second stage proposal being approved before first stage.
There is not enough information about legal rights of way, obligations of access if Marstel was to be approved before the concept plan.

The terms of the deed of agreement between Marstel and NPC agree that NPC undertake construction of intersections, access ways and services to the Site boundary. Any approvals that would be required for these road works would be sought and obtained by NPC. Marstel is not itself seeking approval for these works as part of this application.

Under a deed of agreement between Marstel and NPC, NPC would provide legal access for Marstel and its contractors to the Site. This provision of access by NPC would include the construction of intersections, access ways and services to the Site boundary, and would form part of NPC's management of the Bulk Liquid Storage Precinct as part of the broader Mayfield Concept Approval Plan. Marstel has been advised that NPC is currently seeking the required approvals to provide this access. Marstel is reliant on NPC to undertake the necessary construction works to provide site access. The predicted impacts of the Facility on the proposed road upgrades

The access road referred to below as not been in any information or documentation by NPC nor was it in Marstel first submission.
We object to not having all relevant information on public display prior to approval

As part of the Mayfield Concept Plan, an access and services corridor has been designated near Bull Street for provision of the necessary infrastructure to the various precincts of the Concept Plan area, including the Bulk Liquids Precinct. It is intended that infrastructure in this corridor would service the proposed facility The Bull St corridor is scheduled to be constructed as part of the initial stage of the Intertrade Industrial Park Development.

We object to any legal obligation by NPC to provide access to the Marstel project prior to the NPC Concept Plan being approved

The existing access at Selwyn Street would be used during the construction phase as the formal connection of the Mayfield Concept Plan area and Ingall Street will be undertaken as part of Stage 1 of the Intertrade IndustrialPark. During the operational phase of the Facility, NPC would provide Marstel and its contractors with access to the Site with a permanent road and services access from Ingall Street (refer Figure 5). This would be the only access once the fuel terminal facility is fully operational.

2 There is no Port Master Plan

To comment on this project in the absence of a Port Master Plan and in the absence of an approved Mayfield Concept Plan. There is simply no way a community member can gauge the cumulative impacts.

Noise & Air pollution:
Mayfield East, one of Newcastle's oldest schools (150+years) occupies the block bordered by Industrial Drive, Ingall Street & Crebert Street. It's a beautiful school with windows we can open and shady trees. The number of Australian native plants is substantial; you can hear the birds sing. Our learning environment is rich and meets the needs of all our children.
We have a lovely outdoor play environment with play equipment, ball courts, grassy areas and shady gardens.
More trucks, more cars, more traffic will give rise to more noise and air pollution in the surrounding suburbs. There is already excessive reliance on trucks for transport in NSW and this proposal will only increase the problem.

Why was the noise impact assessed for the school at night, the cumulative noise impact of the construction with day time traffic needs to be assessed?

The noise impacts on schools are to be assessed during school hours. As there is not a significant variation in noise levels between the day and night operations, the predicted night time noise levels at the school have been assessed against the school criteria to determine the noise impact.

We object to Marstel using NPC flawed Traffic data from the Concept Plan

A Traffic Impact Assessment has been prepared to accompany this EA (Appendix D), to assess the impacts of the proposal, and recommend measure to reduce impacts to acceptable levels. This TIA demonstrates that acceptable performance criteria for the existing intersections will be met.

Both intersections would operate within the LOS criteria under a standalone project scenario. The industrial Drive / Ingall Street Intersection would operate at a LOS F in 2024 under a Concept Plan 'fully developed' scenario. Traffic modelling has shown that diverting traffic from Ingall to George Street where there is capacity at peak times would result in both intersections meeting LOS criteria. Peak hour truck movements would equate to two trucks

Marstel's own submissions states the uncertainty of traffic modelling for the Concept Plan. Cumulative effect cannot be determined

Interim modelling and management of traffic committed to under the Concept Plan would see any traffic management issues, monitored, identified and addressed as they arise meaning conditions are likely to change from those used in the 2034 modelling. Furthermore, it is likely that other elements of the Concept Plan and/or the Intertrade Industrial Park will trigger changes to traffic management in the future. 2034 modelling makes a number of assumptions about the local road network and annual traffic increases which maybe not be accurate out to 2034. As a rule modelling/forecasting past a ten year horizon (in this case 20+ years) provides less certainly in outcomes.

It is considered that these specific requirements will be addressed in the various management plans and post approval documentation that will need to be prepared and approved prior to the construction and operation of the proposed Marstel Facility

3 The documentation on the NPC web site about the Ports future infrastructure is very limited.

We object to the use of out-dated data and information used from NPC Concept Plan
Mayfield CCC has only met once this is defunct group.

NPC would be responsible for continuing to liaise with the Mayfield CCC to periodically update them on the status of development of the proposed concept and to discuss issues of concern to the community. The proposal will result in positive economic impacts as detailed in Section 19.0 of this report. Potential impacts of the proposal on traffic, air quality and noise are addressed within this report in Sections 13.0, 9.0, and 12.0 respectively. Impacts from these have been shown to be minimal and with appropriate criteria. Through NPC, the proponent will periodically liaise with the Mayfield CCC regarding the status of the development as described in Section 5.0 of this report.

4 Economic Benefits

Marstel will only employ 3 F/T staff, how is this of economic benefit to the community it will impact on.
We need a Master Port Plan with long term objectives with supporting infrastructure, to have a diverse 21st century working port.

Regards
Claire Charles
Andrew Parker

Correct Planning & Consultation for Mayfield Group

www.cpcfm.org

for the seven new wharfs of Mayfield.

Nicholas Hall

NSW Planning

nicholas.hall@planning.nsw.gov.au

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We will list some of the problems concerning Cumulative Effects “Knock On” issues arising from the Port Corp Concept Plan and the Marstel Terminals

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So our objections to, and criticism of the NCP Concept Plan, apply equally to the Marstel Application.

Take one example – The Marstel Application has no proposal for any of the Bulk Diesel to be transported from its Tank farm, other than by road; and indeed, there is also a serious requirement by Marstel for Bio fuels to be transported into its tank farm by road.

In Stage one, estimates of up to 16,000 heavy vehicle movements pa (B doubles and the like) have been made – all spewing onto Industrial Highway at a single intersection, being the intersection with Ingall St, Mayfield.

The lands on the North Eastern boundary of this intersection are part of the Play grounds of Mayfield East Public School – which was established in the 1850s, and which has an enrolment of about 200 students in classes K to year 6.

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The Ammonium Nitrate Factory explosion in Toulouse in France in 2001 killed 31, and registered 3.4 on the Richter scale. This could happen in Newcastle, and the effects would be far worse, as the combined quantities of chemicals in these 4 plants are much greater.

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For
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Trains not Trucks for the 7 new Mayfield Wharfs

email: jlhayes@bigpond.com

Phn. 4967 3013 Mob 0400 171 602

117 INGALL ST
MAYFIELD EAST NSW 2304

Nicholas Hall - Submission Details for Amanda Crick

From: Amanda Crick <amandacrick@internode.on.net>
To: <Nicholas.Hall@planning.nsw.gov.au>
Date: 11/28/2011 3:14 PM
Subject: Submission Details for Amanda Crick
CC: <assessments@planning.nsw.gov.au>

Disclosable Political Donation: no

Name: Amanda Crick
Email: amandacrick@internode.on.net

Address:
12 Kitchener Pde

Mayfield East, NSW
2304

Content:
While this project on its own appears not to pose significant issues to local residents, it should not be considered further until broader decisions about the former BHP steelworks site have been made.

The poorly assessed Newcastle Port Corproation Plan concept plan for the site covers the location of this project, and still hangs in planning limbo. If this project is endorsed by the government, then it opens the door to incrememtal development of the overall BHP site. This approach is unacceptable. The overall site must be planned in a co-ordinated and strategic way. Similarly, the impacts from the overall use of the site must be determined and assessed on a cumulative level, taking into account not j ust all the activities planned to occur on the site, but those occuring and planned to occur in surrounding areas.

The community should not be forced to manage a 'death by a thousand cuts' approach to planning and environmetnal management of industrial operations in this area. A strategic decision regarding the use of the former BHP site must be made before any more development applications are accepted by the Department of Planning for the site.

IP Address: ip-71-138-161-203.static.pipenetworks.com - 203.161.138.71
Submission: Online Submission from Amanda Crick (object)
https://majorprojects.affinitylive.com?action=view_diary&id=23744

Submission for Job: #2506 Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield
https://majorprojects.affinitylive. com?action=view_job&id=2506

Site: #831 Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield
https://majorprojects.affinitylive.com?action=view_site&id=831

Amanda Crick

E : amandacrick@internode.on.net

Nicholas Hall - Re Marstel

From: "John L Hayes" <jlhayes@bigpond.com>
To: "Hall, Nick(NSWP)" <nicholas.hall@planning.nsw.gov.au>
Date: 12/23/2011 7:47 AM
Subject: Re Marstel
Attachments: CPCFM Submision re Marstel Dec 2011.docx

Nick Hall
NSW Planning

Dear Nick

Re Marstel

This is a private submission by my wife - Rosie, and me.

We oppose the Marstel Application.

It is on land only a few hundred metres from where we live.

Safety and Traffic - bringing with it noise , dust, vibration, and toxic Diesel exhausts are our main concerns.

Many of these issues are more fully spelt out in the attached submission by Correct Planning & Consultation for Mayfield group. We support all the arguments in that submission.

We are away til next Wednesday.

Cheers from Newcastle

John & Rosie Hayes

email: jlhayes@bigpond.com

Phn. 4967 3013 Mob 0400 171 602

117 INGALL ST
MAYFIELD EAST NSW 2304

John L Hayes JP MARRIAGE CELEBRANT
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Namings;
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Nicholas Hall - Marstel Submisison from Wickham Great Lifestyle of Wickham

From: Lyn Kilby <lki7@bigpond.net.au>
To: <nicholas.hall@planning.nsw.gov.au>
Date: 12/23/2011 3:11 PM
Subject: Marstel Submisison from Wickham Great Lifestyle of Wickham

23 December 2011-

To Nicholas Hall

Re: Marstel Bulk Liquid Fuel Storage Facility Mayfield

Project Application (08 _0130)

Nicholas Hall

NSW Planning

nicholas.hall@planning.nsw.gov.au

The questions our community of Wickham wish the regulator to address.
1.Who of the three companies are accountable for a system failure?

Logistics may become redundant on any day or night ?

A scenario is:
one man on the MASTEL site, with a computer system in Melbourne . A relieving contract truck drive. The probability of all failing is a possibility.

a. Who is responsible for safety when the on site STOLT worker becomes ill?
b. Who is responsible when the computer system fails in Melbourne due to weather event or computer crashing
c. A relieving Truck driver (filling in on a shift) breaks protocol with safety, OH&S & there is a truck fire due to SHELL spill.
d. Any of these incidences are possible at one time.

Our community believes there is high risk and system failure possible, could this leave the area of Newcastle vulnerable. Human error and systems down are never written in a proposal. Even though volumes of fuel is ever present.

2.Who are the procedural observers of the systems. The 3 companies involved need to ensure accountability both on site and off site. I ask the regulator to expect more from SHELL and the trucking companies not just MARSTEL/STOLT in their isolated planning process. This should not be an isolated proposal when there are other players.

3. The time is now in the preparation of this submission. STAGE 2&3 are not isolated and for another proposal at another time, this proposal needs Stage 2 & 3 embedded in some way, for cumulative impact measure. This is a "virgin site" linked with the local suburbs and poor infrastructure.

What are the licence changes required within this proposal, to prepare and ensure that future STAGE 2 & 3 adjust appropriately to cumulative impacts of immediate Newcastle through to Maitland, the densely populated area.

4. Added layers of risk. The systems are high risk. MARSTEL alone has risk. SHELL/ fuel has risk, trucking companies add to the risk.

Where in the MARSTEL proposal can the regulator layer in protection for community regarding:

All 3 companies together, are causes of cumulative risk. Marstel should not present this document alone.

Marstel exists because of SHELL and the trucking company. Does the freight for SHELL and this storage terminal propose a joint proposal? and Why not?
Why is such an integrated Industry looking only at one operative? 3 companies are integral to all operations both locally and regionally.
More is required on safety by our regulator, to manage the cumulative impact of the companies at stage 1. The long term planning and development is in no doubt in Marstel's vision for Stage 2&3. This proposal is clearly about get it done in a limited way and Stage 2 & 3 will be easy to propose and pass at planning level.

5.The infrastructure in Newcastle and across the region will fail. Road and rail are not improved to meet the demand of this industry. The cost to the community throughout will be noise, vibration, fumes and road fatality all within the "Australian Standard". The EPA still has a lot of work to do and until processes are improved within the EPA, planning is not protecting the community adequately.

6. Is STOLT/ MARSTEL setting up for zero emission?

7. The Proposal should explain how the MATRSTEL PLAN fits with the overal PORT CORPORATION PLAN.

As there is no port plan:

How is the regulator addressing cumulative impact? Measuring stresses on community as it co-exists along side this site?

This proposal is not offering any significant employment? What does the regulator consider valuable to community: Is it freight by truck?, Is it to meet Australian standards but still have a certain amount of pollutants going into the local air and the Hunter River? Is it just to satisfy Rio Tinto, Xtrata and others?

The community needs a long term Newcastle Port Plan, explaining the interelationship and accountability within the Coal Chain. Marstel"s Proposal in isolation is inappropriate.

Thank you for the cahnce to share people's view

Lyn Kilby
GLOW

--

From: Stephen Clarke <stephen@chordwizard.com>
To: <nicholas.hall@planning.nsw.gov.au>
CC: katiesachs <katiesachs@aapt.net.au>, Sharon & Michael Wilks <mswilks@big...
Date: 12/23/2011 8:47 am
Subject: Marstel Application: Submission from Mayfield East Public School P&C
Attachments: CpcfmSubmisionReMarstel.pdf

Nick Hall
NSW Planning

Dear Mr Hall,

This is a submission regarding the Marstel Bulk Fuel Terminal from the Mayfield East Public School P&C Association.

We strongly oppose the application for their terminal.

We believe our children's safety and well-being are threatened by this development, both by the presence of the terminal itself, and by the inexplicable proposal to transport such massive quantities of flammable and explosive liquids by road, which runs directly past our school.

We feel that we have no cause for confidence that Marstel will effectively safeguard this facility, nor that the relevant authorities will effectively ensure that they do.

We have a range of concerns and objections to this particular proposal, and to the poor planning processes that have been evident thus far in the redevelopment of the old BHP site.

The range of our concerns is well represented in the submission document prepared by the CPCFM group, of which I have attached a copy.

Regards,

Stephen Clarke
Executive Officer
Mayfield East Public School P&C Association
02 4960 9520

Nicholas Hall - Marstel Terminals Proposal for Mayfield

From: "John Nella" <nellaj@ozemail.com.au>
To: "Nicholas Hall" <nicholas.hall@planning.nsw.gov.au>
Date: 12/30/2011 9:46 AM
Subject: Marstel Terminals Proposal for Mayfield

Dear Nicholas
I would like to oppose this proposal in its current form and location. Proposals such as this are not taking into account the surrounding land use. Some of the land is private dwellings and these residents should not have to be exposed to the noise, fumes, and traffic. Vapours emitted during filling of the storage vessels will presumably be contained by the appropriate filtering equipment, is this the case and is there a plan to ensure the maintenance and servicing of this equipment?
Nearby plants include Orica which recently emitted ammonia at sufficient concentrations to require hospitalisation of workers. Marstel have no plans to ensure that the operator could safely shutdown their facility in the event of such an event occurring and the operator being affected.
Transport of the fuel will take place along Industrial Drive and this is also used by the vehicles transporting ammonium sulphate. Diesel fuel and ammonium sulphate are the two major components used to manufacture explosives for the mining industry. There are no protocols to ensure separation of vehicles carrying these materials and this would seem to be prudent yet neither company seems to have even considered such a simple step to reduce the risk to both the drivers or members of the public.
I am sure that given more time members of the public would find more areas of weakness.
Yours faithfully
John Nella
131 Mitchell St
Stockton 2295
NSW
ph 02 4920 1331
mob 0402335 525

OneSteel Manufacturing

Phone: (02) 49354950

Fax: (02) 49354951

Email: stojcevskis@onesteel.com

PO Box 245c, Newcastle, NSW 230

13 December 2011

Mining & Industry Projects

Dept. Of Planning and Infrastructure

GPO Box 39

SYDNEY NSW 2001

Dear Sir / Madam,

Re: MARSTEL BULK LIQUID FUEL STORAGE FACILITY PROJECT 08_0130

OneSteel has reviewed and objects to the above referred EA application until further clarification is received from the proponent on the following section items as listed in the EA:-

3.2.2 Site Layout

Fuel Pipeline

The existing services gantry bridge proposed to carry the pipeline from the berthing facility to the tank farm is a long uninterrupted structure which runs across the boundary into OneSteel's property along the major part of George Bishop Drive. Koppers Pitch and Coal Tar services run on this gantry services bridge across both the OneSteel and NPC sites. A significant number of OneSteel services run along this gantry structure on its own site consisting of High and Low Voltage Power, Potable Water, Natural Gas, Compressed Air and Communications.

OneSteel requests the proponent undertake further risk assessment focusing on the risk of fire /explosion on the NPC extension of gantry structure during diesel fuel transfer from ship to storage tanks spreading to the Koppers and OneSteel services. Due to the proximity, the proponent to include OneSteel in its Fire Safety Study and include along the interfacing Koppers / Marstel services / fuel lines on the existing gantry, a fire detection and foam sprinkler / deluge system.

OneSteel requests inclusion as a stakeholder in a detailed response plan to be developed by the proponent to manage an emergency emanating from this situation.

3.5.5 Interfaces

OneSteel advises it has been approached by NPC regarding connection to the OneSteel High Voltage power supply and water supply for the purpose of fire services. OneSteel will be reviewing its position for granting access to power and water services for the proponents facility.

OneSteel advises that it requires a minimum of 12 months notice to relocate its operations from the Bull St Corridor to permit commencement of the Initial stage of the proposed Intertrade Industrial Park. OneSteel understands that all construction access requirements will be via Selwyn Street.

OneSteel advises it will not permit temporary operational access to the proposed facility via Bull St corridor along Steelworks Road.

3.6.6 Maritime Safety & Traffic

OneSteel requests the proponent provide formal notification of all fuel tanker deliveries via M4 berth and proposed operating times of fuel being transported to the storage tank facility.

OneSteel requests the proponent includes the OneSteel site in its site wide emergency evacuation plan for the proposed facility

3.6.12 Fire Management

OneSteel requests the proponent undertakes further risk assessments around the potential of fire preventing the operation of the adjacent OneSteel rail freight line corridor.

Due to the proximity, the proponent to include OneSteel in its Fire Safety Study and include a fire /explosion rated barrier along the interfacing rail corridor / tank farm.

9.0 Air Quality, Odour

OneSteel was unable to verify the air quality assessment in the application as it does not provide the referenced Figure (Figure 1 in Appendix F) showing the "sensitive" locations of the modelled ground level benzene concentrations. The nearest receptor (G2 at the Wire Mill) does not appear to have been considered as a worst case based on the table describing the locations (Table 9 lists George Bishop Drive but not a precise location). OneSteel requests the proponent confirm that the GLC's of benzene at G2 will present no unacceptable health risk to OneSteel employees.

13.0 Traffic & Transport

OneSteel requests it is consulted in the initial design phase regarding the proposed changes of the Bull Street corridor / Steelworks Road to understand the impact to the current OneSteel operations.

I can be contacted on (02) 4935 4950 or 0408 490 148 to arrange for specific consultation on the areas of concern OneSteel has with the proposed application.

Yours sincerely,

Sash Stojcevski

Superintendent – Site Development, Infrastructure & Contract Services

OneSteel

Nicholas Hall - Resident Submission against Marstel Terminals Newcastle Pty LTd application (08_0130)

From: Brett Purcell <brett.purcell@yourlocalteam.com.au>
To: <plan_comment@planning.nsw.gov.au>
Date: 11/18/2011 3:54 PM
Subject: Resident Submission against Marstel Terminals Newcastle Pty LTd application (08_0130)
Attachments: Planning Minister of NSW Resident Submission (08_0130).doc

Minister,

Please find attached my submission outlining why you MUST decline this application.

regards

Brett Purcell
Senior Account Manager

Optus Business Centre Newcastle
Mobile: 0404 863 793
Phone: 02 4032 3103
Fax: 02 4920 8713
Email: brett.purcell@yourlocalteam.com.au

Unit 5, No.2 Frost Drive Steel River Industrial Park, Mayfield West..

Visit us online at www.yourlocalteam.com.au

18th November 2011

To: Minister for Planning of NSW

Re: Marstel Bulk Liquid Fuel Storage Facility Mayfield East

Project Application (08_0130)

Dear Minister,

I am writing to express my concerns to the Panning & Infrastructure application which the above company Marstels Terminals Newcastle Pty Ltd are pursuing to build at the former BHP Steelworks Site at Mayfield East NSW 2304.

I strongly object this proposal as I find it difficult to believe that a fuel terminal can be built so close to my home and many residences close to this site.

I reside at 50 Kitchener Parade Mayfield East NSW 2304 with my wife Gail and 3 year old son Eden. We have lived at Mayfield East for 7 x years now and I can not tell you how much increased truck traffic in particular B – Double Trucks who are using the Industrial Highway and the adjacent streets of Kitchener Parade, George Street & Crebert Street Mayfield East NSW 2304.

At times we have over 20 large trucks using my residential street per day and on some occasions these trucks are sol large they tear off branches of the tree's lining my street. Also many kids feel unsafe to play outside with the noise these trucks make when roaring down the street be at times intolerable.

Increased truck traffic which this new fuel terminal would bring close to my home is unacceptable, as it is one of the busiest roads in Newcastle with at least 100 coal trucks per day being B- Double trucks driving from Lake Macquarie mines and bringing coal to Port Waratah Coal Services Carrington operation.

With the Buildev Group (Nathan Tinkler) already building his coal terminal on the same location and using the same roads it is unfair that local people have to suffer as to make corporations happy and to ultimately boost their bottom lines.

As to the Fuel terminal itself I am dead against this for the following reasons:

Continued.

- Toxic Build up of fuels close to residence and our harbour along with the foul smells which these fuel terminals produce as I have smelt the existing BP Islington fuel site from my back yard when the winds blow gently this way. It sometimes stings your eyes.

- Mayfield East Public School is one of the oldest schools in Australia and has pre school care and after school care and is situated overlooking the industrial drive and of course the old BHP site which is very close in proximity.

- Six hats child care centre which my son attends sits on Industrial drive and the teachers have had to bring kids inside when big winds blow as coal dust covers all of the play equipment. When I pick my son up from childcare on a Monday afternoon trucks will not let you in even when stopped, and are often parked back to back along industrial drive for over 20 truck distances.

- **ORICA leaks at Kooragang are my big concern hear, as Orica are the NSW Government & the EPA have told local residents through Robin Parker – Environment Minister for NSW that ORICA have best practice codes in place to protect the community safety but over the last 2 x months there has been 3 x TOXIC LEAKS with 2 x men hospitalised and now the entire ORICA PLANT is now shut indefinitely.**

- Mayfield East has become a watershed of young families who are hell bent on improving their homes and with the approval of the Buildev Coal Terminal along with this project what devastating decrease I our housing costs will become apparent if these projects proceed. Not many people would look to live next to a FUEL TERMINAL operating 24 x hours a day as does the BP Fuel Terminal as I know this is true as I have a family member who drives these tankers for BP.

- What plans do Marstel Terminals have to keep the industrial highway roads up to standard? What does this company plan to do for the local residents in regards to community developments? Will this company be a green company on this site by this I mean how do they guarantee no damage to my environment locally?

- Newcastle Harbour and surrounds has way too much polluting industries and the people of Mayfield East deserve better from the NSW Government as Newcastle for the first time at last voted for this government and we are watching closely to see how you stack up as decisions need to be made for the correct reason not just money and revenue.

Finally I have arranged a meeting with Mr Tim Owen MP for Newcastle on the 9th December to voice my concerns directly to him, and the Mayfield East Community Action group is now in full swing to deal with yet another company looking to make money with no thoughts for the local community.

Minister, I urge you to decline this application proposal as when will this company realise it is NOT the correct place to have a Fuel Terminal and what if there are Toxic Leaks and what if the ship carrying fuel catches on fire as these ships are not regulated by Australian Maritime and as you know people in Newcastle have seen ship wrecks and disaster better than any one else in Australia.

Remember the Pasha Bulka which called Nobbys Beach home for months.

It MUST to be about the environment this time so please I urge do not let this project go ahead and ruin my life along with many other locals.

Brett, Gail & Eden Purcell
50 Kitchener Parade
Mayfield East NSW 2304.
Mob: 0404863793
Email: brett.purcell@yourlocalteam.com.au

Nicholas Hall - Sumbission in relation to the Marstel application

From: caitlin raschke <caity_raschke@hotmail.com>
To: <nicholas.hall@planning.nsw.gov.au>
Date: 12/23/2011 4:37 PM
Subject: Sumbission in relation to the Marstel application

Nicholas Hall
Planning NSW

This is my Submission to oppose approval of an application by Marstel Terminals to construct and operate a Bulk Diesel Tank Farm Terminal on Newcastle Port Corp (NCP) Land (part of the Old BHP Steel works site), adjacent to Wharf 7 at Mayfield.

I write to support the submission made by the Correct Planning & Consultation for Mayfield Group.

I have lived in Newcastle all my life and my mother and grandmother live in Newcastle. It has been a welcome change in the last few decades that Newcastle's reputation for being polluted and dirty has changed into that of a city which is a pleasant place to live and bring up children. I encourage my own children to be proud of this area but I fear for their future if proposals like the Marstel one go ahead.

So it saddens me that we may have our priorities wrong and that proposals such as the Marstel Terminals proposal is a step backwards for residents.

I have learned from the Correct Planning and Consultation for Mayfield Group that:

- the Marstel Application has no proposal for any of the Bulk Diesel to be transported from its Tank farm, other than by road; and indeed, there is also a serious requirement by Marstel for Bio fuels to be transported into its tank farm by road.
- estimates of up to 16,000 heavy vehicle movements pa (B doubles and the like) have been made – all leading to Industrial Highway at a single intersection, being the intersection with Ingall St, Mayfield.

- The lands on the North Eastern boundary of this intersection are part of the Play grounds of Mayfield East Public School – which was established in the 1850s, and which has an enrolment of about 200 students in classes K to year 6.

- the number of truck movements will be excessive.

I agree with the Correct PLanning and Consultation for Mayfield Group that these will impact on Mayfield and Newcastle in a number of unpleasant ways: Noise, Vibration, Toxic Diesel exhaust fumes; and the real risk of more and more truck accidents on our already very busy, and often choked local roads, arterial roads, bridges, and highways.

I am alarmed by what the group point out to me - facts already well known to Newcastle residents, especially in recent months since Orica's chemical leaks have been so disturbing for the local area - detailed in their submission:

The Orica Plant is only a few hundred metres across the water from the proposed Marstel Fuel Tank Farm.
Orica wants to nearly double its production of Ammonium Nitrate.
Incitec Pivot, adjacent to Orica, currently imports Ammonium Nitrate, and wants to commence making Ammonium Nitrate.
Eastern Star Gas, adjacent to Incitec Pivot, wants to establish a Liquid Gas export facility.
These four businesses, all in close proximity, have the potential for a massive explosion if there is a combination of bad events. Such a Witches Brew could blow up more than half of Newcastle.
The Ammonium Nitrate Factory explosion in Toulouse in France in 2001 killed 31, and registered 3.4 on the

Richter scale. This could happen in Newcastle, and the effects would be far worse, as the combined quantities of chemicals in these 4 plants are much greater.
There also additional safety factors to be taken into account.
Hundreds of thousands of Tonnes of Ammonium Nitrate, from the Kooragang Island manufacturing and importation plants, goes up the Hunter Valley to the mines every year, to be used as explosives in the mines. It all travels by road.
Travelling on the same roads are Diesel and Petrol tankers carrying hundreds of Millions of Litres of Combustible and Inflammable fuel. The Marstel Application would add hundreds of millions of litres of additional fuel to the same roads every year.
It is not a matter of IF, but only a matter of WHEN, before we have an almighty explosion on the very busy, and often choked roads in The Hunter.

I completely support their opposition to this proposal and wish to add my voice to theirs.

Yours sincerely,

Dr Caitlin Raschke
210 Darby St
Cooks Hill 2300
caity_raschke@hotmail.com

45 Kitchener Rde
Mayfield 2304.
21st Nov. '11.

APP. No. 08-0130
Marstel Bulk Liquid Fuel
Storage Facility.

Dear Sir/Madam,

I am writing to lodge my strong objection to the proposed Marstel Bulk Liquid Fuel Storage Facility on the former B.H.P. Steelworks site at Mayfield East.

I believe this could create potential danger in the event of an accident on the sight. For this to be built in such a densely populated area in the proximity of the Newcastle City Council is sheer madness, to put it mildly.

It would also create enormous traffic problems with increased truck movement and noise.

Yours faithfully
(Mrs) Pamela Reynolds

23 December 2011-

To Nicholas Hall

Re: Marstel Bulk Liquid Fuel Storage Facility Mayfield

Project Application (08 _0130)

Nicholas Hall
NSW Planning
nicholas.hall@planning.nsw.gov.au

Dear Nicholas

I wish to express my concern about the proposed development for a Liquid Fuel Storage facility at Mayfield.

I strongly object to this proposal as it is very close to my home at 48 Kitchener Parade Mayfield East, where I live with my partner Vicki and 3 children.

We have been long term residents and remember the pollution from BHP and its detrimental effects on our quality of life, including build up of dust, foul odours and noisy machinery. We thought that those days were gone and that government would now be more considerate of residents when contemplating planning proposals but we fear this is not the case, especially if this development goes ahead.

Mayfield has developed a strong social fabric, which includes its local schools and a neighbourhood in which people often walk to local shops and walk their children to and from schools and the local pool

The proposed fuel terminal and bulk truck movements would significantly increase the amount of traffic and the associated noise and increased fuel emissions would have detrimental effects on the social fabric of the community and on the health of residents.

I really question the motives for these operations. If it is about jobs then why not include the local community in discussions about job creation from the beginning. It is questionable how many local jobs will be created from this exercise which is in danger of just being a way in which a large company can make huge profits at the detriment of the local community and environment.

The recent Orica incidents surely provide enough evidence to suggest that we should not be approving bulk fuel storage facilities in close proximity to residents, or indeed in close proximity to other chemical plants such as Orica. Residents should not be asked to tolerate this type of development. As our elected representatives, government should listen to the voice of the people. A legacy of pollution and massive truck movements is not something we want to expose our children to.

It is 2011 not 1911 , have we not progressed to a point where this type of development should not be allowed to go ahead in this day and age simply because of the traffic impacts it will have and the way it will impact on the quality of life of local residents.

We ask that you reject this proposal on the grounds that it will have a negative impact on the quality of life of local residents.

I have had to prepare this submission very quickly as, I am sure you will appreciate this is a very hectic time of year for many families. I think you should give more time for submissions as many families are too busy dealing with day to day issues at this time of year. I also know from many conversations with local people that they are very supportive of the position of the Correct Planning and Consultation for Mayfield group and while they cannot always get to meetings they are extremely concerned about the proposed development.

In closing this brief submission, I ask that you use the test of zero emissions for this proposal and any other on the site and that you look seriously at a rail alternative to road for any development on this site.

Bill Robertson

48 Kitchener Parade

Mayfield East

billrobertson@fastmail.fm

Nicholas Hall - Request to consider planning submission

From: "Diana Santleben" <dsantleben@opeast.org.au>
To: <nicholas.hall@planning.nsw.gov.au>
Date: 12/29/2011 12:44 PM
Subject: Request to consider planning submission
Attachments: CPCFM Submision re Marstel Dec 2011.docx

Dear Mr Hall
I write to ask that you rethink the plan of Marstel for Newcastle's area. Based on recent experience, the plans as advised give residents grave concerns. We have a right to be given verifiable assurances, that are legally binding, that the lives of ourselves and our children will not be held captive for economic expediency. No one should have to endure emissions from any industrysource,
Sincerely

Sister Diana Santleben O.P.
(m: 0431105383, PH: 02 49 555 188)

Correct Planning & Consultation for Mayfield Group

www.cpcfm.org

for the seven new wharfs of Mayfield.

Nicholas Hall

NSW Planning

nicholas.hall@planning.nsw.gov.au

Dear Nicholas,

Here is our Submission to oppose approval of an application by Marstel Terminals to construct and operate a Bulk Diesel Tank Farm Terminal on Newcastle Port Corp (NCP) Land (part of the Old BHP Steel works site), adjacent to Wharf 7 at Mayfield.

2011 Planning Tests

What we need from Governments in general, and NSW Planning in particular - in 2011, are tests guiding decisions on development applications etc, that ensure that:

The Community is kept safe;

That the proposed works and business operation result in Zero emissions;

That no poisons, dust, sound, vibrations light etc are allowed to escape into the air, water or ground.

Not achieving these 2011 Planning Tests should lead to a FAIL, and the applicants / proponents should be sent back to the drawing board, and told to start again.

The arguments put by applicants / proponents that the development will be “good for Jobs’; or “good for the Economy”, should not be allowed to overrule the Planning Tests listed above.

We know that, with automation, the creation of large numbers of jobs with new developments is very often a myth, and such claims require very detailed scrutiny.

Scrutiny of the Marstel Jobs claim reveals three permanent full time jobs. For many hours each week, the 24x 7 x 365 day operation will be unmanned; and controlled via video camera from a site in Melbourne. (Or, as one community member said at a Marstel information session: “Melbourne this week – will it be India next week??”.)

The “Good for the economy” claim very often fails to detail “whose economy”.

Correct Planning & Consultation for Mayfield Group

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for the seven new wharfs of Mayfield.

The Marstel application should reveal that Marstel is 100% owned by overseas shareholders. Until recently, it has been 100% owned by a New Zealand family. Recently 75% of its shares have been sold to Stolt – Nielson, a Northern Hemisphere Company. So 100% of any after tax profits it makes in Australia has flown to, and will continue to flow. overseas.

Marstel tell us the tank farm is being developed for Shell. Shell is 100% overseas owned.

Shell tell us the transport of their fuel will be in trucks belonging to a selection of 3 transport companies, none of whom are based in Newcastle; and we understand most, if not all drivers will not be Newcastle of Hunter residents.

Whose Economy???

Cumulative Effects

We know from many enquiries we have made over several years to NSW Planning and other Agencies, that Planning Staff, and staff at other agencies such as Environment Protection Agency, have found it impossible to calculate the cumulative effects of the large number of existing and proposed new developments in and around Newcastle.

We will list some of the problems concerning Cumulative Effects “Knock On” issues arising from the Port Corp Concept Plan and the Marstel Terminals

Our Group – CPCFM, was established in August / Sep 2010 specifically to respond to the NPC Concept Plan for 7 new wharfs, and their associated cargo precincts, on part of the old BHP Lands at Mayfield.

CPCFM now has between 500 and 600 members and supporters, who have consistently told NCP; NSW Planning: Planning Ministers, and other Responsible Ministers of the former Labor Government, and the Current Coalition Government; that they oppose the Concept Plan on many grounds; with the main one being there are no Genuine and Practical Land Transport proposals to carry the vastly increased cargos planned for these 7 new wharfs.

Other agencies, including Newcastle City Council have told NSW Planning that Industrial Drive will fail, if the current proposals are implemented; and have provided other criticisms of the Concept Plan

Correct Planning & Consultation for Mayfield Group

www.cpcfm.org

for the seven new wharfs of Mayfield.

The NPC Concept Plan has not been approved, and we and the Community are completely in the dark about how our 170 submissions are being treated by NSW Planning. in weighing up the decision for approval or rejection; or approval, subject to many strict conditions.

The Marstel application is for wharf 7 and adjacent land in the same Concept Plan.

So our objections to, and criticism of the NCP Concept Plan, apply equally to the Marstel Application.

Take one example – The Marstel Application has no proposal for any of the Bulk Diesel to be transported from its Tank farm, other than by road; and indeed, there is also a serious requirement by Marstel for Bio fuels to be transported into its tank farm by road.

In Stage one, estimates of up to 16,000 heavy vehicle movements pa (B doubles and the like) have been made – all spewing onto Industrial Highway at a single intersection, being the intersection with Ingall St, Mayfield.

The lands on the North Eastern boundary of this intersection are part of the Play grounds of Mayfield East Public School – which was established in the 1850s, and which has an enrolment of about 200 students in classes K to year 6.

In Community meetings with Marstel, they have told us that in a second stage, they hope to take the throughput of the tank farm up from 300M L to 600M L; and in a possible stage 3 they want to build additional large tanks to add to the capacity , and possibly / probably add petrol to the bulk storage. So maybe the capacity, and the truck movements will be:

Stage 1 300 M L Diesel Truck movements 16,000 pa

Stage 2 600 M L Diesel Truck movements 32,000 pa

Stage 3 900 M L Diesel / Petrol Truck movements 48,000 pa

We know there will be serious impacts on residents of Mayfield, and further away on the routes all these trucks take.

These impacts will include Noise, Vibration, Toxic Diesel exhaust fumes; and the real risk of more and more truck accidents on our already very busy, and often choked local roads, arterial roads, bridges, and highways.

So how are these Cumulative Impacts being calculated, and taken into account?

Correct Planning & Consultation for Mayfield Group

www.cpcfm.org

for the seven new wharfs of Mayfield.

Marstel tell us they do not want their Truck movements to be looked at, in conjunction with the rest of the activity that could arise from the Port Corp Concept Plan.

Measurement of the Cumulative Impacts of the Marstel Application, against the larger picture of developments in and around the Port of Newcastle is also severely hampered by the total absence of a Newcastle Port Master Plan.

Ammonium Nitrate and Diesel are a BAD COMBMINATION !!!

The Orica Plant is only a few hundred metres across the water from the proposed Marstel Fuel Tank Farm.

Orica wants to nearly double its production of Ammonium Nitrate.

Incitec Pivot, adjacent to Orica, currently imports Ammonium Nitrate, and wants to commence making Ammonium Nitrate.

Eastern Star Gas, adjacent to Incitec Pivot, wants to establish a Liquid Gas export facility.

These four businesses, all in close proximity, have the potential for a massive explosion if there is a commination of bad events. Such a Witches Brew could blow up more than half of Newcastle.

The Ammonium Nitrate Factory explosion in Toulouse in France in 2001 killed 31, and registered 3.4 on the Richter scale. This could happen in Newcastle, and the effects would be far worse, as the combined quantities of chemicals in these 4 plants are much greater.

There also additional safety factors to be taken into account.

Hundreds of thousands of Tonnes of Ammonium Nitrate, from the Kooragang Island manufacturing and importation plants, goes up the Hunter Valley to the mines every year, to be used as explosives in the mines. It all travels by road.

Travelling on the same roads are Diesel and Petrol tankers carrying hundreds of Millions of Litres of Combustible and Inflammable fuel. The Marstel Application would add hundreds of millions of litres of additional fuel to the same roads every year.

It is not a matter of IF, but only a matter of WHEN, before we have an almighty explosion on the very busy, and often choked roads in The Hunter.

Correct Planning & Consultation for Mayfield Group

www.cpcfm.org

for the seven new wharfs of Mayfield.

Who is looking at the Cumulative impacts of this??

FAIL

On the facts and projections and likely outcomes from the NCP Master Plan, looked at in conjunction with the Marstel proposal, we say any fair assessment must lead to a FAIL for both.

We say they both should be sent back to the Drawing Board.

Request to be able to add to this submission during Jan 2012

This submission has been prepared in haste, against the backdrop of enormous calls on the time, availability and resources of the Newcastle Community over the last 4 months to respond to a multiplicity of new Planning Proposals; and the very serious consequences of four chemical spills by Orica at the very close Kooragang Island; and the Christmas close down of Schools and businesses.

Accordingly we formally request that we have the opportunity to add to this submission during January 2012, if we need to.

Lodged on behalf of our 500 to 600 Members and supporters by

John L Hayes
For
Correct Planning & Consultation for Mayfield Group
Trains not Trucks for the 7 new Mayfield Wharfs

email: jlhayes@bigpond.com

Phn. 4967 3013 Mob 0400 171 602

117 INGALL ST
MAYFIELD EAST NSW 2304

Nicholas Hall - Submission Details for Nick Wood

From: Nick Wood <nalex8@bigpond.com>
To: <Nicholas.Hall@planning.nsw.gov.au>
Date: 11/18/2011 3:37 PM
Subject: Submission Details for Nick Wood
CC: <assessments@planning.nsw.gov.au>

NSW GOVERNMENT Planning & Infrastructure

Disclosable Political Donation: no

Name: Nick Wood
Email: nalex8@bigpond.com

Address:
61 Crebert Street

Mayfield East, NSW
2304

Content:
I wish to make a formal objection to the proposal gazetted in the exhibition on the grounds that insufficient consideration has been given to the impact of the storage and transportation of chemicals on existing road haulage capacity.

Your reference to 'development of ancillary services and infrastructure, including internal roads' presumably with a view to storage and transportation is not specific enough. What is needed is a more detailed statement and plan outlining how diesel fuels would be transported to and from the port facility, taking into account the environmetal impact of such a plan on the local residential area (Mayfield East).

IP Address: cpe-121-216-222-174.lnse3.ken.bigpond.net.au - 121.216.222.174
Submission: Online Submission from Nick Wood (object)
https://majorprojects.affinitylive.com?action=view_diary&id=23390

Submission for Job: #2506 Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield
https://majorprojects.affinitylive.com?action=view_job&id=2506

Site: #831 Marstel Bulk Fuel Storage and Dispatch Facility - Mayfield
https://majorprojects.affinitylive.com?action=view_site&id=831

Nick Wood

E : nalex8@bigpond.com

Appendix C

Revised Air Quality Impact Assessment

Appendix C Revised Air Quality Impact Assessment

Proposed Bulk Liquid Fuel Storage Facility

Marstel Terminals Newcastle Pty Limited

22 March 2012

Air Quality Impact Assessment

Proposed Bulk Liquid Fuel Storage Facility

Air Quality Impact Assessment

Proposed Bulk Liquid Fuel Storage Facility

Prepared for

Marstel Terminals Newcastle Pty Limited

Prepared by

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22 March 2012

60212465

AECOM in Australia and New Zealand is certified to the latest version of ISO9001 and ISO14001.

Quality Information

Document Air Quality Impact Assessment

Ref 60212465

Date 22 March 2012

Prepared by Holly Marlin & Adam Plant

Reviewed by David Rollings

Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
A	28-Jul-2011	Initial draft	David Rollings Principal Engineer	
B	4-Aug-2011	Revised draft	David Rollings Principal Engineer	
C	11-Aug-2011	Final document	David Rollings Principal Engineer	
D	03-Feb-2012	Response to submissions	David Rollings Principal Engineer	
E	22-Mar-2012	Correction of emissions and revision of results	David Rollings Principal Engineer	

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1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned by Marstel Terminals Newcastle Pty Limited (Marstel) to assess the potential effects on air quality from the proposed bulk liquid fuel storage terminal to be located at Mayfield, NSW. The purpose of the assessment was to assess the air and greenhouse gas (GHG) emissions associated with the operation of the proposed facility.

The proposed project involves the construction of a terminal facility that will be used for the importation, storage and distribution of diesel and biodiesel fuels. A total annual throughput of diesel of 264 megalitres (ML) would be received via ship from around 8 vessels per year, with a maximum on-site diesel storage capacity of 54 ML at any one time. The diesel would be dispatched to customers via truck. A total throughput of approximately 36 ML of biodiesel would be both delivered and dispatched via truck, with an on-site storage capacity of 500 m^3.

The main potential sources of air emissions associated with the proposed development are vapour emissions from the storage and transfer of fuels (volatile organic compounds, or VOCs). Greenhouse gases (GHGs) would also be emitted by the proposed project. This report provides details of the methodology and results of the dispersion modelling of VOCs and an estimation of the potential GHG emissions.

1.1 Scope of Work

The Director-General's Requirements for the environmental assessment of the project were issued by the Department of Planning and Infrastructure on 7 July 2011. These required the assessment to include the following:

- *a quantitative assessment of the air quality and odour impacts of the project on surrounding receivers*; and
- *a quantitative assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the project and a qualitative assessment of the potential impacts of these emissions on the environment*.

The assessment of air emissions was limited to VOCs during operation of the proposed facility. As described in **Section 2.4**, due to the type of fuels proposed to be stored at the site and the distance between the site and sensitive receptors, odour was not expected to be an issue for the site. Furthermore, emissions associated with construction works for the project would be expected to be easily managed through standard construction practices.

As the Office of Environment and Heritage (OEH) has no criterion for total VOCs, cumene was assessed as an indicator species for VOCs following receipt of advice and fuel composition data provided by the OEH (refer to **Appendix A**). As such, cumene concentrations resulting from operation of the proposed facility were estimated through dispersion modelling undertaken using the AUSPLUME program in accordance with the OEH guidelines for air pollution assessments[1]. GHG emissions associated with the proposed facility were estimated using the National Greenhouse Accounts (NGA) Factors (July 2011)[2].

The OEH also specified that emissions associated with the ships and trucks delivering/dispatching fuel from the premises should be assessed. These emissions were not, however, modelled in this assessment due to the following:

- The increase in ship traffic by 8 ships per year is not considered likely to be distinguishable over the existing Port-wide traffic level of approximately 2000 - 3000 berthing events per annum;
- Trucks entering the terminal (approximately 2 trucks per hour) will switch off engines while transferring product to/from tanks. Again, the level of emissions from the trucks within the terminal is not considered likely to be distinguishable from other local port traffic sources.

[1] DEC. (2005). Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales.
[2] Department of Climate Change and Energy Efficiency. (2011). National Greenhouse Accounts Factors, July 2011. Commonwealth of Australia.

2.0 Description of Site and Operations

2.1 Site Description

The terminal would be located on part of the former BHP Steelworks site, known as the Mayfield Concept Approval Site, as shown in **Figure 1**. The site is approximately 5 km northwest of the Newcastle Central Business District. The land on which the facilities are to be located would be leased from Newcastle Port Corporation. The proposed terminal would be situated opposite Kooragang Island. The topography in the area beside the Hunter River is essentially flat. The area surrounding the proposed terminal is characterised by a mixture of port-related activities, industrial uses, and residential and commercial areas. The nearest residential area is located at Mayfield with the closest receptors approximately 900 m from the proposed terminal site. Neighbouring industry includes OneSteel and Koppers Coal Tar Products to the west and Port Waratah Coal Services to the north. Land to the east and south of the site is currently vacant and proposed for future industrial development.

2.2 Operations

Marstel proposes to construct and operate a bulk fuels terminal to receive, store and dispatch diesel and biodiesel fuel. The facility would have a total annual throughput of diesel of 264 megalitres (ML), received from around 8 shipping vessels per year, and would store a maximum of 54 ML of diesel at any one time. The diesel would be dispatched to customers via truck. A total throughput of approximately 36 ML of biodiesel would be both delivered and dispatched via truck, with an on-site storage capacity of 500 m^3. All fuels would be stored in above-ground tanks.

The facility would make use of an existing ship berthing facility to receive diesel fuel, which would be transferred to site using an above-ground, dedicated pipeline approximately 1 km in length. The pipeline would follow the route of an existing pipeline that transports materials to the neighbouring Koppers facility, and, if possible, would utilise the existing support structures.

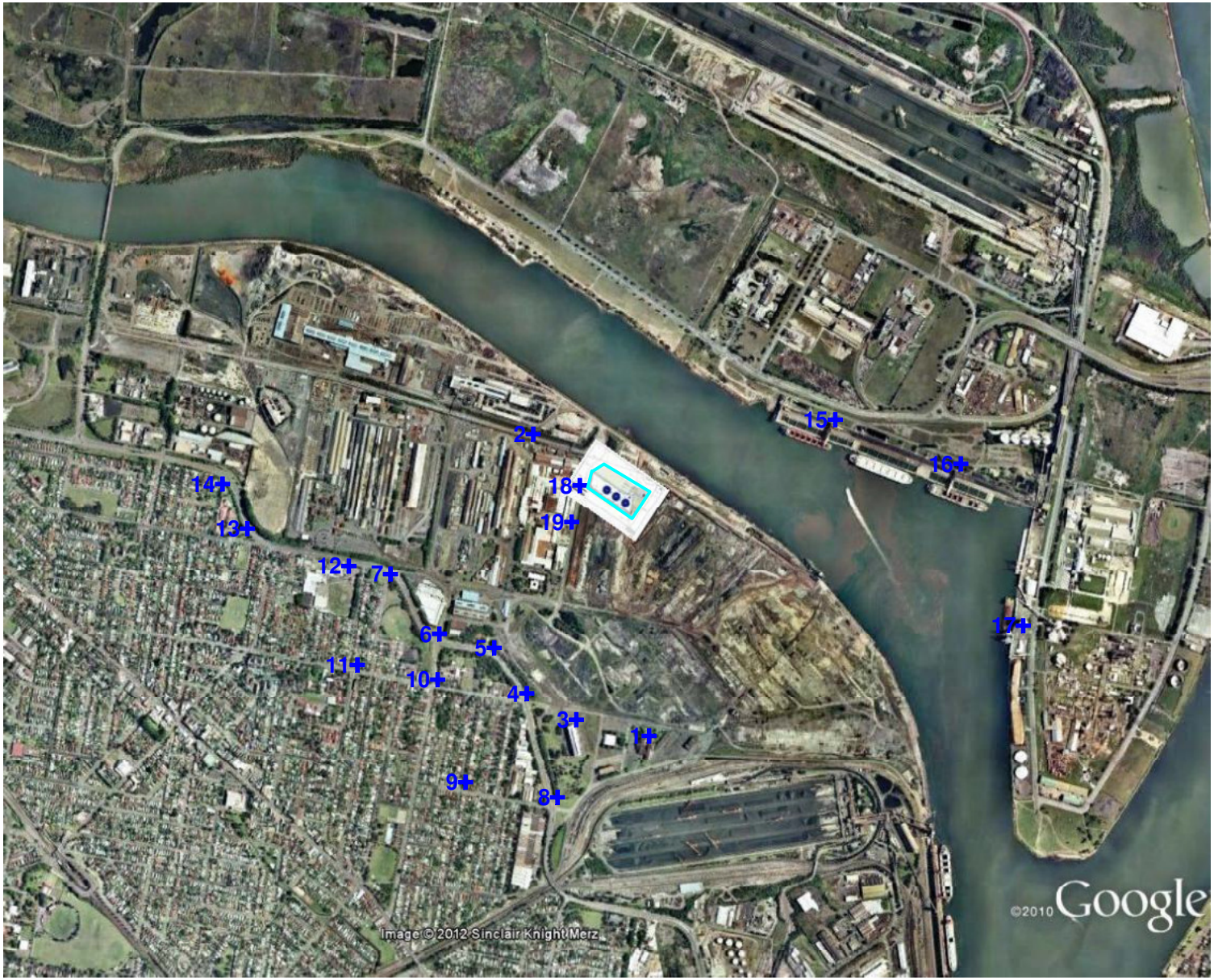
There would be 18 trucks each business day dispatching diesel by road, and approximately 9 trucks per day on Saturdays, resulting in around 5,103 diesel dispatch trucks per year. Biodiesel would be delivered and dispatched by two trucks per business day, and one delivery and one dispatch of biodiesel per day would occur on Saturdays, equating to around 1,134 biodiesel trucks per year. Truck loading for dispatch would take approximately 45 minutes. Ship unloading would typically be undertaken over a 48 hour period, and would be undertaken as required.

The typical operating hours for the site would be 6 am – 4 pm Monday to Friday, and 6 am to 12 pm on Saturdays. Marstel is, however, seeking approval for 24 hour operations to enable dispatch and delivery to occur as required.

The dimensions of the proposed structures to be constructed on site are summarised in **Table 1**.

Table 1 Main Site Structure

Structure	Approximate Size	Number	Description
Diesel tanks	38 m diameter; 18 m high	3	Steel tanks with white exterior
Biodiesel tank	8 m diameter; 12 m high	1	Steel tank with white exterior
Office and amenities	16 m x 9 m; 4 m high	1	Steel wall and roof cladding
Truck-loading gantry	33 m x 16.5 m; 6.5 m high	1	Steel frame with colourbond cladding
Workshop	11 m x 9 m; 5 m high	1	
Fire water storage tanks	11 m diameter; 8.5 m high	1	Steel tank with galvanised finish
Fire Pumphouse	15.5 m x 5 m x 5.5 m high	1	Steel frame with colourbond cladding



AECOM

0 500m

+ Sensitive Receptor

Site Boundary

Aerial Source: Google 2012

Figure 1 Site and Sensitive Receptor Locations
Marstel Terminals Newcastle Pty Limited
Air Quality Impact Assessment
Mayfield NSW

2.3 Construction Details

The target completion date for the terminal is December 2012. The construction works are expected to take approximately 14 months, and would include the following:

- Excavation of areas for tank foundations (to a maximum of 0.6 m below the existing cap surface).
- Construction of tank foundations and reinforced concrete bund walls.
- Preparation of the bund floor (excavation, backfilling with crushed rock, installation of liner, additional backfilling with crushed rock and priming/sealing).
- Installation and diversion of services and infrastructure, including stormwater drainage lines.
- Relocation of the tanks to site and the fabrication of related piping and pump equipment.
- Construction of internal roadways (excavation, compacting of road base, pouring of concrete pavement (reinforced) for main driveway.
- Construction of a pipeline on existing supports to transfer materials between the berth and the storage facility.
- Construction vehicle movements.

Much of the material would be prefabricated wherever possible, particularly fuel facility components, thereby minimising the on-site construction activities.

2.4 Emissions

2.4.1 Volatile Organic Compounds

The main emissions of concern for fuel storage activities are volatile organic compounds (VOCs). VOCs are organic compounds with a vapour pressure exceeding 0.13 kPa at a temperature of 20 ^{o}C. VOCs have been implicated as a major precursor in the production of photochemical smog, which causes atmospheric haze, eye irritation and respiratory problems. VOCs can be emitted from storage tanks, filling stations vents, pipelines and process equipment leaks at plant associated with fuel storage.

The OEH does not have a criterion for collective VOCs, rather provides impact assessment criteria for a number of individual VOC species. The OEH specified that cumene was the most critical substance to be assessed for diesel vapour. As such, cumene was used as an indicator pollutant of VOCs. Details regarding the estimation of cumene in the fuels are provided in **Section 4.4.5**.

Cumene (also known as 1-methylethylbenzene and isopropylbenzene) is a colourless, volatile liquid at room temperature. Cumene readily volatilises into the atmosphere from water and dry soil. The chemical is rapidly metabolised and excreted[3].

Cumene is a component of high octane fuels and crude oil. Cumene has a short life expectancy in the atmosphere, so emissions are expected to be confined to the local area of emission. It evaporates when exposed to air, and is broken down by bacteria in soil and water [4,5].

Cumene can enter the body through inhalation, ingestion or dermal contact. The chemical has a depressant effect on the central nervous system, and short-term exposure can cause narcotic-like effects such as dizziness, drowsiness and unconsciousness, as well as headaches and irritation of the eyes, nose and throat [4,5]. Cumene is considered to be moderately acutely toxic to aquatic life and highly toxic to birds[5]. No information is available on the carcinogenic effects of cumene in humans or animals. The US EPA has classified cumene as not classifiable as to human carcinogenicity[4].

[3] WHO. (1999). Concise International Chemical Assessment Document 18 – Cumene. World Health Organization: Geneva.
[4] US EPA. Technology Transfer Network Air Toxics Website; http://www.epa.gov/ttn/atw/hlthef/cumene.html; accessed 1 February 2012

[5] NPI. http://www.npi.gov.au/substances/cumene/index.html.: accessed 1 February 2012.

2.4.2 Odour

Odour emissions from fuels are typically associated with aromatic hydrocarbons, of which VOCs are a subclass. No data regarding actual odour emissions from such a facility were identified at the time of preparation of this report. The level of odour emission, however, is dependent upon the vapour pressure of the substances; compounds with higher vapour pressures emit higher levels of odour. As diesel and biodiesel fuel have low vapour pressures, odour emissions from the storage of these substances are expected to be minimal.

Furthermore, sensitive receptors would be located at a distance of 900 m or greater from the proposed facility. The minimum accepted buffer zone distance for sewerage treatment plants, a known odorous industry, is 400 m [6]. As the proposed facility is expected to have much lower odour emissions than an STP, and any emissions would be expected to be less offensive than emissions from an STP, a distance of 900 m to the closest receptor is expected to be sufficient to mitigate potential adverse odour impacts. As such, odour was not assessed further.

2.4.3 Dust

Dust emissions from the construction of the Marstel terminal may result from typical land preparation practices such as excavation of soil, movement of scrapers and graders and the formation of stockpiles. As these emissions will be short-term and episodic in nature, they will be managed through the implementation of standard dust management practices, such as wetting down roadways and stockpiles and minimising exposed areas. The control of dust emissions during construction will be managed by procedures outlined in a Construction Environmental Management Plan (CEMP) prepared for the facility. Dispersion modelling was not, therefore, warranted for this aspect of operations, and no further discussion of dust impacts is provided in this AQIA.

[6] Department of Urban Affairs and Planning, Circular No. E3, issued 17 March 1989.

3.0 Existing Environment

3.1 Air Quality

Following the cessation of steel manufacturing in the area, Newcastle's air quality has improved in recent years. A number of pollutant sources remain, however, including industrial, domestic and transportation activities, with motor vehicles considered to provide the greatest challenge to local air quality. The primary pollutants of concern in the Newcastle airshed are particulate matter and photochemical smog/ozone and its precursors (oxides of nitrogen and VOCs)[7]. Industrial pollutant sources include the nearby Orica and Incitec plants, and the Tomago Aluminium smelter. Dust emissions arise from the coal and grain terminals, while odour emissions from seed processing (Cargill) and coal tar processing (Koppers) commonly affect the Mayfield and Kooragang Island areas. There are currently three fuel storage facilities in Newcastle: Caltex (Wickham), BP (Carrington) and Shell (Hamilton), which are located adjacent to or near to residential areas.

The pollutants of prime concern in NSW are ozone and particulates, with levels of these pollutants approaching or exceeding the national standards prescribed in the National Environment Protection Measure for Ambient Air Quality (NEPM) on occasion. Pollutant levels in Newcastle, however, are generally acceptable, with few exceedences noted[4]. The Marstel facility is not expected to generate significant levels of ozone or particulates and, as such, these pollutants are not considered further in this assessment.

No local monitoring of cumene was identified at the time of preparation of this report. Estimates of emissions reported to the National Pollutant Inventory (NPI) indicate that the reported sources of cumene in the Mayfield area (2304 postcode) are the BP terminal at Carrington (9.1 kg/year) and the QR National Kooragang Train Fuel Facility (2.2 kg/year). Due to the very low levels of expected emission in the area (11.3 kg/year), ambient cumene concentrations were expected to be negligible for the purpose of this assessment.

3.2 Regional Meteorology

The Bureau of Meteorology (BOM) records long-term meteorological data at a number of automatic weather stations around the country. The BOM station that best represents the region is located at Williamtown, approximately 13 km northeast of the proposed Site. Selected regional meteorological data were obtained from the BOM Williamtown monitoring station; a summary is provided in the following sections. Average climate parameters recorded at this station are shown in **Appendix B**.

3.2.1 Climate

The warmest temperatures occur between November and March, with the warmest average maximum temperatures occurring in January (28.0 ºC). The coldest temperatures are recorded in the winter months, with the lowest average minimum temperature occurring in July (6.4 ºC).

The highest average rainfall is recorded in February (121.7) mm, while September is the driest month (60.1 mm). Humidity in the area is relatively high, with recorded levels typically between 50 and 80 %. Wind speeds are typically higher at 3 pm compared to 9 am.

3.2.2 Wind Direction

The long-term wind rose diagrams for the Williamtown monitoring station are shown in **Appendix B**. The wind roses show the frequency of occurrence of winds by direction and strength. The bar at the top of each wind rose diagram represents winds blowing from the north (i.e. northerly winds), and so on. The length of the bar represents the frequency of occurrence of winds from that direction, and the widths of the bar sections correspond to wind speed categories, the narrowest representing the lightest winds. Winds recorded at Williamtown at 9 am blow predominantly from the west. In the afternoons, recorded winds blow predominantly from the east and southeast.

[7] Newcastle City Council. (2009). 2008/09 State of the Environment Report – The City of Newcastle.

4.0 Dispersion Modelling Methodology

4.1 Dispersion Model

AUSPLUME v6.0 is an advanced Gaussian plume dispersion model developed by the Victorian Environment Protection Authority. AUSPLUME is approved by the OEH for use in regulatory assessments undertaken in NSW. The model uses the Gaussian dispersion model equation to simulate the dispersion of a plume from point, area, or volume sources. The model requires a meteorological data file that provides wind speed, wind direction and other dispersion parameters on an hourly basis. The plume dispersion is determined for each hour using the conventional Gaussian model assumptions.

Dispersion modelling for this assessment was undertaken in accordance with the guidelines published by the OEH [8].

4.2 Modelling Scenario

The dispersion modelling was undertaken for worst-case conditions, assuming the plant was operating at full capacity with the following operational characteristics:

- Continuous operation of the facility (24 hours per day, 7 days per week, 365 days per year);
- Continuous emissions from the truck filling activities; and
- All emissions from the site operations assessed (i.e. truck filling activities and fugitive emissions from the fuel storage tanks) tanks were assumed to be VOCs. Cumene was selected as the indicator pollutant for the assessment due to its toxicity; as such, only cumene emissions were assessed.

4.3 Assessment Criterion

The OEH criterion (DEC, 2005) and averaging period for cumene are shown in **Table 2**.

Table 2 Cumene Assessment Criterion

Pollutant	Assessment Criterion ($\mu g/m^3$)	Averaging Period
Cumene	21	1 hour

4.4 Model Inputs

AUSPLUME requires six main categories of data to determine the dispersion of pollutants:

- Meteorology;
- Terrain effects;
- Building wake effects;
- Source characteristics;
- Emissions inventory; and
- Sensitive receptor locations.

The above inputs are addressed separately in the following sections. The AUSPLUME modelling input file is provided in **Appendix C**.

4.4.1 Meteorology

Hourly wind speed, wind direction, atmospheric stability class and mixed layer height data for 2009 were obtained from the OEH for their Newcastle meteorological station. Data from this site are considered to be representative of

[8] DEC (2005). Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.

meteorological conditions around the Newcastle Harbour area. Analyses of these data are provided in **Appendix B**.

The meteorological data are used by the model in different ways to estimate the dispersion of air pollutants:

- Ambient temperature is used to incorporate thermal buoyancy effects when calculating the rise and dispersion of pollutant plumes;
- Wind direction determines the direction in which pollutants will be carried;
- Wind speed influences the dilution and entrainment of the plume into the air continuum;
- Atmospheric stability class is a measure of atmospheric turbulence and the dispersive properties of the atmosphere. Most dispersion models utilise six stability classes, ranging from A (very unstable) to F (stable/very stable); and
- Vertical mixing height is the height at which vertical mixing occurs in the atmosphere.

The long-term wind roses recorded at Williamtown and the wind roses from data collected at the OEH monitoring station in Newcastle in 2009 show similar trends for wind direction, with some minor variations. The 9 am BOM data show a higher percentage of winds from the west compared to the high percentage of north-west winds present in the OEH data. The 3 pm BOM data show a low percentage of north-west winds compared to the high percentage of north-west winds present in the OEH data. These variations are most likely caused by a difference in topography of the area, with Newcastle being influenced by hills to the south and south-east.

Due to the close proximity of the OEH Newcastle station to the proposed development, the OEH data are considered to appropriately represent the site's meteorological conditions.

4.4.2 Terrain Effects

The topographical map for Newcastle (NSW ortho-topographical map number 9232-2S) was used to assess the terrain in the area. As the terrain surrounding the site is relatively flat and featureless, a digital terrain file was not considered necessary for inclusion in the dispersion modelling.

Katabatic drainage flow (or valley drainage flow) occurs under light winds and stable meteorological conditions. As air cools at night, it falls and tends to move down-hill in areas of significant topographic relief. As this air moves it tends to create a bulk movement of air, which can cause winds to blow in areas influenced strongly by topography. Due to the low relative relief in the region surrounding the proposed Marstel site, no significant katabatic drainage flows are expected. The regional climatic patterns, which are governed by the coastal meteorological conditions, are likely to dominate the wind patterns in the Newcastle Harbour area.

4.4.3 Building Wake Effects

The dispersion of pollutants around the proposed terminal is likely to be affected by aerodynamic wakes generated by winds having to flow around the proposed storage tanks. Building wakes generally decrease the distance downwind at which the stack plumes comes into contact with the ground. This may result in higher ground level pollutant concentrations closer to the emission source.

AUSPLUME includes the PRIME building wake algorithm and the Building Profile Input Program (BPIP) for entering the location and dimension of buildings where building wakes may be important for dispersion. The location and dimensions of buildings located within a distance of 5L (where L is the lesser of the height or width of the building) from each release point for buildings with a height greater than 0.4 times the stack height were entered in BPIP.

Aerodynamic wakes were estimated for all storage tanks and buildings affected (as defined by the OEH guidelines) by entering their dimensions and locations into the Building Profile Input Program (BPIP) utility option. The BPIP processing information is included in **Appendix C**.

4.4.4 Source Characteristics

VOCs are expected to be emitted from the storage tanks (fugitive emissions vented to atmosphere) and the truck filling stack (point source vented to atmosphere). The dimensions of the tanks to be installed at the proposed

terminal are shown in **Table 3**. The horizontal and vertical spreads of the tanks were calculated using the methodology outlined in US EPA (1995)[9].

Table 3 Storage Tank Details Summary

Tank Type	Number of Tanks	Horizontal Spread (m)	Vertical Spread (m)	Height (m)
Diesel	3	8.8	8.4	18
Biodiesel	1	1.9	5.6	12

The parameters of the stack used to vent the emissions from the truck filling activities were assumed as shown **Table 4**.

Table 4 Truck Filling Stack Parameters

Parameter	Value
Temperature	25 °C
Height	15.0 m
Diameter	0.3 m
Velocity	15.0 m/s

4.4.5 Emissions Inventory

As outlined in **Section 2.4.1**, the OEH does not have a criterion for total VOCs. In order to assess the effects of VOC emissions from the proposed facility, cumene was chosen by the OEH as an indicator pollutant due to its concentration in diesel vapour and its stringent impact assessment criterion.

The TANKS emissions estimation model was used to calculate the predicted total emissions from the storage tanks using the parameters provided in **Table 5**. Output from the TANKS model is provided in **Appendix D**.

Table 5 TANKS Input Parameters

Tank Type	Approximate Size	Number
Diesel	Diameter: 38 m (124.7 ft)	3
	Height: 18 m (59.1 ft)	
	Capacity: 18 ML (4,755,097 gallons)	
	Throughput: 88 ML (23,247,141 gallons)	
Biodiesel	Diameter: 8 m (26.2 ft)	1
	Height: 12 m (39.4 ft)	
	Capacity: 500 m^3 (132,086 gallons)	
	Throughput: 36 ML (9,510,194 gallons)	

The OEH provided data from BP regarding the composition of diesel vapour. These data indicate that the greatest proportion of cumene in diesel vapour occurs at 15 ^{o}C, when the vapour comprises 5.10 % cumene (refer to **Attachment A**). This concentration was used to predict the total cumene concentration of emissions from the tanks, with the concentration of cumene in biodiesel assumed to be the same as the concentration of diesel. Data are shown in **Table 6**.

[9] US EPA. (1995). User's Guide for the Industrial Source Complex (ISC3) Dispersion Models. Volume 1 – User Instructions. US Environmental Protection Agency.

Table 6 Predicted Tank Emissions

Tank	Estimated Total Emissions (per tank)			Estimated Cumene Emissions (g/s) ^
	lbs/year*	kg/year	g/s	
Diesel	3913.72	1776.8	0.056	0.00287
Biodiesel	222.09	100.8	0.003	0.00016

* TANKS output; refer to **Appendix D**
^ calculated assuming cumene concentration of 5.10 % of total tank emissions

Emissions from the truck filling station were estimated using the concentration of hydrocarbons (i.e. VOCs) in diesel vapour provided by the OEH (refer to **Appendix A**). The maximum concentration, which occurs at 25 ^{o}C, is 0.00445 g/L. Given the stack emission parameters provided in **Table 5**, the cumene emissions from the truck filling station were estimated to be 0.0287 g/s.

4.4.6 Sensitive Receptors

The OEH considers sensitive receptors to be areas where people are likely to either live or work, or engage in recreational activities. On this basis, representative receptors were placed at various locations surrounding the proposed terminal in the dispersion model.

A summary of the approximate receptor locations is shown below in **Table 8**; the locations are shown in **Figure 1**. Maximum cumene concentrations were determined at the each sensitive receptor location.

Table 7 Sensitive Receptor Locations

Receptor No.	Receptor Description	Type
1	Selwyn St, Mayfield	Commercial
2	George Bp. Drive, Mayfield	Industrial
3	Selwyn St, Mayfield	Commercial
4	Industrial Drive and Crebert St Crossroad, Mayfield	Residential
5	Industrial Drive, Mayfield	Residential
6	Industrial Drive and Ingall St Crossroad, Mayfield	Residential
7	Dead end of Arthur St, Mayfield	Residential
8	Industrial Drive and George Street Crossroad, Mayfield	Residential
9	George Street and Margaret Street Crossroad, Mayfield	Residential
10	Crebert Street and Ingall Street Crossroad, Mayfield	Residential
11	Havelock Street and Crebert Street T-intersection, Mayfield	Residential
12	Phoenix Sports Club, Mayfield	Commercial
13	Industrial Drive and Bull Street T-intersection, Mayfield	Residential
14	Kerr Street dead end, Mayfield	Residential
15	Cormorant Road, Mayfield	Industrial
16	Cormorant Road, Mayfield	Industrial
17	Greenleaf Road, Mayfield	Industrial
18	OneSteel Premises	Industrial
19	OneSteel Premises	Industrial

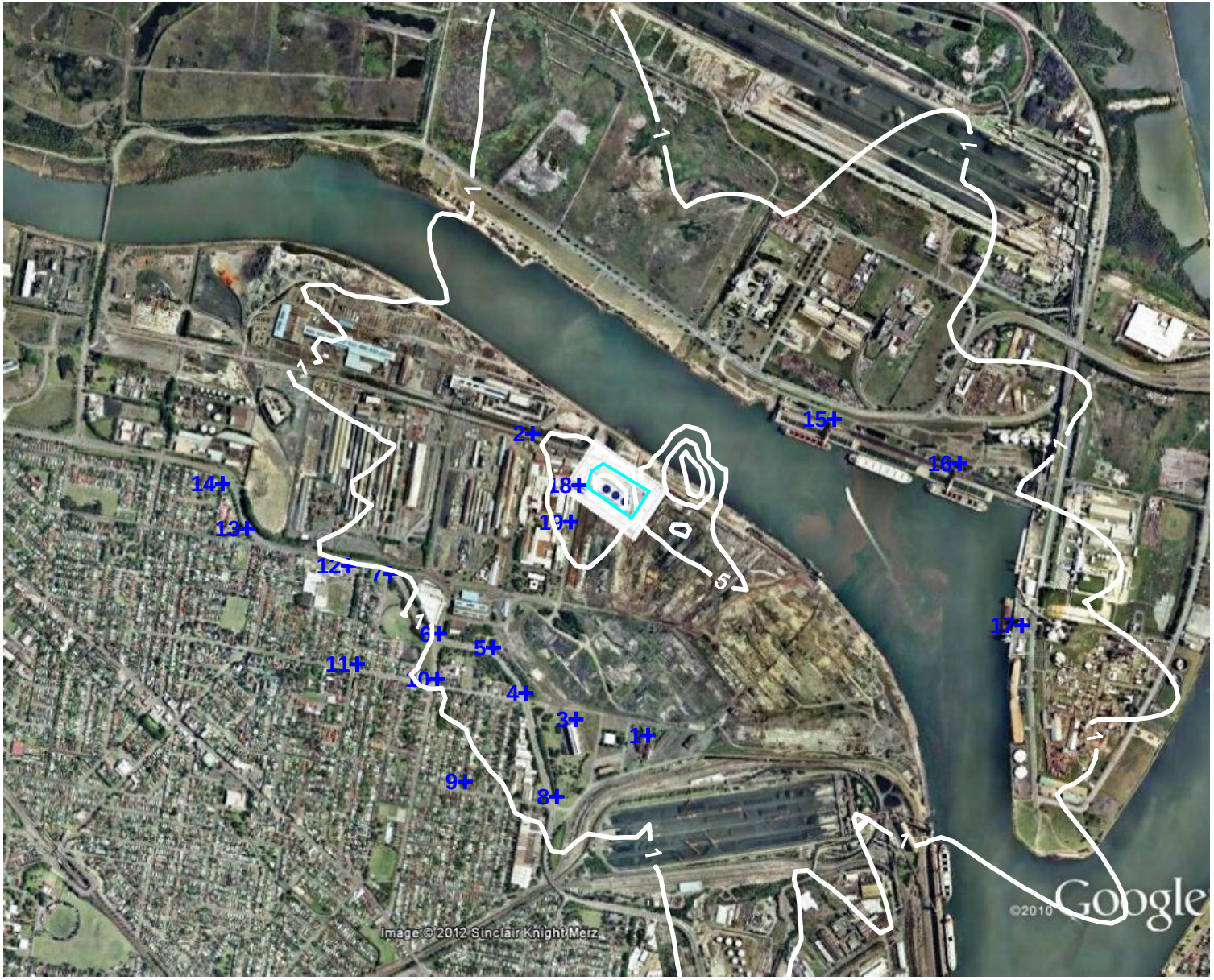
5.0 Modelling Results and Impact Assessment

The results of the dispersion modelling are summarised in **Table 9**, which lists the maximum hourly concentrations of cumene predicted by the dispersion model at the specified sensitive receptor locations. The distribution of predicted cumene concentrations is also shown in **Figure 2**.

Table 8 Predicted Maximum Ground Level Concentrations of Cumene (µg/m^3) at Sensitive Receptor Locations

Receptor Number	Eastings (m)	Northings (m)	Maximum 1 Hour Cumene Concentration (µg/m^3)
1	383764	6359312	1.4
2	383284	6360562	3.6
3	383463	6359379	1.4
4	383257	6359487	1.3
5	383122	6359676	1.5
6	382896	6359734	1.0
7	382693	6359982	1.0
8	383385	6359057	1.1
9	383004	6359120	0.9
10	382888	6359545	1.1
11	382556	6359606	0.7
12	382520	6360016	1.0
13	382100	6360170	0.7
14	381998	6360356	0.7
15	384535	6360622	1.9
16	385055	6360439	1.3
17	385314	6359768	1.4
18	383477	6360349	7.5
19	383443	6360198	7.1
Criterion			***21***

The main contributor to ground level pollutant concentrations was found to be the truck filling station. Cumene concentrations for the area surrounding the proposed terminal were predicted to fall below the assessment criterion at all modelled sensitive receptor locations. It should be noted that the assessment was conservative in that the modelling assumed constant emissions; in reality, emissions will only occur during tank and truck filling activities. As cumene was used as an indicator pollutant, the results suggest no adverse impacts are likely to occur from emissions of VOCs from the proposed facility.



AECOM

0 500m

Sensitive Receptor

Site Boundary

Aerial Source: Google 2012

Figure 2 Maximum 1 Hour Cumene Concentrations
Marstel Terminals Newcastle Pty Limited
Air Quality Impact Assessment
Mayfield NSW

6.0 Greenhouse Gas Assessment

Greenhouse gases (GHGs) are gases found in the atmosphere that absorb outgoing heat that is reflected from the sun. The primary greenhouse gas is carbon dioxide (CO_2). Different GHGs have different heat absorbing capacities. In order to achieve a basic unit of measurement, each GHG is compared to the absorptive capacity of CO_2, and measurements and estimates of GHG levels are reported in terms of CO_2 equivalent emissions (CO_2-e).

Australia's National Greenhouse Gas Inventories are designed to provide estimates of Australia's net GHG emissions and track Australia's progress towards its internationally-agreed GHG reduction targets. Australia has published annual national GHG inventories for each year from 1990 to 2009 inclusive. In 2009 (the latest available data), Australia's total GHG emissions were estimated to be 564.5 Mt CO_2-e. Of these emissions, approximately 8 % (44.8 Mt CO_2-e) were attributed to the transport and storage sector[10].

Estimation of the GHG emissions associated with the proposed terminal's operations was undertaken using the emission factors and methods outlined in the NGA Factors[11]. The NGA Factors provide three types of assessment categories:

- **Scope 1**, which covers direct emissions from sources within the boundary of an organisation, such as fuel combustion and manufacturing processes;
- **Scope 2**, which covers indirect emissions from the consumption of purchased electricity, steam or heat produced by another organisation; and
- **Scope 3**, which includes all other indirect emissions that are a consequence of an organisation's activities but are not from sources owned or controlled by the organisation; that is, emissions associated with the production of fuels, and emissions from the generation of purchased electricity.

The main operations likely to generate GHGs at the proposed terminal are:

- Electricity to run plant operations such as administration buildings, fuel pumps, and plant lighting (Scopes 2 and 3);
- Delivery and distribution of fuels via road and ship tanker (Scope 3);
- Passenger vehicles transporting staff to and from site (Scope 3); and
- Combustion of fuel distributed from the facility (Scope 3).

Estimation of emissions associated with these activities was undertaken; results are reported in the following sections.

6.1 Electricity Consumption

The facility was assumed to use 204,000 kWh of electricity per year. Emissions of GHGs associated with this consumption were estimated at approximately 216 t CO_2-e per year as shown in **Table 11**.

Table 9 GHG Emissions from Electricity Use

Emissions Type	Emission Factor* (kg CO_2-e/kWh)	GHG Emissions (t CO_2-e)
Scope 2	0.89	181.6
Scope 3	0.17	34.7
Full Fuel Cycle (total)	**1.06**	**216.2**
* Latest estimate for consumption of electricity in NSW. Source: Table 39, NGA Factors, July 2011		

[10] Department of Climate Change and Energy Efficiency. (2011). Australian National Greenhouse Accounts – National Inventory by Economic Sector 2009. Commonwealth of Australia
[11] Department of Climate Change and Energy Efficiency. (2011). National Greenhouse Accounts Factors, July 2011.

6.2 Fuel Consumption

While emissions associated with the delivery and dispatch of fuel and staff commuting could be argued to be indirect as they will not be under the direct control of Marstel (i.e. Scope 3) emissions, these activities were conservatively assessed as Scope 1 emissions.

6.2.1 Delivery and Dispatch of Fuel

The GHG estimates were made assuming delivery and dispatch trucks would be rigid diesel tankers, with 5,103 trucks per annum for diesel dispatch and 1,134 trucks per annum for biodiesel receipt and dispatch. Each truck was assumed to travel 200 km, with a fuel consumption rate of 0.285 L/km[12]. Total emissions associated with truck movements were estimated to be 959 t CO_2-e per year as shown in **Table 10**.

Table 10 Scope 1 Emissions - Delivery and Dispatch of Fuels by Truck

Greenhouse Gas	Emission Factor (kg CO_2-e/GJ)	Energy Content Factor (Diesel) (GJ/kL)	Emissions (t CO_2-e/year)
CO_2	69.2	38.6	950
CH_4	0.2		3
N_2O	0.5		7
Total			**959**
* Source: Table 4, NGA Factors, July 2011			

The estimated emissions associated with the delivery of diesel by ship are shown in **Table 11**. The diesel was assumed to be delivered by 15 ships per year, with each tanker travelling for two days in total. Each ship was assumed to burn approximately 36 tonnes of diesel fuel per day[13], resulting in a total annual fuel consumption of around 1,000 kL per year. Emissions associated with shipping were estimated at 2,857 t CO_2-e per year.

Table 11 Scope 1 Emissions - Delivery of Diesel by Ship

Greenhouse Gas	Emission Factor (kg CO_2-e/GJ)	Energy Content Factor (Diesel) (GJ/kL)	Emissions (t CO_2-e/year)
CO_2	69.2	38.6	2,828
CH_4	0.2		8.2
N_2O	0.5		20.4
Total			**2,857**
* Source: Table 4, NGA Factors, July 2011			

6.2.2 Staff Movements

Emissions associated with staff commuting to and from the site were estimated as shown in **Table 12**, assuming that 3 petrol-powered cars would be driven 20 km each way to the site for 5 days per week. A conservative fuel consumption rate of 0.19 L/km[14] was assumed, leading to a total estimated fuel consumption of 5.93 kL per year. Total commuting emissions were estimated at 14 t CO_2-e per year.

[12] VicRoads GHG Calculator Spreadsheet; references Australian greenhouse Office Factors and Methods Workbook, December 2006.
[13] Fuel consumption of ship taken from Stopford, M. (1997). Maritime Economics, Routledge.
[14] Fuel Consumption Guide Database 1986 - 2003. Consumption rate provided represents maximum consumption rate of all passenger vehicles excluding luxury models by Bentley, Rolls Royce and Ferrari.

Table 12 Scope 1 Emissions – Passenger Vehicles for Commuting Staff

Greenhouse Gas	Emission Factor (kg CO_2-e/GJ)	Energy Content Factor (Gasoline) (GJ/kL)	Emissions (t CO_2-e/year)
CO_2	66.7	34.2	13.5
CH_4	0.6		0.1
N_2O	2.3		0.4
Total			**14**
* Source: Table 4, NGA Factors, July 2011			

6.2.3 Consumption of Marstel Fuel by End Users

Indirect emissions of GHGs will also occur due to the use of the fuels distributed by the facility. These Scope 3 emissions were estimated as shown in **Table 13**.

The NGA Factors do not provide Scope 3 emission factors for biodiesel fuels as the emissions are highly dependent on individual plant and project characteristics. Previously published data indicate that the emission factors and associated emissions from biodiesel are lower than for diesel[15]. As such, for this assessment, the emission factor for Scope 3 emissions from the consumption of the biodiesel fuel was conservatively assumed to be the same as that for diesel fuel consumption, i.e. 5.3 kg CO_2-e/GJ. Total emissions associated with consumption of the fuel supplied by Marstel were estimated to be 118,038 t CO_2-e per year.

Table 13 Scope 3 Emissions - Consumption of Fuel Distributed by Proposed Facility

Fuel Type	Emission Factor* (kg CO_2-e/GJ)	Energy Content Factor ^ (GJ/kL)	Throughput		GHG Emissions (t CO_2-e/year)
			ML	kL	
Diesel	5.3	38.6	264	264,000	54,009
Biodiesel	5.3	34.6	36	36,000	6,602
Total					**60,611**
* Table 38, NGA Factors, July 2011 ^ Table 4, NGA Factors, July 2011					

6.3 Emissions Summary

The total estimated GHG emissions associated with operation of the proposed facility is shown in **Table 14**. As shown, the total emissions were estimated at 0.06 Mt CO_2-e per year, equating to approximately 0.01 % of the total Australian emissions (564.5 Mt CO_2-e) and 0.1 % of the total transport emissions in Australia in 2009 (44.8 Mt CO_2-e). The greatest contributor to emissions was the consumption of the fuel supplied by Marstel by end users.

The relationship between GHG concentrations and climate change is very complex and nonlinear. As such, the effect of the emission of this amount of GHGs on the environment or climate change cannot be estimated. The proposed project represents a very minor source of GHG emissions, both in terms of the economic sector emissions and Australia's national emissions. Furthermore, the proposed project may potentially decrease net GHG transportation emissions as the proposed facility will be located closer to its markets than current fuel providers, thereby reducing the truck transportation distance required to supply fuel to service stations. Bulk fuel transportation via ships allows efficient fuel transport to the Port of Newcastle and shorter distribution corridors from Mayfield. As such, the proposed project is not expected to significantly affect the environment.

[15] Biodiesel emissions ranged from 0.3 - 2.7 kg CO_2-e/L (NGA Factors January 2008, as cited in VicRoads' GHG Calculator). In comparison, the emission factor for scope 3 emissions from diesel fuel at the same time was 2.9 CO_2-e/L.

Table 14 Greenhouse Gas Emissions Summary

Activity	Estimated GHG Emissions (t CO_2-e/year)
Electricity consumption	216
Fuel consumption – delivery and dispatch (truck)	959
Fuel consumption – delivery (ship)	2,857
Fuel consumption – staff commuting	14
Fuel consumption by end users	60,611
Total GHG emissions	**64,657**

7.0 Conclusion

AECOM conducted an assessment of the potential effects on air quality and GHG emissions associated with the proposed bulk liquid fuel storage terminal at Mayfield, NSW. The proponent, Marstel, proposes to import, store and distribute diesel and biodiesel fuels. The proposed project involves the receipt of 264 ML of diesel fuel per year via ship and approximately 36 ML of biodiesel fuel per year by truck. All fuels would be dispatched from the site by truck. The facility would have the capacity to store up to 54 ML of diesel and 500 m^3 of biodiesel.

This assessment investigated the air quality impacts of the proposed project on surrounding receivers, and estimated the potential emissions of GHGs associated with the facility's activities. The assessment of air emissions was limited to VOCs during operation of the proposed facility, as emissions associated with construction works for the project would be expected to be easily managed through standard construction practices, and odour was not considered likely to be an issue at sensitive receptor locations due to the fuels proposed to be stored and the distance between the facility and sensitive receptors. Cumene was chosen as an indicator species for VOCs, and was the only pollutant modelled. Cumene concentrations at sensitive receptor locations were estimated through dispersion modelling using the AUSPLUME program.

The results of the conservative modelling predicted that cumene concentrations would be less than the OEH guideline criterion at all sensitive receptor locations. As such, no significant air pollutant impacts on the surrounding environment would be expected from the proposed development.

The GHG assessment considered emissions associated with electricity and fuel consumption. Fuel consumption included fuel use for the delivery and dispatch of fuels to/from the site by truck and ship; fuel used by staff commuting to and from the site; and the consumption of the fuel by customers. The burning of Marstel's product fuel was the source of 94 % of the total GHG emissions associated with the proposed facility, amounting to an estimated 0.060 Mt CO_2-e per year. The facility's total GHG emissions (0.064 Mt CO_2-e per year) were found to represent a very small proportion (0.1 %) of emissions from the transport sector (44.8 Mt CO_2-e per year) and Australian emissions as a whole (0.01 % of 564.5 Mt CO_2-e). Additionally, the proposed project may serve to decrease net GHG transport emissions as the proposed facility will be located closer to its markets than current fuel providers, thereby reducing the truck transportation distance required to supply fuel to service stations. The proposed project is not, therefore, expected to significantly adversely affect the environment.

Appendix A

OEH Response to Draft AQIA

Chrono

NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

Our reference: DOC11/52771,
File No. FIL11/7069
Contact: Hamish Rutherford
(02) 4908 6824

Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2000

Attention: Ms Felicity Greenway

Dear Sir/Madam

PROPOSED MARSTEL BULK LIQUID FUEL STORAGE FACILITY, MAYFIELD (08_0130)

Reference is made to your letter to the Environment Protection Authority ("the EPA") dated 14 November 2011 inviting the EPA to make a submission on the above proposal, including any recommended conditions of approval.

The EPA understands the proposal comprises the following:

- Development of a tank farm with the capacity to receive, store and dispatch diesel and biodiesel liquid fuel products. The tank farm would have a storage capacity of 54ML, with the facility having an annual throughput of 300ML.
- Use of the existing shipping berth known as Mayfield No. 4 to receive diesel fuel from sea.
- Development of a pipeline to transfer diesel unloaded at the Mayfield No. 4 berth to the tank farm.

The EPA has reviewed the proposal and the supporting Environmental Assessment (EA) prepared by AECOM dated 4 November 2011. The EPA advises that the Environment Assessment is inadequate for determination. The issues that require further assessment and consideration are briefly described in this letter. Detailed comments are provided in Attachment 1.

1. Air Quality

Issues identified in the EPA's review of EA's Air Quality Impact Assessment (AQIA) include the following.

- The assessment is based on tanks that have internal floating roofs. The EPA considers this to be unlikely for the storage of diesel and biodiesel. If the tanks do not have internal floating roofs, the emission estimates and AQIA need to be revised.

- Emission estimates included in the AQIA were based on meteorological data from San Francisco. The proposed facility is located in Newcastle, NSW. Therefore, the emission estimates included in the assessment are incorrect.

- Benzene is identified as the most critical air pollutant and is the only air pollutant identified from the proposal. The EPA has reviewed the proposal and concluded that it is unlikely that benzene will be

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released from the sources identified in the assessment and there are numerous other air pollutants not identified or assessed.

- The AQIA fails to identify or consider significant air emission sources that would be a direct result of the proposed facility. Air emission sources not identified or assessed include combustion emissions from ships and combustion emissions from road tankers.

2. Noise

The predicted construction and operational noise, vibration and traffic impacts associated with the project is within the nominated criteria. However the EPA's review of the EA's Noise and Vibration Assessment has identified a number of omissions that should be address in order to provide confidence that the predicted noise and vibration impacts associated with the proposal are within acceptable levels.

Given the above the EPA is unable to appropriately assess the proposal and its potential environmental impacts. Accordingly the EPA is unable to provide any recommended conditions of approval in respect of this proposal.

If you require any further information regarding this matter please contact Hamish Rutherford on (02) 4908 6824.

Yours sincerely

20 DEC 2011

MARK HARTWELL
Head Regional Operations Unit – Hunter
Environment Protection Authority

Attachment 1.

ATTACHMENT 1

ENVIRONMENT PROTECTION AUTHORITY- COMMENTS ON THE PROPOSED MARSTEL BULK LIQUID FUEL STORAGE FACILITY, MAYFIELD (08_0130)

1. AIR QUALITY IMPACT ASSESSMENT

1.1 Tank Emission Estimation Review

AECOM used US EPA's "TANKS" program to estimate emissions of volatile organic compounds (VOCs) from the proposed tanks at the facility. The EPA has identified the following fundamental issues in the emission estimates.

1. The tanks were modelled as internal floating roof tanks; and
2. The tanks were modelled using San Francisco meteorological data.

Each of these issues is discussed separately in this section.

1.1.1 Tank Types

Generally, tanks for a particular fluid are chosen according to the flash-point of the substance stored. Generally, there are fixed roof tanks, and floating roof tanks.

- Floating roof tanks are generally used for liquids with low flash-points (e.g. motor spirit, petrol, ethanol). These tanks have a floating roof which travels up and down along with the liquid level. This floating roof traps the vapour from low flash-point fuels.
- Fixed roof tanks are meant for liquids with high flash points, (e.g. fuel oil, diesel, bitumen etc.).

It is likely that the tanks at the Marstel Terminals proposal will use 'vertical fixed roof tanks' rather than 'internal floating roof tanks'. This will significantly impact the estimated emissions for the proposed facility.

Tanks with an internal floating roof design will have significantly lower emissions than emissions from a fixed vertical roof design.

The EPA recommends that the proponent confirm that all storage tanks are internal floating roof tanks.

1.1.2 Meteorological Data

The US EPA program "TANKS" requires site specific meteorological data in order to estimate emissions of VOCs from tank loading and breathing. TANKS does not come with Australian meteorological data and has only data for cities in North America. Australian users of TANKS are required to enter site specific data in order to correctly run the model locally.

The EPA notes that the meteorological data used in the assessment is the default data set shipped with the software program for San Francisco. This is significantly different meteorological conditions to those expected at the proposed site.

The EPA has performed a comparison of meteorological conditions that should have been used in the assessment from those of San Francisco. The difference in monthly maximum and minimum temperature between NSW and San Francisco is presented in Figure Error! **No text of specified style in document.-1**.

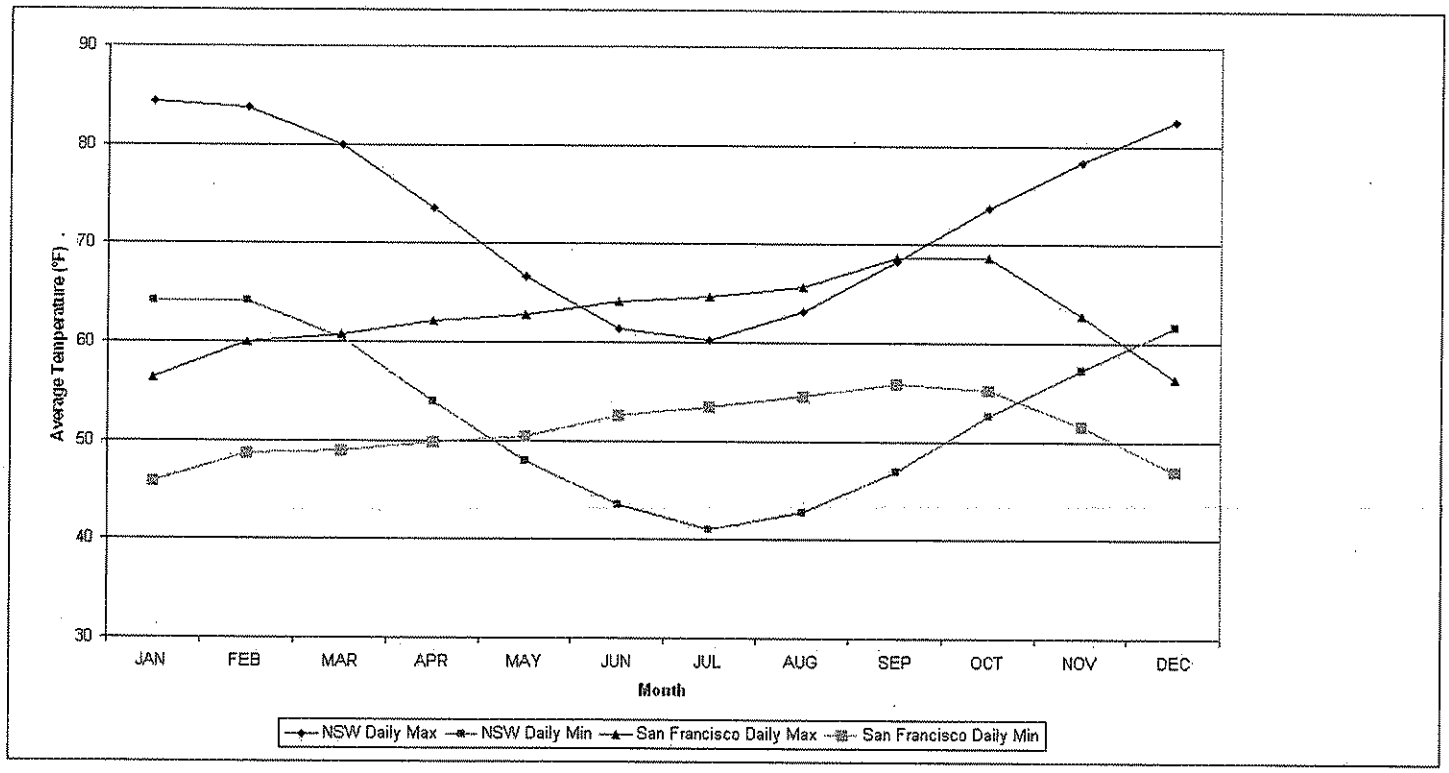

Figure Error! No text of specified style in document.**-1: Difference in Max and Min Temperatures between NSW and San Francisco**

The difference in solar insulation factors between NSW and San Francisco is presented in Figure Error! **No text of specified style in document.-2**.

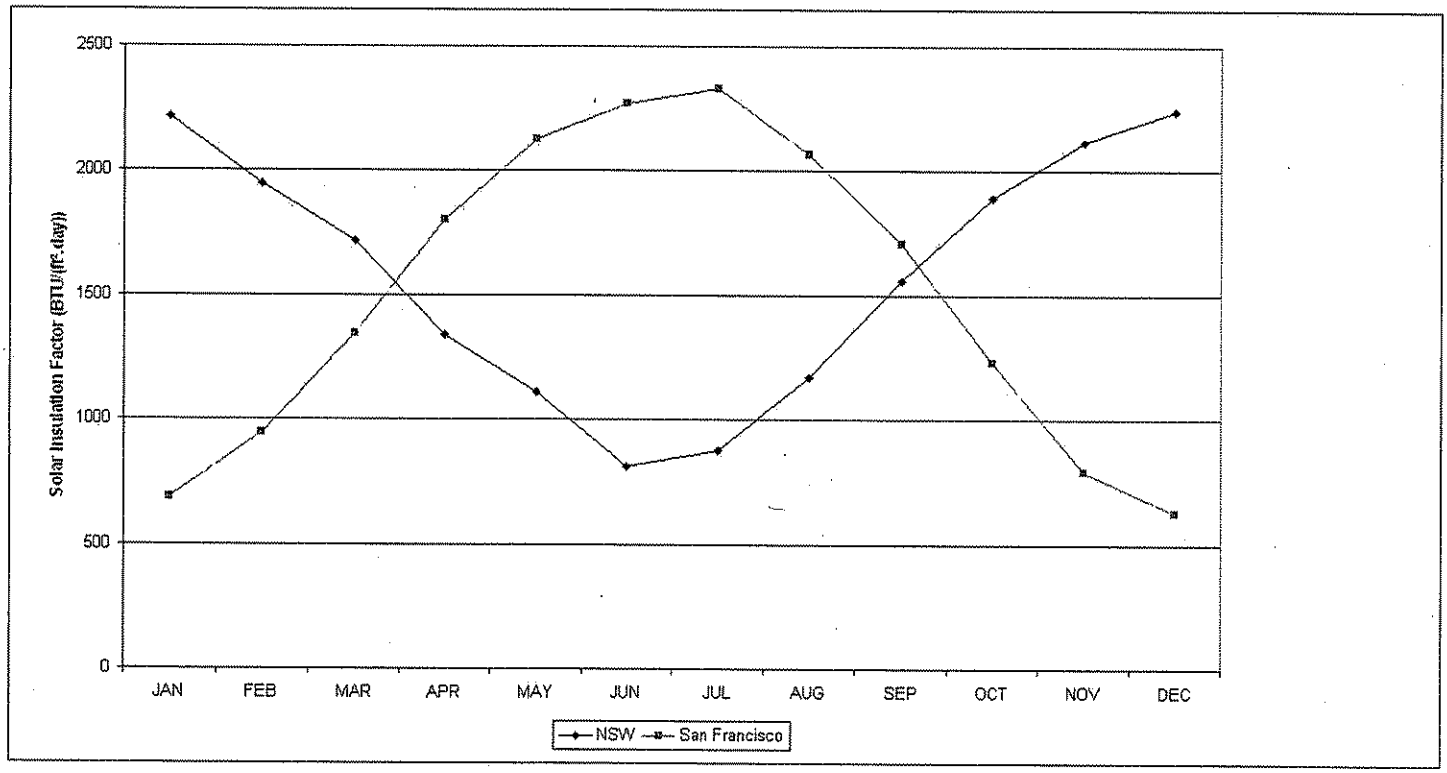

Figure Error! No text of specified style in document.**-2: Difference in Solar Insulation Factor between NSW and San Francisco**

The EPA notes that wind speed is also used in estimated emissions by the TANKs program. However, this information is not presented in the Environmental Assessment's Air Quality Impact Assessment ("AQIA"). It is assumed that San Francisco average wind speed was used in developing the emission estimates.
By using San Francisco meteorological data, maximum emissions from the proposed tanks have been estimated to occur during winter and minimum emission have been estimated to occur in summer. This is the opposite of what would occur. However, as the emissions are from a low volatility liquid, the majority of emissions are from working loss and not from breathing loss.

Using the incorrect meteorological data in TANKS has resulted in incorrect emissions being estimated for the air quality assessment.

The EPA recommends that site specific meteorological data is used to assess the impacts of the proposed facility in a revised air quality assessment.

1.1.3 Assessment of Benzene

The EPA notes that AECOM assessed emissions of benzene from the storage and handling of diesel and biodiesel as this was considered to be the most critical air quality parameter for the assessment. AECOM base this assessment on:

- the liquid concentrations of benzene concentrations for crude oil and petrol.
- the Australian Diesel Fuel Quality Standards a maximum content of polycyclic aromatic hydrocarbons of 11%.

AECOM used an estimated maximum content of benzene in diesel vapour of 11% in the air quality assessment.

This is incorrect, crude oil and petrol are not stored or proposed to be stored on the site. The composition of petrol and crude oil are significantly different to the composition of diesel. The poly aromatic hydrocarbon (PAH) content of diesel in the liquid phase is not a reasonable indicator of benzene concentration in diesel. If diesel could contain so much PAHs, which AECOM note "are typically more toxic", emissions from this toxic group of substances should be assessed.

The EPA notes that diesel typically does not contain or contains only trace amounts of benzene in the liquid or vapour phase. An example of the composition of diesel (vapour phase) has been obtained from B.P. and is as detailed in Table Error! **No text of specified style in document.-1**.

Table Error! No text of specified style in document.**-1: Composition of Diesel Vapour Phase**

Temperature Deg C	15	20	25
Density liquid diesel kg/L	0.7930	0.7894	0.7859
Density vapour (inc. air) g/L	1.187	1.168	1.149
Concentration of HC in vapour g/L	0.00237	0.00327	0.00445
Composition %w/w			
UNDECANE	0.26	0.28	0.30
DODECANE	0.75	0.83	0.91
TRIDECANE	0.48	0.55	0.62
TETRADECANE	0.34	0.40	0.48
PENTADECANE	0.12	0.14	0.17
HEXADECANE	0.02	0.03	0.04
HEPTADECANE	0.01	0.01	0.02
OCTADECANE	0.00	0.00	0.00
NONADECANE	0.00	0.00	0.00
EICOSANE	0.00	0.00	0.00
TOLUENE	2.95	2.77	2.60
ETHYLBENZENE	0.61	0.59	0.57
M-XYLENE	4.47	4.33	4.20
O-XYLENE	4.82	4.70	4.58
CUMENE	5.10	5.04	4.99
PROPYLBENZENE	6.16	6.13	6.10
3-ETHYLTOLUENE	12.05	12.00	11.95
4-ETHYLTOLUENE	19.88	19.77	19.66
2-ETHYLTOLUENE	10.30	10.31	10.32
1,3,5-TRIMETHYLBENZENE	10.48	10.56	10.63
1,2,4-TRIMETHYLBENZENE	7.45	7.53	7.60
1,2,3-TRIMETHYLBENZENE	13.76	14.02	14.26

Also, the National Pollutant Inventory (NPI) published compositional values for the liquid phase of diesel indicating that the typical concentration of benzene in the liquid phase of diesel was 0.0008% (i.e. trace amounts found in diesel). Based on the vapour phase composition presented in Table Error! **No text of specified style in document.-1**, the most critical substance to air quality impacts from emissions of diesel vapour is cumene as shown in Table Error! **No text of specified style in document.-2**.

Table Error! No text of specified style in document.**-2: Assessment of Emissions of Impact Assessment Criterion**

Substance	Impact Assessment Criterion (mg/m^3 - 1 hour)	Estimated Emissions (kg/year)	Estimated Emissions (g/second)	Indicator
Benzene	0.029	0	0	0
Cumene	0.021	124.899	0.0040	1.0000
Ethylbenzene	8	14.9389	0.0005	0.0003
Trimethylbenzenes (all isomers)	2.2	776.0881	0.0246	0.0593
Toluene	0.36	72.2455	0.0023	0.0337
Xylenes (all isomers)	0.19	227.5121	0.0072	0.2013

The EPA recommends that the air quality assessment is revised to account for toxic substances that are expected to be released from the storage and handling of diesel.

1.2 Unaccounted for Air Pollution Sources

1.2.1 Combustion in ships (auxiliary boiler and auxiliary engine)

The most significant unaccounted air pollution source that has been identified is combustion sources from ships.

The Environmental Assessment quotes between eight (see page ii) and fifteen (see the greenhouse assessment) ships per year. It is quoted that unloading takes 36 hours per ship and fuel consumption rates are 36 tonnes per day. The EPA has assumed that the fuel consumption figure quoted in the greenhouse gas assessment is for ocean going travel (i.e. maximum main engine load). During unloading of fuel, typically only the auxiliary engine and auxiliary boiler are operating. These engines are typically total 16% of the total power across all engines in a bulk carrier. Therefore, it could be estimated (using a screening level assessment approach) that the maximum fuel consumption while in port is 0.16 * 36 tonnes per day or 5.8 tonnes per day. If a load factor reduction is incorporating into the fuel consumption estimate to account for the auxiliary engine and auxiliary boiler being at close to 13% full load (taking the average for Newcastle port in "hotel" operating mode), the fuel consumption while a ship is in port is estimated to be approximately 1 tonne per day.

Table Error! No text of specified style in document.**-3: Typical engine size for a bulk carrier**

Ship type	Main engine (kW)	Auxiliary engine (kW)	Auxiliary boiler (kW)
Bulk Carrier	10,163	1,812	132

Therefore, using a screening methodology approach the total amount of additional fuel combusted by ships less than 1 kilometre from the location of the tanks and approximately 1 km from sensitive receptors is between 24 and 130 tonnes per year and the maximum fuel consumption over a day is 5.8 tonnes per day. Combustion emissions from ships include the following air pollutants:

- OXIDES OF NITROGEN
- NITRIC OXIDE
- NITROGEN DIOXIDE
- AMMONIA (TOTAL)
- SULFUR DIOXIDE
- TOTAL SUSPENDED PARTICULATES (TSP)
- PARTICULATE MATTER 10µm
- PARTICULATE MATTER 2.5µm
- TOTAL VOCS (AND INDIVIDUAL ORGANIC TOXICS (PRODUCTS OF INCOMPLETE COMBUSTION))
- CARBON MONOXIDE
- POLYCYCLIC AROMATIC HYDROCARBONS
- POLYCHLORINATED DIOXINS AND FURANS
- LEAD & COMPOUNDS
- CADMIUM & COMPOUNDS
- MERCURY & COMPOUNDS
- ARSENIC & COMPOUNDS
- CHROMIUM (III) COMPOUNDS

- CHROMIUM (VI) COMPOUNDS
- COPPER & COMPOUNDS
- NICKEL & COMPOUNDS
- SELENIUM & COMPOUNDS
- ZINC & COMPOUNDS
- VANADIUM & COMPOUNDS

Additional combustion emissions in the area will add to an already constrained airshed and an assessment has not been made on the impact this proposed facility will have on the air environment of these pollutants.

The EPA recommends that the impact of combustion from ships using the proposed facility is included in the revised air quality assessment. The air quality assessment should include an assessment of cumulative impacts for relevant pollutants.

1.2.2 Combustion from Trucks distributing Fuel from the Facility

The air quality assessment also does not include combustion emissions from trucks loading fuel from the facility. This is an additional air emission source in the area, due to the proposed facility. Air pollutants released from diesel combustion in trucks are similar to the combustion emissions from ships.

ATASU recommend that the revised air quality assessment includes the additional combustion emissions from trucks using the facility.

2. NOISE AND VIBRATION ASSESSMENT

The EPA has reviewed the '*Marstel Bulk Fuel Facility - Noise and Vibration Impact Assessment*' (NVIA) prepared by AECOM dated 5 August 2011 that forms part of the EA. The EPA has the following comments on the NVIA and EA.

- The ambient noise monitoring results in Section 2.2 of the NVIA are taken from a report prepared by Spectrum Acoustics in 2008, which in turn refers to noise monitoring results from a report prepared by Heggies Australia in 2006. A brief summary of the results is presented in Table 2 of the NVIA, however no noise logger charts or attended noise monitoring results are included. The results of the Spectrum Acoustics report should have been reproduced in the NVIA as they form the basis for the assessment. In order to support and increase confidence in the results presented in Table 2 , they should have been supplemented by other noise monitoring data from other studies undertaken in the locality, and/or from fresh monitoring undertaken by AECOM for this project. In the context of the changing land uses in the locality over time, this would help to establish whether the measured noise levels in Table 2 are still representative of the ambient noise environment in 2011, and the character and contributions of ambient noise sources in the area.

- Table 4 of the NVIA states that the daytime noise management levels are Rating Background Level (RBL) +15 dB. The EPA considers that this should have been the RBL+10 dB.

- NAU notes that construction and operational vibration levels from the site are not expected to raise any issues due to the large distance (900m) to the nearest sensitive receivers.

- The intrusive noise criteria in Table 6 of the NVIA should show an adjusted RBL of 46 dB(A) and intrusive criterion of 51 dB(A) for Mayfield during the evening period, as per the EPA's Industrial

Noise Policy (INP) application note relating to when RBLs for the evening and night are higher than for daytime.

- Table 8 of the NVIA summarising operational noise criteria should also be adjusted as per the point above, and the controlling Project Specific Noise Levels clearly identified.

- Section 4.3.1 of the NVIA states that the 'existing ambient noise levels' in Table 2 (from all sources) exceed the road traffic noise criteria in Table 11. No information regarding the relative levels of road traffic noise versus other ambient noise are provided to support the implicit assumption that the ambient Leq in Table 2 is dominated by road traffic noise. Further information should have been provided to support this assumption prior to applying the 2 dB allowance criterion.

- The NVIA also states in Section 4.3.1 that the proposed access route will generate less than 40 vehicle movements per day from operational activities. This statement is at odds with the adopted vehicle movements of 56 per day in 2012 and 108 movements per day in 2016 quoted in Section 6.6 of the NVIA. The further statement in Section 4.3.1 that 'it is considered unlikely' the proposed <40 operational vehicle movements would exceed the applicable noise criteria on Industrial Drive is clouded by the next statement relating to construction traffic. The traffic noise mitigation and management measures discussed in Section 4.3.1, which purports to relate to criteria, would also have been better placed in Section 7.0. NAU considers that the construction and operational traffic noise criteria and assessment sections should have been reviewed and revised as necessary to clarify traffic criteria, volumes and predicted impacts.

- Section 5.1 of the NVIA states, in the paragraph preceding Table 12, that construction outside standard hours may be undertaken when 'a task is near completion close to 6.00pm...so that the overall construction works can be carried out in minimal time' with the intent to 'shorten the overall length of the noise exposure to nearby receiver locations'. The EPA considers that any out of hours construction works should be subject to the requirements of Section 2.3 of the Interim Construction Noise Guideline.

- Section 5.2.2 of the NVIA identifies two truck movements per hour (22 per day for a 7am – 6pm day) in the construction noise assessment. This figure needs to be reconciled with the <40 vehicles per day in Section 3.3.

- The construction criteria for standard hours in Table 14 of the NVIA should have been reviewed in the light of any revisions to Table 4. Predicted noise levels for any out-of-hours works should also be provided.

- Section 6.1 should have identified the presence or absence of any tonal noise characteristics, and associated INP penalties, for equipment operating at the site.

- Section 6.2.2 adopts a prevailing wind of 3m/s from the north-west as representing a worst case assessment for sensitive receivers at Carrington. No further assessment of prevailing winds is presented. The NVIA should have explained why a prevailing wind from the north-east had not also been adopted as representing a worst case assessment for the closer sensitive receivers at Mayfield.

- The modelled operational scenario for amenity in Section 6.2.3 states two truck movements per hour were included; this should perhaps have been revised to three movements per hour in line with Section 6.1.3.

- Table 19 shows predicted noise levels for a worst case north-west wind as being identical to those in the column for a Class F temperature inversion. The EPA considers this is possibly in error.

- Section 6.4 includes an assessment of a reversing beeper in regard to sleep disturbance impacts. Any penalty associated with tonality should also have been included in this assessment.

- It is unclear if in Table 20, the result for reversing alarms (column 5) also includes the contribution from equipment excluding reversing alarms (column 3). If it does, it is unclear why the reversing alarm result for receivers R9 and R10 are 5 dB and 9 dB lower than the equivalent results excluding reversing alarms.

- It is assumed that the traffic counts for Industrial Drive in Table 23 are AADTs and that the entry for 1998 of 2954 is in error.

- The traffic noise levels in the Spectrum Acoustics report should have been reproduced in the NVIA as part of Table 24 to show existing and predicted (with project) levels.

- The Statement of Commitments relating to noise on Table 44 of the EA contains a rather cryptic entry. The EPA recommends that statement be removed and replaced with a commitment that the noise and vibration mitigation and management strategies detailed in Section 7.0 of the NVIA, as well as the entries in the last paragraph of Section 4.3.1 will be adopted and implemented.

Environment Protection Authority
December 2011

Appendix B

Climate and Meteorological Data

Appendix B Climate and Meteorological Data

The long-term climate averages recorded at the BOM station at Williamtown between 1942 and 2010 are shown in **Table A1**.

Table A.1 – Long Term Climate Averages, BOM Williamtown (1942-2010)

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Temperature													
Mean maximum temperature (°C)	28.0	27.5	26.2	23.6	20.3	17.6	17.0	18.6	21.3	23.6	25.4	27.2	23.0
Mean minimum temperature (°C)	18.0	18.1	16.3	13.2	10.1	7.9	6.4	6.8	9.1	12.0	14.3	16.5	12.4
Rainfall													
Mean rainfall (mm)	97.9	121.7	121.1	104.5	114.5	121.4	72.3	75.8	60.1	74.5	81.0	79.9	1122.4
Mean number of days of rain ≥ 1 mm	7.2	7.3	8.2	7.3	8.0	8.1	6.4	6.2	5.7	7.4	7.4	7.0	86.2
9 am Conditions													
Mean 9am temperature (°C)	23	22.5	21.2	18.2	14.3	11.6	10.5	12.2	15.7	18.8	20.5	22.2	17.6
Mean 9am relative humidity (%)	72	76	77	76	79	80	77	71	66	64	66	68	73
Mean 9am wind speed (km/h)	11.9	10.6	10.2	11.4	13.7	15.9	16.4	16.8	15.3	14.4	14.4	12.9	13.7
3 pm Conditions													
Mean 3pm temperature (°C)	26.5	26.1	24.9	22.5	19.3	16.8	16.2	17.6	20	21.9	23.8	25.6	21.8
Mean 3pm relative humidity (%)	59	62	61	59	60	60	55	50	50	54	55	56	57
Mean 3pm wind speed (km/h)	21.9	20.6	18.9	17.2	15.8	17.5	18.7	20.9	22	22.5	23.5	23.5	20.2

Wind rose diagrams of the meteorological data measured at the Newcastle OEH monitoring station in 2009 are shown in below. The wind roses show the frequency of occurrence of winds by direction and strength. Each wind rose arm represents a wind blowing from the direction it is projected i.e. arm pointing up represents northerly winds. The length of the bar represents the frequency of occurrence of winds from that direction, and wind speed categories are defined by different colours.

As shown in **Figure A1**, the winds for the Newcastle area are generally dominated by winds from the northwest/ southeast axis. These patterns are confirmed by wind roses prepared for the Bureau of Meteorology (BOM) station at Williamtown, with some minor variations most likely due to different topography (**Figures A2** and **A3**).

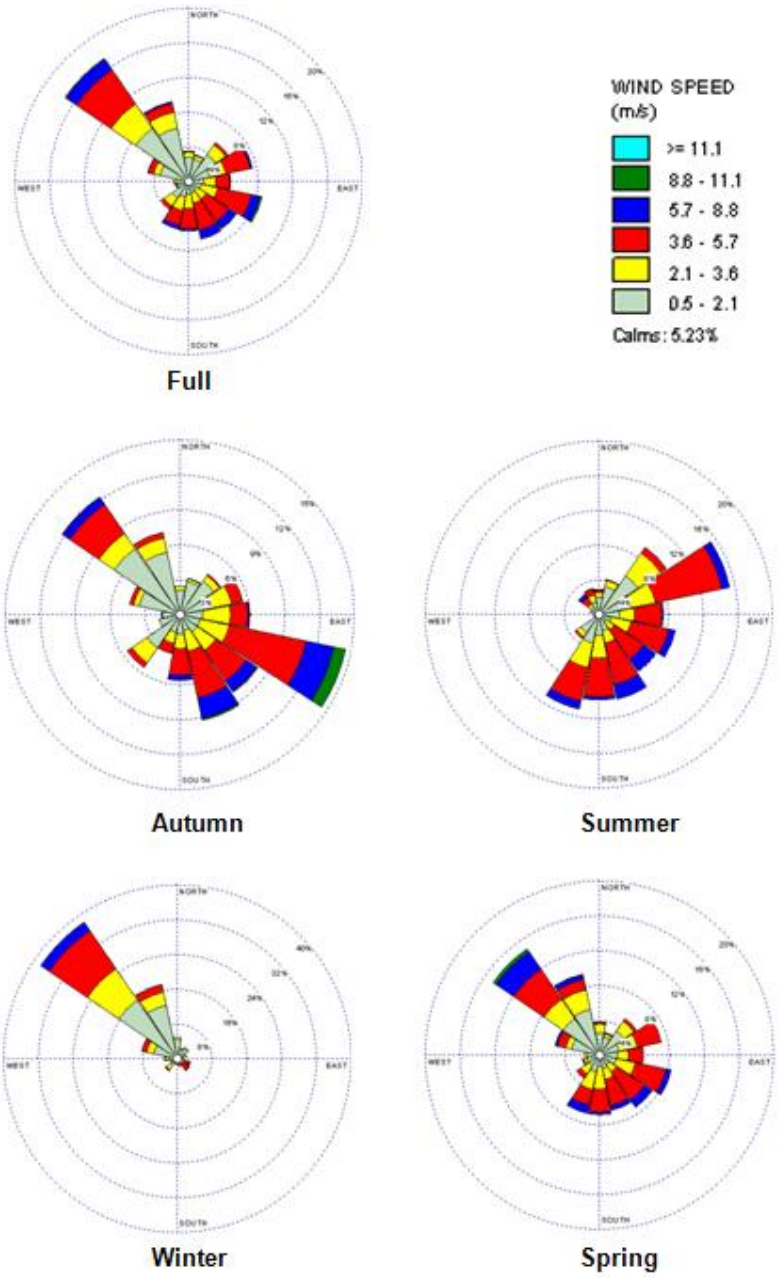

Figure A1: Full Year and Seasonal Wind Roses – Newcastle OEH Monitoring Station, 2009

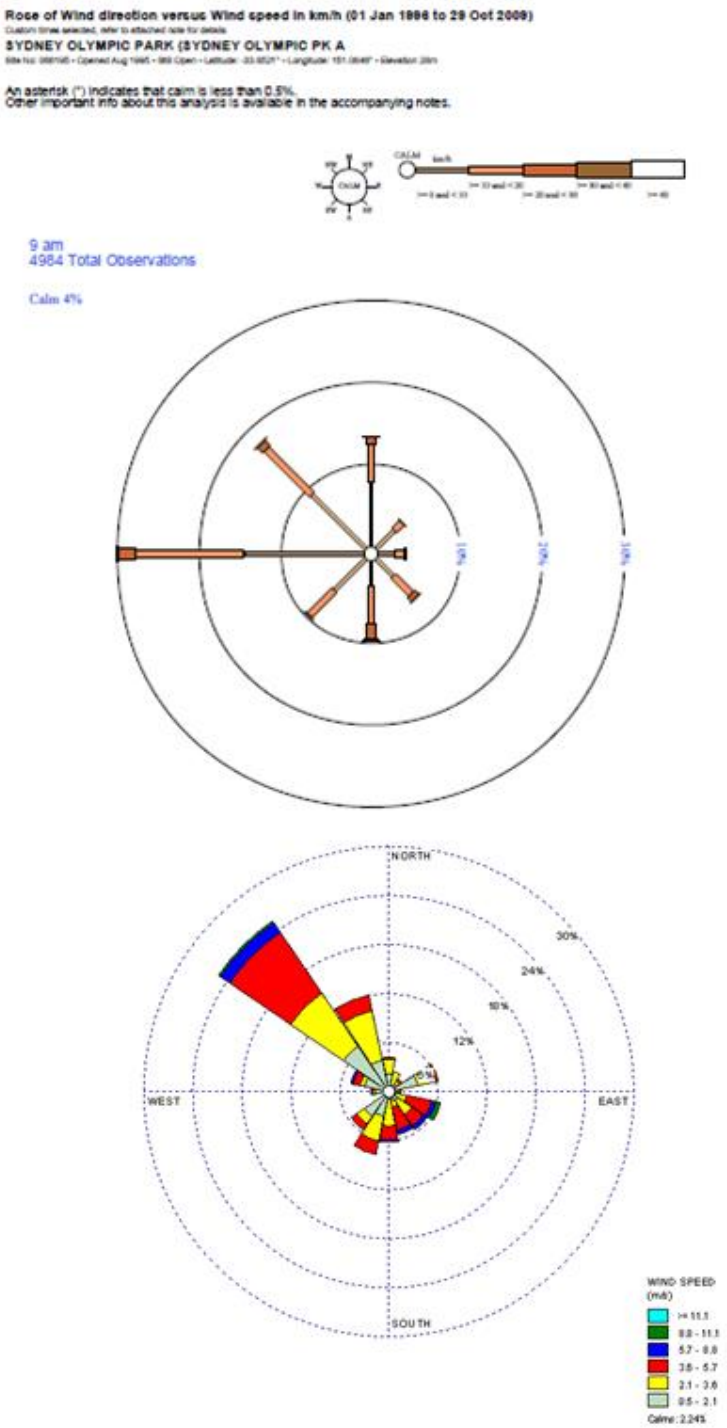

Figure A2: 9 am Wind Roses – Williamtown (top; 1998 - 2009) and Newcastle OEH (bottom, 2009).

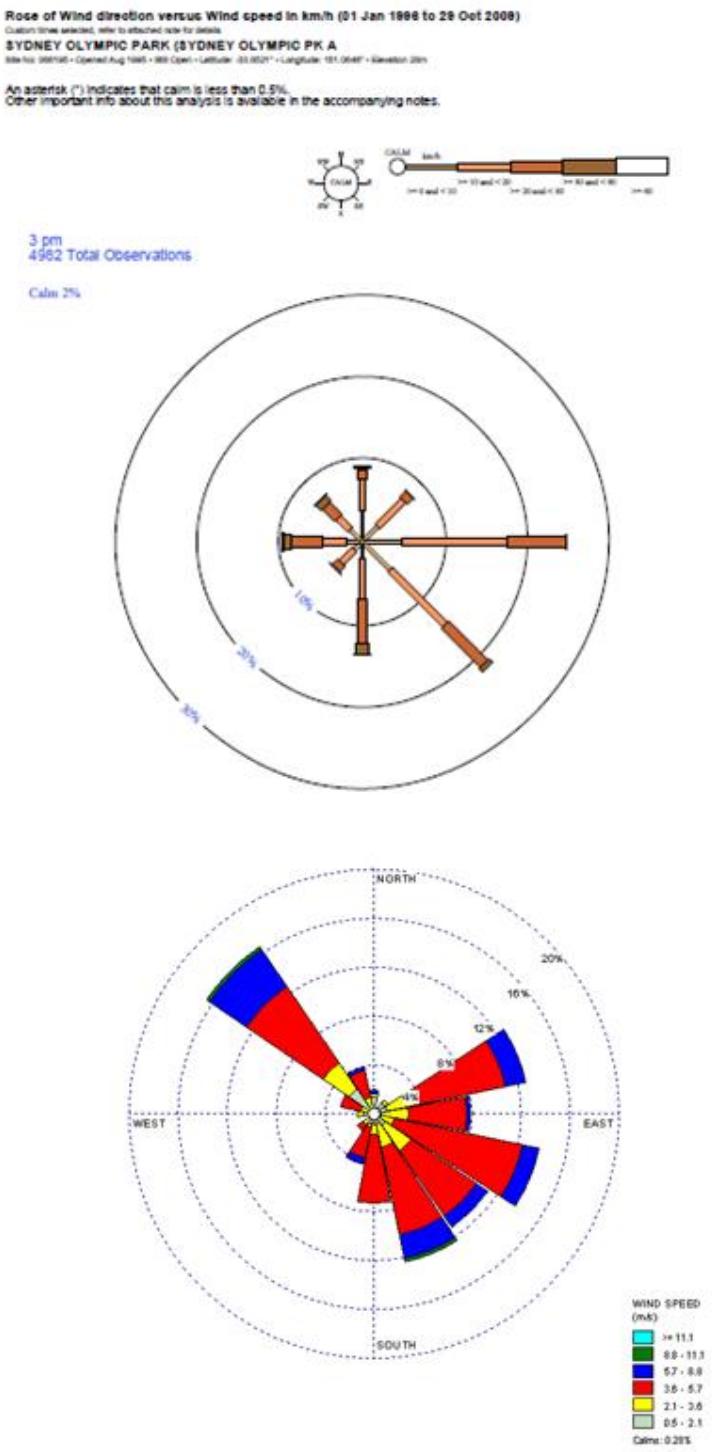

Figure A3: 3 pm Wind Roses – Williamtown (top; 1998 - 2009) and Newcastle OEH (bottom, 2009).

Wind Speed

The estimated mean wind speed for the year at the Newcastle station is 2.8 m/s with a calm wind (≤ 0.5 m/s) percentage of 4%. The frequency distribution of hourly averaged wind speed values from the Newcastle data is shown in **Figure A4**. Wind speeds up to and including 6 m/s occurred approximately 96 % of the time.

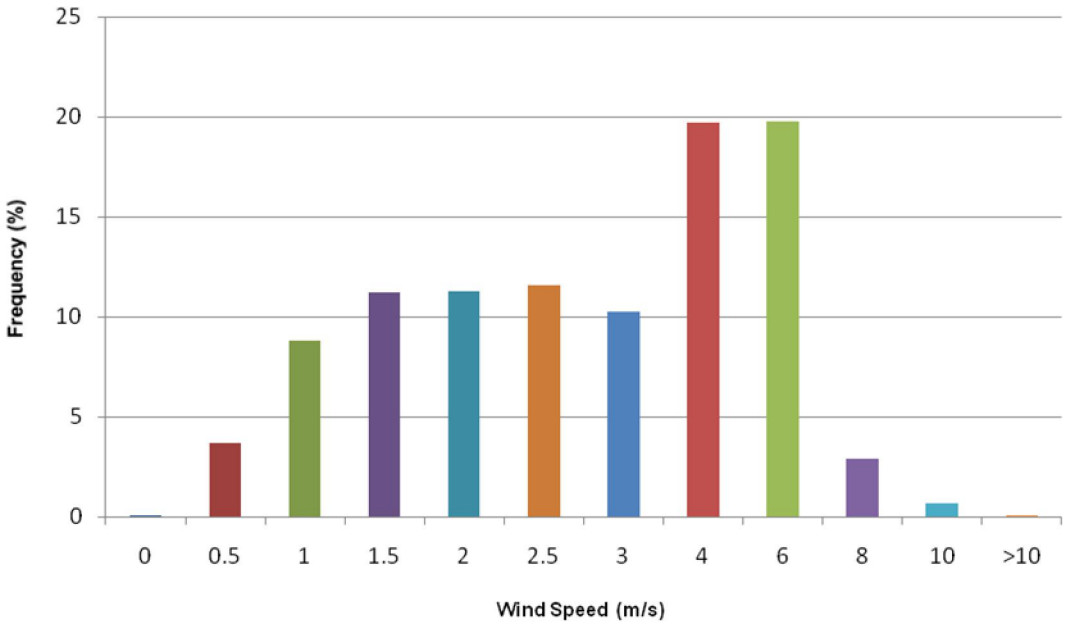

Figure A4: Frequency Distribution of Wind Speed

Stability Class

An important aspect of plume dispersion is the atmospheric turbulence level in the region of the plume (near the ground in this case). Turbulence acts to increase the cross-sectional area of the plume due to random motions, thus diluting or diffusing a plume. For traditional dispersion modelling using Gaussian plume models, categories of atmospheric stability are used in conjunction with other meteorological data to describe atmospheric conditions and thus dispersion.

The most well-known stability classification is the Pasquill-Gifford scheme, which denotes stability classes from A to F. Class A is described as highly unstable and occurs in association with strong surface heating and light winds, leading to intense convective turbulence and much enhanced plume dilution. At the other extreme, class F denotes very stable conditions associated with strong temperature inversions and light winds, which commonly occur under clear skies at night and in the early morning. Under these conditions, plumes can remain relatively undiluted for considerable distances downwind. Intermediate stability classes grade through moderately unstable (B), slightly unstable (C), neutral (D) to slightly stable (E). Whilst classes A and F are strongly associated with clear skies, class D is linked to windy and/or cloudy weather, and short periods around sunset and sunrise when surface heating or cooling is small.

As a general rule, unstable (or convective) conditions dominate during the daytime and stable flows are dominant at night. This diurnal pattern is most pronounced when there is relatively little cloud cover and light to moderate winds. The frequency distribution of estimated stability classes in the meteorological file is shown in **Figure A5**. The data show a relatively even spread of classes with a higher trend towards neutral winds. The breakdown of classes was 25 % for A and B (unstable), 47 % for C and D (neutral) and 28 % for E and F (stable) class.

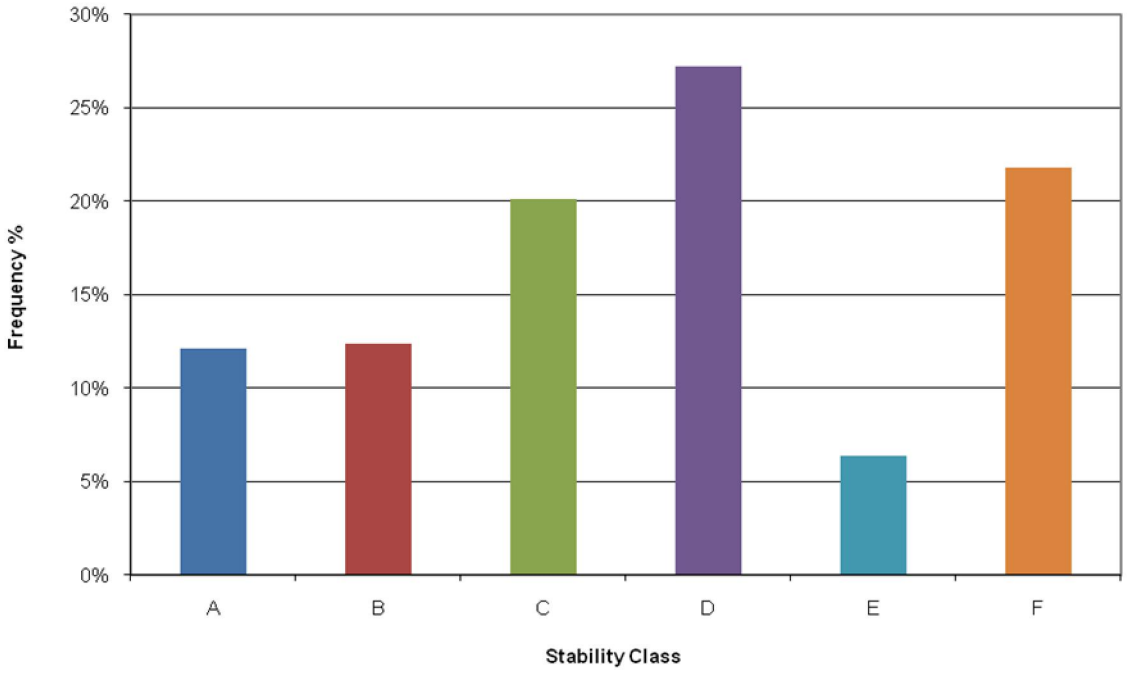

Figure A5: Frequency Distribution of Stability Class

Mixing Height

Mixing height is the depth of the atmospheric surface layer beneath an elevated temperature inversion. It is an important parameter within air pollution meteorology. Vertical diffusion or mixing of a plume is generally considered to be limited by the mixing height, as the air above this layer tends to be stable, with restricted vertical motions.

The diurnal variation of mixing height for the predicted data is summarised in **Figure A6**. The average mixing heights are lower during the night and early morning hours (< 2000 m), increasing after sunrise to an average of around 4000 m by mid-afternoon. This pattern of a diurnal cycle is consistent with expectations.

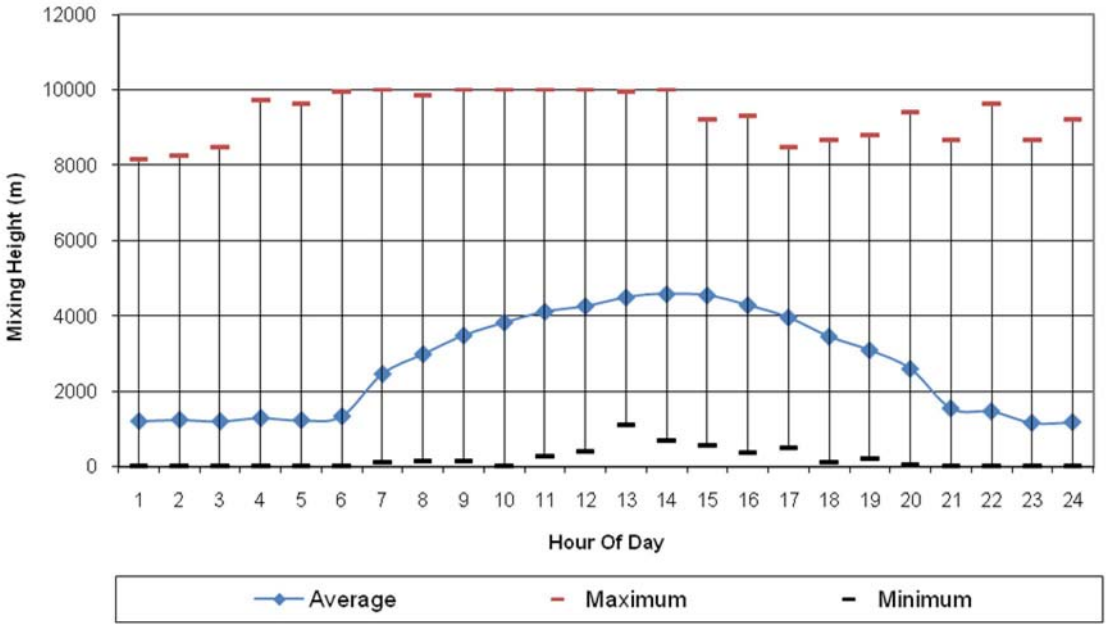

Figure A6: Hourly Mixing Height

Air Temperature

Figure A7 shows the hourly average temperature follows the expected daily diurnal cycle.

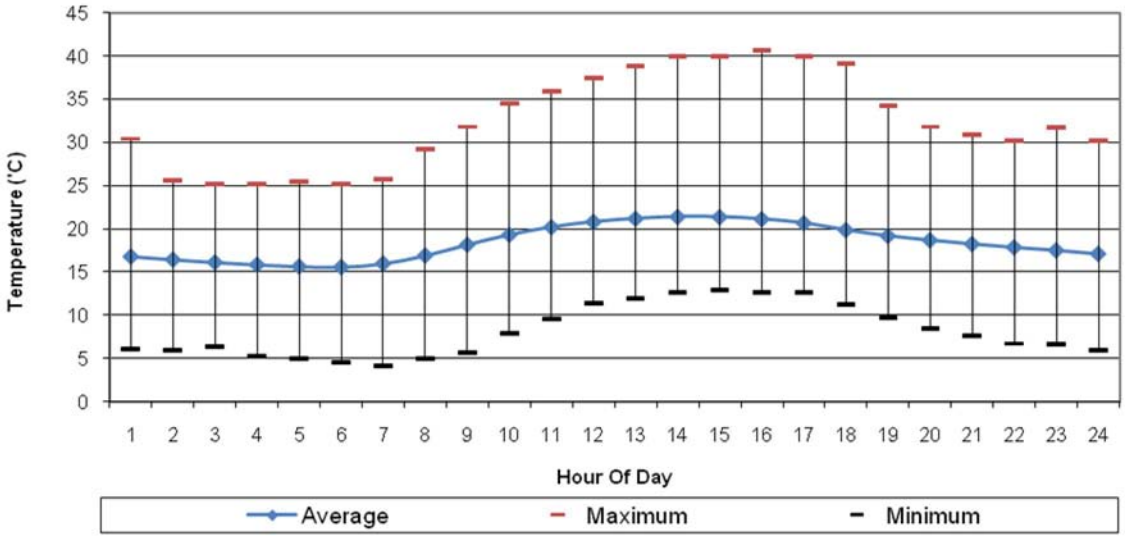

Figure A7: Hourly Temperature Values

Figure A8 shows a comparison between the yearly average temperatures for the long term BOM Williamtown data and the Newcastle OEH 2009 data. The data show a good comparison between the two sites, suggesting that the 2009 data are a good representation of the regional climate.

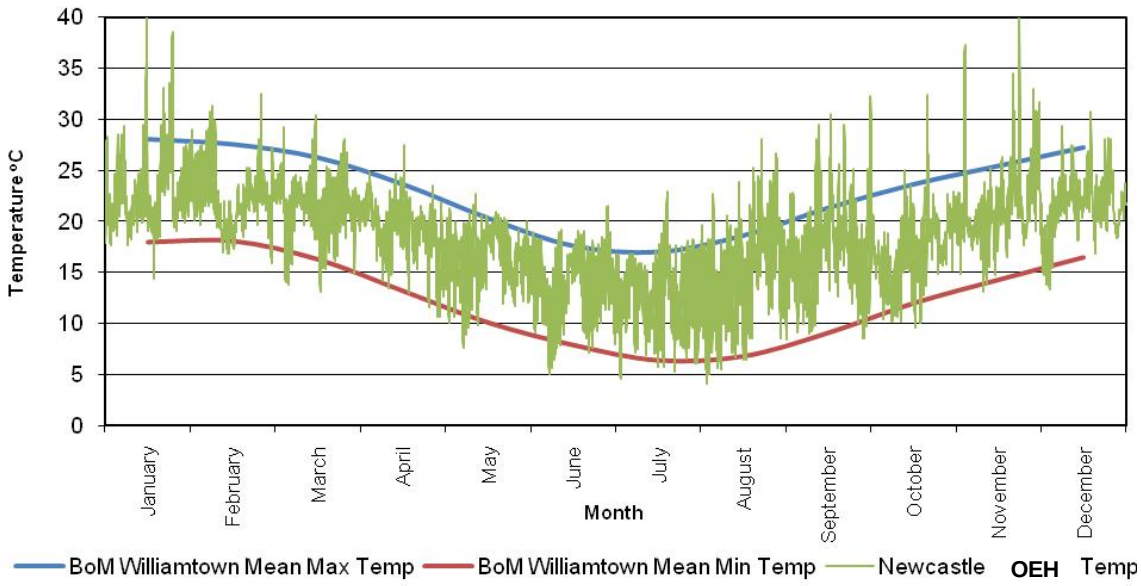

Figure A8: Yearly Temperature Comparison of BOM and OEH Data

Appendix C

AUSPLUME Input File

1

Marstel AQIA 3 February 2012 - Cumene - Corrected EFs

Concentration or deposition	Concentration
Emission rate units	grams/second
Concentration units	microgram/m3
Units conversion factor	1.00E+06
Constant background concentration	0.00E+00
Terrain effects	None
Smooth stability class changes?	No
Other stability class adjustments ("urban modes")	None
Ignore building wake effects?	No
Decay coefficient (unless overridden by met. file)	0.000
Anemometer height	10 m
Roughness height at the wind vane site	0.300 m
Averaging time for sigma-theta values	60 min.

DISPERSION CURVES

Horizontal dispersion curves for sources <100m high	Sigma-theta
Vertical dispersion curves for sources <100m high	Pasquill-Gifford
Horizontal dispersion curves for sources >100m high	Briggs Rural
Vertical dispersion curves for sources >100m high	Briggs Rural
Enhance horizontal plume spreads for buoyancy?	Yes
Enhance vertical plume spreads for buoyancy?	Yes
Adjust horizontal P-G formulae for roughness height?	Yes
Adjust vertical P-G formulae for roughness height?	Yes
Roughness height	0.400m
Adjustment for wind directional shear	None

PLUME RISE OPTIONS

Gradual plume rise?	Yes
Stack-tip downwash included?	Yes
Building downwash algorithm:	PRIME method.
Entrainment coeff. for neutral & stable lapse rates	0.60,0.60
Partial penetration of elevated inversions?	No
Disregard temp. gradients in the hourly met. file?	No

and in the absence of boundary-layer potential temperature gradients given by the hourly met. file, a value from the following table (in K/m) is used:

Wind Speed Category	Stability Class A	B	C	D	E	F
1	0.000	0.000	0.000	0.000	0.020	0.035
2	0.000	0.000	0.000	0.000	0.020	0.035
3	0.000	0.000	0.000	0.000	0.020	0.035
4	0.000	0.000	0.000	0.000	0.020	0.035
5	0.000	0.000	0.000	0.000	0.020	0.035
6	0.000	0.000	0.000	0.000	0.020	0.035

WIND SPEED CATEGORIES
Boundaries between categories (in m/s) are: 1.54, 3.09, 5.14, 8.23, 10.80

WIND PROFILE EXPONENTS: "Irwin Urban" values (unless overridden by met. file)

AVERAGING TIMES
1 hour

STACK SOURCE: TFS

X(m)	Y(m)	Ground Elev.	Stack Height	Diameter	Temperature	Speed
383719	6360311	0m	15m	0.30m	25C	15.0m/s

Effective building dimensions (in metres)

Flow direction	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°	120°
Effective building width	0	0	0	35	33	31	32	33	33	32	31	38
Effective building height	0	0	0	18	18	18	18	18	18	18	18	18
Along-flow building length	0	0	0	35	35	34	32	29	31	34	35	129
Along-flow distance from stack	0	0	0	-52	-55	-56	-56	-54	-54	-53	-50	-139
Across-flow distance from stack	0	0	0	22	16	9	2	-6	-13	-19	-25	-27

Flow direction	130°	140°	150°	160°	170°	180°	190°	200°	210°	220°	230°	240°
Effective building width	49	0	0	0	0	0	0	0	0	35	33	31
Effective building height	12	0	0	0	0	0	0	0	0	18	18	18
Along-flow building length	35	0	0	0	0	0	0	0	0	35	35	34
Along-flow distance from stack	-39	0	0	0	0	0	0	0	0	17	20	23
Across-flow distance from stack	-27	0	0	0	0	0	0	0	0	-22	-16	-9

Flow direction	250°	260°	270°	280°	290°	300°	310°	320°	330°	340°	350°	360°
Effective building width	32	33	33	33	32	38	49	0	0	0	0	0
Effective building height	18	18	18	18	18	18	12	0	0	0	0	0
Along-flow building length	32	29	31	34	35	129	35	0	0	0	0	0
Along-flow distance from stack	25	26	23	19	15	10	5	0	0	0	0	0
Across-flow distance from stack	-2	6	13	19	24	28	27	0	0	0	0	0

(Constant) emission rate = 2.87E-02 grams/second
No gravitational settling or scavenging.

VOLUME SOURCE: D1

X(m)	Y(m)	Ground Elevation	Height	Hor. spread	Vert. spread
383602	6360349	0m	18m	9m	8m

(Constant) emission rate = 2.87E-03 grams/second
No gravitational settling or scavenging.

VOLUME SOURCE: D2

X(m)	Y(m)	Ground Elevation	Height	Hor. spread	Vert. spread
383642	6360324	0m	18m	9m	8m

(Constant) emission rate = 2.87E-03 grams/second
No gravitational settling or scavenging.

VOLUME SOURCE: D3

X(m)	Y(m)	Ground Elevation	Height	Hor. spread	Vert. spread
383680	6360298	0m	18m	9m	8m

(Constant) emission rate = 2.87E-03 grams/second
No gravitational settling or scavenging.

VOLUME SOURCE: BD1

X(m)	Y(m)	Ground Elevation	Height	Hor. spread	Vert. spread
383698	6360323	0m	12m	2m	6m

(Constant) emission rate = 1.60E-04 grams/second
No gravitational settling or scavenging.

1

Marstel AQIA 3 February 2012 - Cumene - Corrected EFs

RECEPTOR LOCATIONS

The Cartesian receptor grid has the following x-values (or eastings):

381090.m 381140.m 381190.m 381240.m 381290.m 381340.m 381390.m
381440.m 381490.m 381540.m 381590.m 381640.m 381690.m 381740.m
381790.m 381840.m 381890.m 381940.m 381990.m 382040.m 382090.m
382140.m 382190.m 382240.m 382290.m 382340.m 382390.m 382440.m
382490.m 382540.m 382590.m 382640.m 382690.m 382740.m 382790.m
382840.m 382890.m 382940.m 382990.m 383040.m 383090.m 383140.m
383190.m 383240.m 383290.m 383340.m 383390.m 383440.m 383490.m
383540.m 383590.m 383640.m 383690.m 383740.m 383790.m 383840.m
383890.m 383940.m 383990.m 384040.m 384090.m 384140.m 384190.m
384240.m 384290.m 384340.m 384390.m 384440.m 384490.m 384540.m
384590.m 384640.m 384690.m 384740.m 384790.m 384840.m 384890.m
384940.m 384990.m 385040.m 385090.m 385140.m 385190.m 385240.m
385290.m 385340.m 385390.m 385440.m 385490.m 385540.m 385590.m
385640.m 385690.m 385740.m 385790.m 385840.m 385890.m 385940.m
385990.m 386040.m 386090.m

and these y-values (or northings):

6358315.m 6358365.m 6358415.m 6358465.m 6358515.m 6358565.m 6358615.m
6358665.m 6358715.m 6358765.m 6358815.m 6358865.m 6358915.m 6358965.m
6359015.m 6359065.m 6359115.m 6359165.m 6359215.m 6359265.m 6359315.m
6359365.m 6359415.m 6359465.m 6359515.m 6359565.m 6359615.m 6359665.m
6359715.m 6359765.m 6359815.m 6359865.m 6359915.m 6359965.m 6360015.m
6360065.m 6360115.m 6360165.m 6360215.m 6360265.m 6360315.m 6360365.m
6360415.m 6360465.m 6360515.m 6360565.m 6360615.m 6360665.m 6360715.m
6360765.m 6360815.m 6360865.m 6360915.m 6360965.m 6361015.m 6361065.m
6361115.m 6361165.m 6361215.m 6361265.m 6361315.m 6361365.m 6361415.m
6361465.m 6361515.m 6361565.m 6361615.m 6361665.m 6361715.m 6361765.m
6361815.m 6361865.m 6361915.m 6361965.m 6362015.m 6362065.m 6362115.m
6362165.m 6362215.m 6362265.m 6362315.m

DISCRETE RECEPTOR LOCATIONS (in metres)

No.	X	Y	ELEVN	HEIGHT	No.	X	Y	ELEVN	HEIGHT
1	383764	6359312	0.0	0.0	11	382556	6359606	0.0	0.0
2	383284	6360562	0.0	0.0	12	382520	6360016	0.0	0.0
3	383463	6359379	0.0	0.0	13	382100	6360170	0.0	0.0
4	383257	6359487	0.0	0.0	14	381998	6360356	0.0	0.0
5	383122	6359676	0.0	0.0	15	384535	6360622	0.0	0.0

6	382896	6359734	0.0	0.0	16	385055	6360439	0.0	0.0
7	382693	6359982	0.0	0.0	17	385314	6359768	0.0	0.0
8	383385	6359057	0.0	0.0	18	383477	6360349	0.0	0.0
9	383004	6359120	0.0	0.0	19	383443	6360198	0.0	0.0
10	382888	6359545	0.0	0.0					

METEOROLOGICAL DATA : Metdata Newcastle DECCW Site 2009

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1 Peak values for the 100 worst cases (in microgram/m3)
Averaging time = 1 hour

Rank	Value	Time Recorded hour,date	Coordinates (* denotes polar)
1	1.81E+01	04,11/12/09	(383990, 6360365, 0.0)
2	1.78E+01	04,27/11/09	(383990, 6360315, 0.0)
3	1.75E+01	24,07/01/09	(383940, 6360465, 0.0)
4	1.69E+01	24,15/09/09	(383990, 6360415, 0.0)
5	1.68E+01	18,05/08/09	(383640, 6360315, 0.0)
6	1.67E+01	04,20/03/09	(383990, 6360415, 0.0)
7	1.64E+01	18,09/08/09	(383640, 6360315, 0.0)
8	1.64E+01	13,07/04/09	(383640, 6360315, 0.0)
9	1.63E+01	04,12/01/09	(383940, 6360465, 0.0)
10	1.63E+01	05,06/01/09	(383940, 6360365, 0.0)
11	1.63E+01	01,06/04/09	(383990, 6360415, 0.0)
12	1.63E+01	03,11/11/09	(383990, 6360365, 0.0)
13	1.59E+01	18,15/08/09	(383640, 6360315, 0.0)
14	1.59E+01	01,14/10/09	(383990, 6360315, 0.0)
15	1.58E+01	02,29/01/09	(383940, 6360415, 0.0)
16	1.57E+01	02,19/09/09	(383990, 6360315, 0.0)
17	1.56E+01	15,11/07/09	(383640, 6360315, 0.0)
18	1.56E+01	24,16/04/09	(383990, 6360315, 0.0)
19	1.55E+01	02,13/12/09	(383940, 6360465, 0.0)
20	1.55E+01	20,15/10/09	(383940, 6360365, 0.0)
21	1.54E+01	02,19/10/09	(383990, 6360365, 0.0)
22	1.54E+01	02,08/04/09	(383990, 6360365, 0.0)
23	1.53E+01	02,19/12/09	(383990, 6360315, 0.0)
24	1.53E+01	24,07/03/09	(383890, 6360465, 0.0)
25	1.53E+01	01,17/03/09	(383990, 6360315, 0.0)
26	1.51E+01	05,22/03/09	(383990, 6360365, 0.0)
27	1.51E+01	04,06/01/09	(383940, 6360465, 0.0)
28	1.51E+01	07,21/02/09	(383640, 6360315, 0.0)
29	1.51E+01	05,23/10/09	(383990, 6360315, 0.0)
30	1.49E+01	02,22/11/09	(383890, 6360465, 0.0)
31	1.48E+01	20,12/08/09	(383990, 6360315, 0.0)
32	1.48E+01	22,10/04/09	(383890, 6360465, 0.0)
33	1.47E+01	03,07/03/09	(383940, 6360415, 0.0)
34	1.47E+01	04,03/10/09	(383990, 6360365, 0.0)
35	1.47E+01	01,05/10/09	(383990, 6360365, 0.0)
36	1.47E+01	08,20/03/09	(383640, 6360315, 0.0)
37	1.47E+01	05,03/10/09	(383990, 6360365, 0.0)
38	1.47E+01	03,30/11/09	(383990, 6360415, 0.0)
39	1.47E+01	03,06/04/09	(383940, 6360465, 0.0)
40	1.46E+01	23,04/03/09	(383940, 6360365, 0.0)
41	1.46E+01	22,16/03/09	(383940, 6360365, 0.0)
42	1.45E+01	01,28/05/09	(383990, 6360415, 0.0)
43	1.45E+01	24,24/09/09	(383990, 6360315, 0.0)
44	1.45E+01	03,22/11/09	(383990, 6360365, 0.0)
45	1.44E+01	02,06/04/09	(383940, 6360415, 0.0)
46	1.44E+01	18,11/07/09	(383640, 6360265, 0.0)
47	1.44E+01	21,13/08/09	(383990, 6360315, 0.0)
48	1.44E+01	22,24/09/09	(383990, 6360415, 0.0)
49	1.44E+01	22,27/05/09	(383990, 6360365, 0.0)
50	1.44E+01	17,13/08/09	(383640, 6360315, 0.0)

51	1.44E+01	01,10/05/09	(383990,	6360415,	0.0)
52	1.44E+01	01,30/09/09	(383990,	6360365,	0.0)
53	1.43E+01	24,09/05/09	(383990,	6360415,	0.0)
54	1.43E+01	19,05/08/09	(383590,	6360365,	0.0)
55	1.42E+01	03,03/11/09	(383940,	6360365,	0.0)
56	1.42E+01	21,05/06/09	(383890,	6360165,	0.0)
57	1.42E+01	13,25/05/09	(383640,	6360265,	0.0)
58	1.42E+01	21,07/09/09	(383940,	6360365,	0.0)
59	1.41E+01	20,05/09/09	(383940,	6360515,	0.0)
60	1.40E+01	04,25/05/09	(383940,	6360415,	0.0)
61	1.40E+01	04,25/02/09	(383940,	6360465,	0.0)
62	1.39E+01	23,13/11/09	(383990,	6360415,	0.0)
63	1.39E+01	05,19/03/09	(383990,	6360315,	0.0)
64	1.39E+01	04,25/10/09	(383990,	6360415,	0.0)
65	1.39E+01	03,10/11/09	(383990,	6360415,	0.0)
66	1.38E+01	01,03/10/09	(383940,	6360415,	0.0)
67	1.38E+01	24,16/03/09	(383990,	6360315,	0.0)
68	1.37E+01	04,28/12/09	(383890,	6360415,	0.0)
69	1.37E+01	09,03/04/09	(383640,	6360265,	0.0)
70	1.37E+01	21,16/10/09	(383990,	6360365,	0.0)
71	1.36E+01	03,13/12/09	(383990,	6360365,	0.0)
72	1.36E+01	05,02/11/09	(383940,	6360415,	0.0)
73	1.35E+01	07,26/11/09	(383640,	6360265,	0.0)
74	1.35E+01	21,18/08/09	(383590,	6360365,	0.0)
75	1.35E+01	01,27/11/09	(383890,	6360465,	0.0)
76	1.35E+01	12,03/06/09	(383640,	6360265,	0.0)
77	1.34E+01	01,27/03/09	(383940,	6360365,	0.0)
78	1.34E+01	04,19/12/09	(383940,	6360415,	0.0)
79	1.34E+01	07,03/03/09	(383640,	6360265,	0.0)
80	1.34E+01	01,19/12/09	(383940,	6360465,	0.0)
81	1.33E+01	01,18/11/09	(383990,	6360315,	0.0)
82	1.33E+01	05,27/02/09	(383940,	6360465,	0.0)
83	1.33E+01	21,04/10/09	(383590,	6360365,	0.0)
84	1.33E+01	18,29/07/09	(383640,	6360265,	0.0)
85	1.33E+01	24,27/05/09	(383940,	6360365,	0.0)
86	1.33E+01	22,26/05/09	(383890,	6360165,	0.0)
87	1.33E+01	22,14/05/09	(383990,	6360365,	0.0)
88	1.32E+01	21,18/05/09	(383990,	6360365,	0.0)
89	1.31E+01	05,25/02/09	(383940,	6360515,	0.0)
90	1.31E+01	08,21/03/09	(383640,	6360315,	0.0)
91	1.31E+01	09,16/11/09	(383640,	6360315,	0.0)
92	1.30E+01	02,04/06/09	(383990,	6360315,	0.0)
93	1.30E+01	23,06/11/09	(383590,	6360365,	0.0)
94	1.30E+01	18,14/08/09	(383640,	6360315,	0.0)
95	1.30E+01	23,07/08/09	(383990,	6360315,	0.0)
96	1.30E+01	04,12/02/09	(383890,	6360465,	0.0)
97	1.29E+01	16,20/08/09	(383640,	6360265,	0.0)
98	1.29E+01	10,06/02/09	(383640,	6360315,	0.0)
99	1.29E+01	18,10/08/09	(383640,	6360265,	0.0)
100	1.29E+01	20,12/02/09	(383940,	6360515,	0.0)

Appendix D

TANKS Output Files

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Diesel
City:	Newcastle
State:	NSW
Company:	Marstel
Type of Tank:	Vertical Fixed Roof Tank
Description:	Diesel tanks, Marstel

Tank Dimensions

Shell Height (ft):	59.10
Diameter (ft):	124.70
Liquid Height (ft) :	52.05
Avg. Liquid Height (ft):	30.00
Volume (gallons):	4,755,286.84
Turnovers:	4.89
Net Throughput(gal/yr):	23,247,141.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	124.70

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Newcastle, NSW (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Diesel - Vertical Fixed Roof Tank
Newcastle, NSW

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	67.10	53.26	80.94	65.02	0.0083	0.0052	0.0124	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Diesel - Vertical Fixed Roof Tank
Newcastle, NSW

Annual Emission Calcaulations

Standing Losses (lb):	3,318.2458
Vapor Space Volume (cu ft):	459,859.3514
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.1056
Vented Vapor Saturation Factor:	0.9838
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	459,859.3514
Tank Diameter (ft):	124.7000
Vapor Space Outage (ft):	37.6532
Tank Shell Height (ft):	59.1000
Average Liquid Height (ft):	30.0000
Roof Outage (ft):	8.5532
Roof Outage (Dome Roof)	
Roof Outage (ft):	8.5532
Dome Radius (ft):	124.7000
Shell Radius (ft):	62.3500
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0083
Daily Avg. Liquid Surface Temp. (deg. R):	526.7723
Daily Average Ambient Temp. (deg. F):	65.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	524.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,557.0000
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1056
Daily Vapor Temperature Range (deg. R):	55.3633
Daily Vapor Pressure Range (psia):	0.0072
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0083
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0052
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0124
Daily Avg. Liquid Surface Temp. (deg R):	526.7723
Daily Min. Liquid Surface Temp. (deg R):	512.9314
Daily Max. Liquid Surface Temp. (deg R):	540.6131
Daily Ambient Temp. Range (deg. R):	66.6000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9838
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0083
Vapor Space Outage (ft):	37.6532
Working Losses (lb):	595.4717
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0083
Annual Net Throughput (gal/yr.):	23,247,141.0000
Annual Turnovers:	4.8887
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	4,755,286.8361
Maximum Liquid Height (ft):	52.0500
Tank Diameter (ft):	124.7000
Working Loss Product Factor:	1.0000
Total Losses (lb):	3,913.7175

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Diesel - Vertical Fixed Roof Tank
Newcastle, NSW

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	595.47	3,318.25	3,913.72

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Biodiesel
City:	Newcastle
State:	NSW
Company:	Marstel
Type of Tank:	Vertical Fixed Roof Tank
Description:	Marstel biodiesel tank

Tank Dimensions

Shell Height (ft):	39.40
Diameter (ft):	26.20
Liquid Height (ft) :	32.80
Avg. Liquid Height (ft):	20.00
Volume (gallons):	132,281.62
Turnovers:	71.89
Net Throughput(gal/yr):	9,510,194.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft)	0.00
Radius (ft) (Dome Roof)	26.20

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Newcastle, NSW (Avg Atmospheric Pressure = 14.7 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Biodiesel - Vertical Fixed Roof Tank
Newcastle, NSW

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	67.10	53.26	80.94	65.02	0.0083	0.0052	0.0124	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Biodiesel - Vertical Fixed Roof Tank
Newcastle, NSW

Annual Emission Calcaulations

Standing Losses (lb):	79.8391
Vapor Space Volume (cu ft):	11,427.9491
Vapor Density (lb/cu ft):	0.0002
Vapor Space Expansion Factor:	0.1015
Vented Vapor Saturation Factor:	0.9908
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	11,427.9491
Tank Diameter (ft):	26.2000
Vapor Space Outage (ft):	21.1971
Tank Shell Height (ft):	39.4000
Average Liquid Height (ft):	20.0000
Roof Outage (ft):	1.7971
Roof Outage (Dome Roof)	
Roof Outage (ft):	1.7971
Dome Radius (ft):	26.2000
Shell Radius (ft):	13.1000
Vapor Density	
Vapor Density (lb/cu ft):	0.0002
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0083
Daily Avg. Liquid Surface Temp. (deg. R):	526.7723
Daily Average Ambient Temp. (deg. F):	65.0000
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	524.6900
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,557.0000
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1015
Daily Vapor Temperature Range (deg. R):	55.3633
Daily Vapor Pressure Range (psia):	0.0072
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0083
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0052
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0124
Daily Avg. Liquid Surface Temp. (deg R):	526.7723
Daily Min. Liquid Surface Temp. (deg R):	512.9314
Daily Max. Liquid Surface Temp. (deg R):	540.6131
Daily Ambient Temp. Range (deg. R):	66.6000
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9908
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0083
Vapor Space Outage (ft):	21.1971
Working Losses (lb):	142.2515
Vapor Molecular Weight (lb/lb-mole):	130.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0083
Annual Net Throughput (gal/yr.):	9,510,194.0000
Annual Turnovers:	71.8935
Turnover Factor:	0.5840
Maximum Liquid Volume (gal):	132,281.6197
Maximum Liquid Height (ft):	32.8000
Tank Diameter (ft):	26.2000
Working Loss Product Factor:	1.0000
Total Losses (lb):	222.0907

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Biodiesel - Vertical Fixed Roof Tank
Newcastle, NSW

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Distillate fuel oil no. 2	142.25	79.84	222.09

Appendix D

Revised Noise and Vibration Impact Assessment

Appendix D Revised Noise and Vibration Impact Assessment

Newcastle Ports Corporation
19 April 2012

Marstel Bulk Fuel Facility

Noise and Vibration Impact Assessment

Marstel Bulk Fuel Facility

Noise and Vibration Impact Assessment

Prepared for

Newcastle Ports Corporation

Prepared by

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ABN 20 093 846 925

19 April 2012

60212465

AECOM in Australia and New Zealand is certified to the latest version of ISO9001 and ISO14001.

Quality Information

Document Marstel Bulk Fuel Facility

Ref 60212465.RPT.02 - Acoustics

Date 19 April 2012

Prepared by Angus Leslie

Reviewed by Patrick Martinez

Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
00	5-Aug-2011	Final	Patrick Martinez Associate Director	
01	2 Feb-2012	Revision with NSW EPA comments addressed	Patrick Martinez Associate Director	
02	19-Apr-2012	FINAL	Patrick Martinez Associate Director	

Table of Contents

1.0 Introduction

1.1 Introduction

AECOM Australia Pty Ltd (AECOM) has been engaged by Newcastle Ports Corporation (NPC) to undertake an assessment of the potential noise and vibration impacts of the new bulk fuel facility to be operated by Marstel Pty Ltd (Marstel Bulk Fuel Facility) at the Port of Newcastle, NSW.

The proposed terminal facility will be used for the receiving, blending, storage and distribution of fuels and biofuels.

The nearest residential areas to the site are located to the south-west of the project site at Mayfield, with the closest receptors in Crebert Street, approximately 900 m from the proposed terminal site. To the south east there are residential receivers located in Carrington, approximately 2 km away.

The purpose of the assessment is to assess potential construction and operational, environmental noise and vibration impacts that this development may generate as the site is developed and begins to operate in 2012, and provide recommend mitigation measures, if necessary. Approval for the facility may be sought to expand beyond the year 2016.

The environmental noise emissions impact assessment has been carried out in accordance with the NSW Environment Protection Authority's (EPA) *NSW Industrial Noise Policy* (INP, 2000), the *Interim construction noise guideline* (ICNG, 2009) and the *NSW Road Noise Policy* (RNP, 2011) and supersedes the previous site assessment:

- *"Noise Impact Assessment, Marstel Terminals Newcastle, Mayfield (BHP) Site, NSW",* 2008 by Spectrum Acoustics;

In addition reference has been made to the Mayfield whole of site assessment, undertaken by Wilkinson Murray in the report:

- *"Mayfield Site Port-Related Activities Concept Plan EA"*, Revision F, 2009 by Wilkinson Murray.

This report is technical in content. A glossary of acoustic terminology can be found in Appendix A.

1.2 Site description

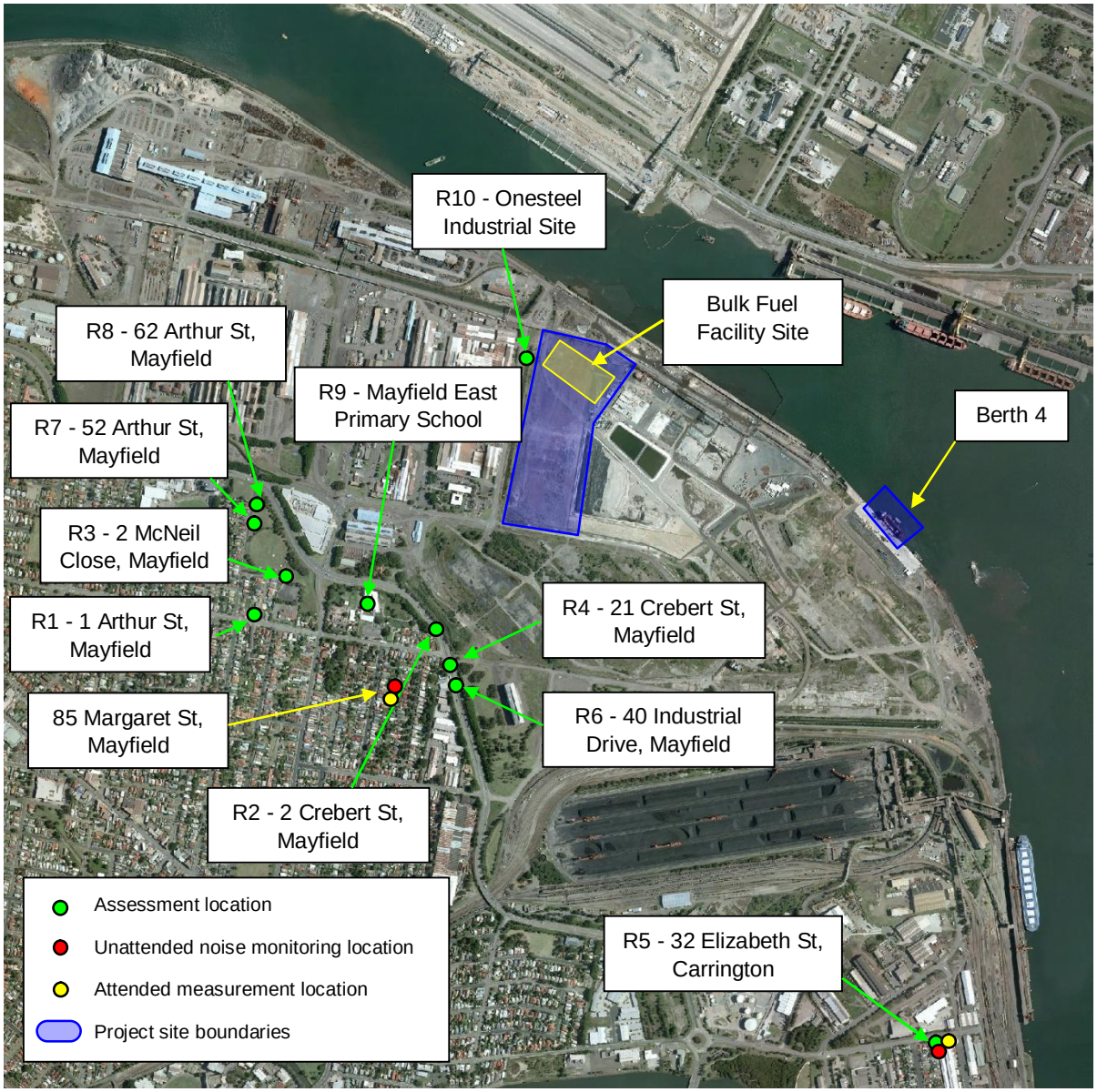
The Marstel Bulk Fuel Facility is to be located on the former BHP steelworks site in Mayfield North, directly adjacent to the Hunter River.

The construction of a terminal facility that will be used for the storage and blending of high quality fuels will include three primary storage tanks, in addition to a receiving terminal for ships at Berth 4 with pipe work linking the two sites.

During operations, haulage ships will dock at Berth 4 and pump fuel into storage tanks to be blended and held on site. Haulage trucks will receive the blended fuels and remove it through an access road leading to the intersection of Industrial Drive and Ingall Street.

The site location, noise monitoring locations and key sensitive receivers are shown in Figure 1.

Figure 1 Site location



2.0 Existing Noise Environment

2.1 Surrounding receivers

The locations of the proposed development site and nearby sensitive receivers are shown in Figure 1. The representative receiver locations and the associated receiver areas for assessment purposes, along with the land use classification (as defined in the INP) of each receiver are presented in Table 1.

Table 1 Representative sensitive receiver locations

Receiver number	Address	Land use classification	Associated receiver area
R1	1 Arthur St, Mayfield	Residence - Urban	Mayfield
R2	2 Crebert St, Mayfield	Residence - Urban	Mayfield
R3	2 McNeil Close, Mayfield	Residence - Urban	Mayfield
R4	21 Crebert St, Mayfield	Residence - Urban	Mayfield
R5	32 Elizabeth St, Carrington	Residence - Urban	Carrington
R6	40 Industrial Drive, Mayfield	Commercial	Mayfield
R7	52 Arthur St, Mayfield	Residence - Urban	Mayfield
R8	62 Arthur St, Mayfield	Residence - Urban	Mayfield
R9	Mayfield East Public School	School	Mayfield
R10	Onesteel Site -Lot 224 Steelworks Rd, Mayfield	Industrial	-

2.2 Existing noise environment

In order to establish the existing noise environment adjacent to the project area, ambient noise monitoring results presented in a noise assessment that incorporates the project area has been reviewed in addition to attended and unattended measurements undertaken by AECOM. The noise assessment referenced was:

- *"Mayfield Site Port-Related Activities Concept Plan EA"*, Report No. 09077, Revision F, July 2010 by Wilkinson Murray.

2.2.1 Background noise monitoring

Ambient noise logging was undertaken at a location deemed to be representative of noise sensitive receivers in the area of Mayfield. The logger locations, and attended measurement locations and the representative receiver locations are shown in **Figure 1**.

A noise logger was used to continuously monitor background noise levels between 7 September 2011 and 15 September 2011.

Provided in **Table 2** are details of the measurement locations.

Table 2 Ambient noise monitoring locations

Location Duration	Instrumentation	Comments
81 Margaret St, Mayfield Start: 07 Sept 11 Finish: 15 Sept 11	ARL-315 Noise Logger S/N: 15-199-414	Noise sensitive residential receiver. Assessment location to determine noise levels impacting on residential receivers in the Mayfield area. Noise logger located approximately 1.5 m above ground level.

Ambient noise monitoring results at this location are illustrated in Appendix B and Table 3.

A noise logger measures the noise level over the sample period and then determines L_{A1}, L_{A10}, L_{A90}, L_{Amax} and L_{Aeq} levels of the noise environment. The L_{A1}, L_{A10} and L_{A90} levels are the noise levels exceeded for 1%, 10% and 90% of the sample period respectively. The L_{Amax} is indicative of maximum noise levels due to individual noise events. The L_{A90} is taken as the background noise level.

The Assessment Background Level (ABL) is established by determining the lowest tenth-percentile level of the L_{A90} noise data acquired over each of the day, evening and night periods. The background noise level or Rating Background Level (RBL) representing the day, evening and night-time assessment periods is based on the median of individual ABLs determined over each period for the entire monitoring duration.

Table 3 Ambient noise monitoring results

Logger location	Day		Evening		Night	
Sensitive receiver catchment - Mayfield						
81 Margaret St, Mayfield East	**L_{A90}**	**L_{Aeq}**	**L_{A90}**	**L_{Aeq}**	**L_{A90}**	**L_{Aeq}**
Wednesday, 7 September 2011			38	46	33	45
Thursday, 8 September 2011	41	57	36	48	37	47
Friday, 9 September 2011	43	54	37	44	37	44
Saturday, 10 September 2011	42	60	40	45	37	47
Sunday, 11 September 2011	40	52	35	42	34	53
Monday, 12 September 2011	44	55	43	47	42	49
Tuesday, 13 September 2011	43	62	41	47	39	46
Wednesday, 14 September 2011	*	*	*	*	*	*
Thursday, 15 September 2011	*	*				
RBL	**43**		**38**		**37**	
Log Average L_{Aeq}		**58**		**46**		**47**

Notes:

1) Fields marked with (*) in Table 3 are periods that were affected by adverse weather conditions such as rain, excessive wind speeds or extraneous noise events.

2) Day is defined as 7:00 am to 6:00 pm, Monday to Saturday and 8:00 am to 6:00 pm Sundays & Public Holidays.

3) Evening is defined as 6:00 pm to 10:00 pm, Monday to Sunday & Public Holidays.

4) Night is defined as 10:00 pm to 7:00 am, Monday to Saturday and 10:00 pm to 8:00 am Sundays & Public Holidays.

5) RBL - Rating Background Noise Level (RBL) is representative of the average minimum background sound level (in the absence of the source under consideration), or simply the background level L_{A90}. The RBL is based on the median of the individual daily background noise levels during each assessment period over the entire monitoring period.

6) The L_{Aeq} level is the equivalent continuous sound level and has the same sound energy over the sample period as the actual noise environment with fluctuating sound levels. The overall representative L_{Aeq} noise level is determined by logarithmically averaging each assessment period for the entire monitoring period.

2.2.2 Existing noise environment – Additional studies

Long term noise monitoring in the vicinity of the residential receivers of Carrington was undertaken from 18 to 26 March 2009 by Wilkinson Murray, and presented in the study *Mayfield Site Port-Related Activities Concept Plan EA"*, Revision F, July 2010 by Wilkinson Murray.

Details of the noise monitoring and a summary of the results are presented in Table 4 and the graphical noise logging charts are presented in Appendix C. Results from the EPA Newcastle Automatic Weather Station (AWS) have been checked over the monitoring period, and the overall results were not impacted by adverse weather conditions during the monitoring period.

Validation of these results and quantification of the industrial contribution during the most sensitive night-time period was undertaken and is presented in the attended measurements in Table 5. The industrial contribution during the day and evening periods was quantified in the Wilkinson Murray report, July 2010,

Table 4 Measured noise levels

Location	Noise level descriptor	Measured noise level		
		Day 7am – 6pm	Evening 6pm – 10pm	Night 10pm – 7am
Carrington	L_{A90}	44[1]	43[1]	39[1]
	L_{Aeq}	57[1]	54[1]	46[1]
	Existing industrial noise L_{Aeq}	57[1]	54[1]	47[2]

Notes:

1) Mayfield Site Port-Related Activities Concept Plan EA", Revision F, July 2010 by Wilkinson Murray

2) AECOM attended measurement, 16 January 2012, 38 Elizabeth St, Carrington

2.2.3 Attended noise monitoring

Attended noise monitoring was undertaken at a number of relevant locations including all the long term noise logger locations. The results of these attended measurements are shown in **Table 5**. The attended noise monitoring locations are shown in **Figure 1**. The attended measurements were made to assist in quantifying the contributing noise sources at the different monitoring locations, for validation of the monitoring data and to assist in calibrating the computer noise model.

Table 5 Attended noise monitoring results summary at logging locations

Monitoring location	Date of measurement	Time of measurement	$L_{Aeq, 15min}$	Industrial contribution, dB(A)	$L_{A90, 15 min}$ (Background noise level)	Existing noise environment
85 Margaret St, Mayfield	16 January 2012	00:52	45	45	44	Industrial noise dominant coming from N-NE direction. Intermittent horns & alarms sounding. Bat noise also noticeable, sporadic traffic.
85 Margaret St, Mayfield	15 September 2011	16:00	58	48	46	Traffic noise dominant along Industrial Drive. Birds and dogs also noted. Industrial noise practically inaudible
38 Elizabeth St, Carrington	16 January 2012	02:49	49	47	47	Noise dominated by industry. Crickets and insects also clearly noticeable

3.0 Construction Noise and Vibration Criteria

3.1 Construction noise management levels

In July 2009 the NSW Department of Environment, Climate Change and Water (DECCW) (now Environment Protection Authority (EPA)) published the *Interim Construction Noise Guidelines (ICNG, 2009)* for use in construction noise assessment. This document replaces the previous publication the *Environmental Noise Control Manual (ENCM)* and is used as the basis for establishing construction noise criteria for the proposed development.

Under the ICNG a construction noise management plan is required to be compiled by the Contractor, prior to construction commencing. Noise level objectives must be set for the daytime evening and night-time periods, and must be complied with where reasonably practicable. Work that is proposed outside of standard working hours, as defined in the *ICNG*, generally requires strong justification.

The noise management plan should detail the '*best practice*' construction methods to be used, presenting a reasonable and feasible approach. The plan should identify the extent of the residential area affected and assess the impact on residents. The plan should detail any community relation programs that are planned e.g. prior notification for particularly noisy activities, letter box drop regarding out of hours construction work to be undertaken and a 24 hour contact phone number for residents to call should they have any complaints or questions.

The *ICNG* defines what is considered to be feasible and reasonable as follows:

> *"Feasible*
>
> > *A work practice or abatement measure is feasible if it is capable of being put into practice or of being engineered and is practical to build given project constraints such as safety and maintenance requirements.*
>
> *Reasonable*
>
> > *Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall noise benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure."*

The *ICNG* recommends that a quantitative assessment is carried out for all *'major construction projects that are typically subject to the EIA process'*. A quantitative assessment, based on a likely '*worst case*' construction scenario, has been carried out for the Marstel Bulk Fuel Facility.

Predicted noise levels at nearby sensitive receivers (residential, commercial and industrial premises) are compared to the levels provided in Section 4 of the *ICNG*. Where an exceedance of the criteria is predicted the *ICNG* advises that the proponent should apply all feasible and reasonable work practises to minimise the noise impact.

Construction noise management levels (NMLs) for residential receivers are set using the information in Table 6.

Table 6 Noise management levels at residences using quantitative assessment

Time of Day	Management Level $L_{Aeq\ (15min)}$ [1]	How to Apply
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured $L_{Aeq\ (15\ min)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: • times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences. • If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB(A) above the noise affected level, the proponent should negotiate with the community. • For guidance on negotiating agreements see section 7.2.2 of the ICNG.

Notes:

1) Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

3.1.1 Construction noise management levels

It is assumed that the construction activities will take place during recommended standard working hours (7.00 am – 6.00 pm Monday to Friday and 8.00 am – 1.00 pm Saturday). However, in the case that oversized load deliveries may be need to be conducted outside recommended standard working hours then a separate construction noise assessment should be undertaken addressing the justification for out of hours work and specifying acoustic requirements for the construction activity.

Construction noise management levels for the nearest sensitive residential receiver areas are shown in Table 7.

Table 7 Construction noise management levels – Residential receivers

Residential receivers area	Daytime RBL L_{A90} dB(A)	Daytime noise management levels L_{Aeq} dB(A)
Mayfield	43	53
Carrington	44	54

Noise management levels for other sensitive land uses around Mayfield, such as schools, places of worship are shown in Table 8. However, it is noted that there are no sensitive receivers outside of residences in close proximity to the proposed bulk storage site.

Table 8 Construction noise management levels – Sensitive land uses other than residential

Land Use	Noise management level, $L_{Aeq\ (15\ min)}$ (applies when premises are in use)
Classrooms at schools and other educational institutions	Internal noise level 45 dB(A)
Places of worship	Internal noise level 45 dB(A)
Active recreation areas (characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion)	External noise level 65 dB(A)
Passive recreation areas(characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, for example, reading, meditation)	External noise level 60 dB(A)
Community centres	Depends on the intended use of the centre. Refer to the recommended 'maximum' internal levels in AS2107 for specific uses.

Criteria for industrial and commercial premises (e.g. general retail), are shown below:

- Industrial premises: external $L_{Aeq\ (15min)}$ 75 dB(A), and
- Offices, retail outlets: external $L_{Aeq\ (15min)}$ 70 dB(A).

3.2 Construction vibration criteria

Unlike the criteria applicable to noise emissions, vibration criteria are the same for both the construction and operational phases of this project. EPA's '*Assessing Vibration: a technical guideline*', (DECCW, 2006) has been designed to be used in evaluating and assessing the effects on amenity of vibration emissions from industry, transportation and machinery. The guideline is used in assessments of vibration impacts caused by the construction and operation of new developments.

Vibration criteria are set primarily according to whether the particular activities of interest are continuous in nature or intermittent, whether they occur during the daytime or night-time and the type of receiver to be assessed e.g. commercial or residential.

The effects of vibration in buildings can be divided into three main categories:

- Those in which the occupants or users of the building are inconvenienced or possibly disturbed, i.e. human disturbance or discomfort;
- Those in which the integrity of the building or the structure itself may be prejudiced; and

- Those where the building contents may be affected.

Therefore, vibration levels at sensitive receiver locations must be controlled so as to prevent discomfort and regenerated noise, and in some extreme cases, structural damage.

For the proposed Marstel Bulk Fuel Facility, the nearest residential receivers (vibration sensitive) are located more than 900m from the proposed development site. The existing nearby industrial developments are located approximately 50 m from the proposed bulk fuel storage site. This facility is neither noise nor vibration sensitive. At such distances, the risk of discomfort, regenerated noise and structural damage impacting receivers is extremely low and needs not to be considered further.

Vibration levels on residential receivers due to additional traffic generated by the proposed development during the construction phase are considered insignificant. This is due to the small number of additional heavy vehicles forecast during the construction phase of the project, refer to Section 5.2 for predicted construction traffic numbers. Therefore, from a vibration perspective, the issue of impacts caused by the construction of the Marstel Bulk Fuel Facility need not be considered further.

3.3 Construction traffic noise on sub-arterial roads

EPA's Road Noise Policy (RNP, 2011) guideline is appropriate for assessing construction traffic noise associated with the bulk fuel facility. The RNP guidelines are applicable for traffic movements generated during the construction phase of the bulk fuel facility project. The application of the road noise criteria is further explained in Section 4.3.

No major earthworks are anticipated in the construction of the facility. Daily truck movements, associated with construction works, are assumed to be low (this assessment has assumed 40 truck movements per day, with a worst case 15-minute period having 3 truck movements). As a result, it is expected that the increase in traffic numbers as a result of construction works for the Marstel Bulk Fuel Facility would have minimal effect on nearby roads.

4.0 Operational Noise and Vibration Criteria

4.1 Operational noise criteria

4.1.1 Protection of the Environment Operations Act 1997 – Section 139

The main acoustic requirement of Protection of the Environment Operations Act 1997 (PoEOA) is to ensure that "a noise is not offensive". The definition for an offensive noise is included below.

offensive noise *is:*

(d) that, by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances:

(i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or

(ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or

(e) that is of a level, nature, character or quality prescribed by the regulations or that is made at a time, or in other circumstances, prescribed by the regulations.

To determine if a noise source is offensive, a primary consideration is to determine whether the noise source is intrusive. The EPA provides guidelines for external noise emissions from developments in its *Industrial Noise Policy*. The INP recommends a method which can be used to ascertain the intrusiveness of noise emissions.

EPA states that the relationship between the statutory definition of offensive noise and intrusive noise is that intrusive noise can represent offensive noise, but whether this is always true can depend on the source of the noise, noise characteristics and cumulative noise levels. Therefore to avoid the emission of an offensive noise, noise emissions should not be intrusive as defined by the EPA in the following manner:

"A noise source is generally considered to be intrusive if noise from the source, when measured over a 15 minute period, exceeds the background noise by more than 5 dB(A).

Any noise generated within the Marstel Bulk Fuel Facility site boundary, including noise from plant, truck movements and mechanical services or associated with site buildings would be assessed in accordance with the INP. This means the assessment procedure for industrial noise sources has two components, which are:

- Controlling ***intrusive noise*** impacts in the short term for residences; and
- Maintaining ***noise level amenity*** for particular land uses for residences and other land uses.

4.1.2 Industrial Noise Policy

4.1.2.1 Intrusive noise impacts

The INP states that the noise from any single source should not intrude greatly above the prevailing background noise level. Industrial noises are generally considered acceptable if the equivalent continuous (energy-average) A-weighted level of noise from the source (L_{Aeq}), measured over a 15 minute period, does not exceed the background noise level measured in the absence of the source by more than 5 dB(A). This is termed the *Intrusiveness Criterion*. The *Rating Background Level* (RBL) is the background noise level to be used for assessment purposes and is determined by the methods given in Section 3.1 of the INP. Adjustments are to be applied to the level of noise produced if the noise at the receiver contains potentially annoying characteristics such as tonality or impulsiveness.

Table 9 Recommended $L_{Aeq, 15\ minute}$ intrusive noise criteria levels from industrial noise sources

Receiver area	Time of day	RBL ($L_{A90, 15\ minute}$)	Intrusive criterion RBL + 5, dB(A)
Mayfield	Day	43	48
	Evening	38	43
	Night	37	42
Carrington	Day	44	49
	Evening	43	48
	Night	39	44

4.1.2.2 Protecting noise amenity

To limit continuing increases in noise levels, the maximum ambient noise level resulting from industrial noise sources should not normally exceed the acceptable noise levels specified in *Table 2.1* of the INP. That is, the industrial noise level should not exceed the level appropriate for the particular locality and land use. This is termed the Amenity criterion.

For a residential receiver in an urban area, the amenity criteria are shown in **Table 10**.

Table 10 Recommended $L_{Aeq, period}$ amenity noise criteria levels from industrial noise sources

Type of receiver	Indicative noise amenity area	Time of day	Recommended L_{Aeq} noise level dB(A)	
			Acceptable	Recommended maximum
Residence	Urban	Day	60	65
		Evening	50	55
		Night	45	50

The INP application notes state:

Where the ambient noise levels are below the Acceptable Noise Level (ANL), then ideally the measurement of the existing level of noise should include only noise from industrial sources. In these situations, however, it may be acceptable to include noise from other sources (for example, roads, and neighbourhood). The reasons for this are that:

- *including noise from other sources typically results in assessing the worst case for impacts on amenity; and*
- *strictly excluding noise from sources other than industry can be difficult and costly and may not be necessary if the development meets the criteria.*

As it was possible to determine the contribution from existing industrial sources, the modification factors in Table 2.2 in the INP has been applied when determining the final environmental noise criteria. The adjusted amenity criterion for the residential receivers are as shown in **Table 11**.

Furthermore, the application notes go on to state:

Where the predicted amenity noise level is lower than the intrusive level for the proposed development, the proponent needs to ensure that both levels will be satisfied. In this situation, noise limits specified in the licence conditions will include both the intrusive and amenity noise levels predicted to be achieved by the proposal to ensure that the community is protected from intrusive noise impacts at all times.

4.1.3 Environmental noise criteria

A summary of the environmental noise criteria for the Marstel Bulk Fuel Facility is given in **Table 11**. The Project Specific Noise Levels for each residential receiver area have been highlighted.

Table 11 Project specific noise levels

Receiver area	Period	RBL ($L_{A90, 15\ minute}$)	Intrusive criterion RBL + 5, dB(A)	Ambient ($L_{Aeq, period}$)	Industrial contribution, ($L_{Aeq\ 15\ minute}$ dB(A)	Amenity criterion[1]
Mayfield	Day	43	**48**	58	48[4]	**59**
	Evening	38	**43**	46	47[5]	**47**
	Night	37	**42**	47	45[3]	**37**
Carrington	Day	44	**49**	57	57[2]	**60**
	Evening	43	**48**	54	54[2]	**44**
	Night	39	**44**	46	47[3]	**37**

Notes:

1) The amenity criterion has been modified in accordance with the industrial contribution adjustment in Table 2.2 of the EPA INP.

2) *Mayfield Site Port-Related Activities Concept Plan EA"*, Revision F, July 2010 by Wilkinson Murray

3) AECOM attended measurement, 16 January 2012

4) AECOM attended measurement, 15 September 2011

5) This industrial contribution has been based upon the evening Mayfield industrial contribution presented in *"Noise Impact Assessment, Marstel Terminals Newcastle, Mayfield (BHP) Site, NSW",* 2008 by Spectrum Acoustics;

4.1.4 Other noise sensitive receivers

The INP specifies the following noise criteria for non residential land uses as detailed in **Table 12**.

Table 12 Non residential receiver noise criteria

Type of receiver	Indicative noise amenity area	Time of day	Recommended L_{Aeq} noise level dB(A)	
			Acceptable	Recommended maximum
School classroom - Internal	Noisiest 1-hour period when in use	When in use	35[1]	40[1]
Commercial Premises	All	When in use	65	70
Industrial Premises	All	When in use	70	75

Notes:

1) In the EPA INP the school classroom criteria is an internal noise level, with an acceptable noise level of 35 dB(A) and a recommended maximum of 40 dB(A). A 10 dB reduction has been assumed between external and internal noise levels based upon a window being open for adequate natural ventilation.

4.1.5 Tonality and INP modifying factors

The INP provides additional guidance and criteria for assessing noise emission from sources defined as 'tonal' in nature. Penalties of up to 5 dB(A) may be applied where the subject noise emission is tonal in character at the receiver.

A penalty is applied when the level of a one-third octave band exceeds the level of each adjacent band by:

- 5 dB(A) or more if the frequency band containing the tone is above 400 Hz
- 8 dB(A) or more if the frequency band containing the tone is below 400 Hz and above 160 Hz inclusive

- 15 dB(A) or more if the frequency band containing the tone is below 160 Hz

As part of this assessment, a 'screening test' to determine the potential for tonality has been conducted, to assess if the sources have the potential to generate tonal noise.

Additionally the INP provides guidance on applying penalties if the noise source contains characteristics such as impulsiveness, intermittency, irregularity or dominant low-frequency content. These have reviewed in operational noise assessment.

4.1.6 Sleep disturbance criteria

EPA's INP has been updated with application notes which discuss sleep disturbance and its objective assessment.

To minimise the risk of sleep disturbance as a result of industrial type operations during the night-time period, the EPA's INP application notes recommends that, the $L_{A1(1\ minute)}$ noise level outside a bedroom window should not exceed the L_{A90} background noise level by more than 15 dB(A) during the night-time period (10.00 pm to 7.00 am). EPA considers it is appropriate to use this metric as a screening criterion to assess the likelihood of sleep disturbance. If this screening criterion is found to be exceeded then a more detailed analysis must be undertaken and include the extent that the maximum noise level exceeds the background noise level and the number of times this is likely to happen during the night-time period.

The INP application notes reference *Environmental Criteria for Road Traffic Noise* (ECRTN) (EPA, 1999) for some guidance in assessing the potential for sleep disturbance. The ECRTN contains an assessment of sleep disturbance which represents NSW EPA advice on the subject of sleep disturbance due to noise events. Section B5 of Appendix B concludes, having considered the results of four research papers by Pearson et al (1995), Bullen et al (1996), Griefahn (1992) and Finegold et al (1994) with the statement, *'Maximum internal noise levels below 50-55 dB(A) are unlikely to cause awakening reactions'*. Therefore, given that an open window provides 10 dB(A) noise attenuation from outside to inside, external noise levels of 60-65 dB(A) are unlikely to result in awakening reactions.

Based on the measured background noise levels during the night, the sleep disturbance criteria for the nearest noise sensitive residential receivers are presented in Table 13.

Table 13 Night-time sleep disturbance criteria

Location	Measured RBL $L_{A90,\ 15\ mins}$ dB(A)	Sleep disturbance screening criterion $L_{A1\ (1\ minute)}$ dB(A)
Mayfield	37	52
Carrington	39	54

4.2 Operational vibration criteria

Vibration due to activities during the operation of the facility has not been considered in this assessment. Refer to Section 3.2 for further explanation to the removal of operational vibration from this assessment.

4.3 Road traffic noise criteria

EPA's Road Noise Policy (RNP) has to be used to assess the noise arising from traffic generated by the proposed development. The RNP guidelines are applicable for traffic movements generated during the construction phase of the project as well as additional traffic generated during the operational phase.

4.3.1 Road traffic noise levels

As discussed in Section 3.3, access to the site will be via Industrial Drive. This road would be classified as sub-arterial roads. Table 14 presents the road traffic noise criteria from the EPA RNP. The external noise criteria are applied 1 m from the external facade of the affected building.

Table 14 Road traffic noise criteria – Sub-arterial roads

Period	Parameter	Criterion
Sub-arterial roads		
Day (7:00 am – 10:00 pm)	$L_{Aeq\ (15hr)}$	60 dB(A)
Night (10:00 pm – 7:00 am)	$L_{Aeq\ (9hr)}$	55 dB(A)

Note that where the criteria have already been exceeded the EPA recommends that:

> *"Where existing traffic noise levels are above the noise assessment criteria, the primary objective is to reduce these through feasible and reasonable measures to meet the assessment criteria. A secondary objective is to protect against excessive decreases in amenity as the result of the project by applying the relative increase criteria.*
>
> *In assessing feasible and reasonable mitigation measures, an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person.*
>
> *...*
>
> *For existing residences and other sensitive land uses affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise level should be limited to 2 dB above that of the corresponding 'no build option'."*

Existing traffic noise levels were presented in *"Noise Impact Assessment, Marstel Terminals Newcastle, Mayfield (BHP) Site, NSW",* 2008 by Spectrum Acoustics, for the most potentially affected sensitive noise receptors in Mayfield, adjacent to Industrial Drive. The measured noise levels are presented in Table 15. It is to be noted that the measured traffic noise levels exceed the recommended criteria presented in Table 14. As such, the assessment will determine if traffic noise from the development is predicted to increase the traffic noise impacts on residential receiver locations in Mayfield by more than 2 dB(A).

Table 15 Measured road traffic noise levels – Industrial Drive, Mayfield

Period	Parameter	Measured sound pressure level, dB(A)
Industrial Drive, Mayfield		
Day (7:00 am – 10:00 pm)	$L_{Aeq\ (15hr)}$	69
Night (10:00 pm – 7:00 am)	$L_{Aeq\ (9hr)}$	62

5.0 Construction Noise Assessment

5.1 Construction work hours

Construction works are proposed to take place over a period of 14 months. The construction works are proposed to include the following activities:

- Excavation of areas for tank foundations (to a maximum of 0.6 m below the existing cap surface);
- Construction of tank foundations and reinforced concrete bund walls;
- Preparation of the bund floor (excavation, backfilling with crushed rock, installation of liner, additional backfilling with crushed rock and priming/sealing);
- Installation and diversion of services and infrastructure, including stormwater drainage lines;
- Relocation of the tanks to site and the fabrication of related piping and pump equipment;
- Construction of a pipeline on existing supports to transfer materials between the berth and the storage facility; and
- Construction vehicle movements.

Much of the material would be prefabricated wherever possible, particularly fuel facility components, thereby minimising the on-site construction activities.

Impacts of construction noise and vibration will have to be further detailed when the selection of a contractor is finalised and the construction program and associated equipment has been identified. This construction noise assessment is to be undertaken in accordance with the noise criteria presented in Section 3.0 of this report, alongside the construction noise and vibration management plan (CNVMP) that is required to be compiled by the Contractor prior to construction commencing.

It is recommended that the construction works are scheduled to occur during the ICNG standard construction hours of Monday to Friday – 7:00 am to 6:00 pm and Saturday – 8:00 am to 1:00 pm. The exception to this will be during emergency construction activities. The EPA's ICNG standard hours and out of hours work periods are defined in Table 16.

Table 16 EPA's ICNG standard hours and out of hours work periods

Work period	Time period[1]		
	Monday – Friday	Saturday	Sunday or Public Holiday
Standard Hours	7 am – 6 pm	8 am – 1 pm	-
Out of Hours Works	6 pm – 7 am	1 pm – 8 am	8 am – 8 am

5.2 Equipment

5.2.1 Excavator

In the excavation of footing for storage tanks etc, an excavator or front end loader is expected to be operational on site. To provide a conservative noise model, a large (Liebherr 994) excavator has been considered to be in operation.

5.2.2 Trucks

Truck movements would take place throughout each day to provide resources or removal of spoil if/when required. Three truck movements per 15-minute period have been assumed as part of the assessment.

5.2.3 Diesel generator and welders

A total of three diesel generator and three diesel welding machines have been considered to be running concurrently.

Table 19 below provides the noise spectrum for the above mentioned plant and equipment anticipated for construction noise equipment on site.

Table 17 Construction equipment octave band sound power level

Description	Octave band sound power noise levels, dB								
	O/A dB(A)	63	125	250	500	1000	2000	4000	8000
Liebherr 994 Excavator	**115**	116	117	110	113	111	106	101	-
Truck	**96**[1]	92	98	96	94	91	88	84	78
Diesel Welding Machines (Classic 300D)	**94**	73	72	72	96	86	79	75	72
Diesel Generators	**102**	103	100	104	98	97	93	84	75

Notes:

1) Noise level based upon measurements undertaken by AECOM at White Bay, NSW 24 June 2011

5.3 Noise modelling methodology

Noise levels due to the construction activities shown in Section 5.2 have been predicted at nearby noise sensitive receivers using SoundPLAN 7.0 (industry standard) noise modelling software.

The CONCAWE method was originally developed for predicting the long-distance propagation of noise from petrochemical complexes. It is especially suited to predicting noise propagation over large distances because it accounts for a range of atmospheric conditions that can significantly influence the propagation of noise over large distances.

Noting that the closest receptors in the vicinity of the proposed Marstel Bulk Fuel Facility are at least 500 m from the site, the CONCAWE environmental noise prediction method is an appropriate method for predicting the noise propagation.

The modelling includes:

- Ground topography;
- Buildings and structures;
- All sources behave as point, or moving point sources;
- All sources are ‘on’ during any 15 minute period to simulate a worst case;
- Ground Absorption (set at hard ground for the Hunter River and 60% elsewhere); and
- Representative construction or operational noise sources as required.

It can be expected that there may be differences between predicted and measured noise levels due to variations in instantaneous operating conditions, plant in operation during the measurement and also the location of the plant equipment.

5.3.1 Modelling assumptions

The following assumptions have been made in modelling all construction noise scenarios:

- For all scenarios all equipment will be operating at the same time, which is unlikely, and is a conservative assumption; and
- Neutral atmospheric conditions i.e. relatively calm, no temperature inversion.

5.4 Predicted construction noise levels

5.4.1 Representative assessment receivers

The noise from the construction of the Marstel Bulk Fuel Facility has been predicted at all of the nearest receivers. Predicted noise levels at representative receivers for the proposed construction activities associated with the bulk fuel facility are provided in Table 18. Noise contour maps are provided in Appendix D.

Table 18 Predicted construction noise levels – Residential receivers

Receiver[1]	$L_{Aeq(15min)}$ noise level (external) (dB(A))		
	Predicted (external)[2]	Standard hours	
		Criteria	Exceedance
R1	37	53	-
R2	41	53	-
R3	38	53	-
R4	41	53	-
R5	31	54	-
R6	40	70	-
R7	40	53	-
R8	40	53	-
R9	36	55[3]	-
R10	65	75	-

Notes:

1) All the representative sensitive receiver locations are presented in Table 1.

2) Predicted noise levels have been assessed against neutral meteorological conditions.

3) In the EPA ICNG school classroom criteria is an internal noise level, with a recommended internal noise level of 45 dB(A). A 10 dB reduction has been assumed between external and internal noise levels based upon a window being open for adequate natural ventilation. Schools are required to be assessed during school hours only.

Predicted noise levels at the nearest affected receivers are presented in Table 18. The construction activities are predicted to comply with the recommended construction NMLs at all nearby sensitive receiver locations.

5.5 Cumulative noise impacts of concurrent construction activities

There are no other proposed constructions activities at nearby sites that are currently known of. As a result, there will not be any additional increase in the predicted noise impacts from construction activities on nearby noise sensitive receiver locations.

6.0 Operational Acoustic Assessment

6.1 Equipment

6.1.1 Fuel Pumps: Flame Proof 3 Phase Induction Motor

The following assessment is based upon the nine motorised pumps to be installed on the eastern boundary of the site. The location of the pumps has been based upon the location shown on Drawing Figure 3 – Proposed Site Layout, Dated 6 June 2011 drawn by AECOM and presented in *Bulk Fuel Storage Facility Environmental Assessment , AECOM Aug 2011***.** Sound power levels for the pump motors has been based upon a 75 kW PPD280S-4 Flame Proof 3 Phase Induction Motor. A pump with a sound power level spectrum or similar to that presented in Table 19 can substituted.

Information provided to AECOM stated that the pump motor will produce a sound power level of 84 dB(A) from the entire installed unit (based the loudest direction surrounding the plant), a typical pump spectrum has then been scaled for use in the assessment. The assessment has been conducted assuming the pumps have not benefitted from any mitigation or acoustic enclosure.

The following table presents the sound power levels for the pump motor at load that have been used for this assessment.

Table 19 Pump motor without attenuation sound power level

Description	Octave band sound power noise levels, dB								
	O/A dB(A)	63	125	250	500	1000	2000	4000	8000
Fuel Pumps: Flame Proof 3 Phase Induction Motor	**84**	74	75	77	77	80	77	73	67

6.1.2 Ship/Tanker Auxiliary Power Unit and Newcastle Tug Boats

The predicted noise level from tankers docking at Berth 4 were based upon attended noise measurements undertaken at Mayfield Berth 4 on 25 August 2011, which verified the sound power levels of the Ship/Tanker. The results of these measurements have been included in Appendix F. The noise level from the ships power unit has been considered both for the movement of the vessel but also to represent the pumps on board to load fuel from the facility.

In addition, as the tanker approaches the wharf it will be assisted by Newcastle Harbour Tugs which would assist the ship to berth. The source of the Newcastle Harbour Tug boats was sourced from Table 4-1 of the Wilkinson Murray acoustic assessment which provides indicative noise levels for typical equipment used in port facilities.

Table 20 provides assumed sound power noise levels for the activities associated with Berth 4.

Table 20 Berth 4 activities and sound power levels

Description	Octave band sound power noise levels, dB								
	O/A dB(A)	63	125	250	500	1000	2000	4000	8000
Ship/Tanker Auxiliary Power Unit	**106**	111	112	107	105	100	96	91	83
Newcastle Harbour Tug Boats	**100**	116	111	103	95	87	85	83	76

6.1.3 Haulage Trucks and Forklift

Truck and forklift operations would take place over a 24 hour period. Typically truck would load fuel within a 45 min with 60% of the movements occurring between the hours of 7 am to 4 pm.

Truck movements have assumed that 72 truck movements for diesel dispatch occur per 24 hour period and 4 movements per 24 hour period to unload biodiesel. It has been assumed that 60% of the truck movements occur within the 7 am-4 pm period, and it has been assumed the additional trucks will be evenly spread throughout the remaining 4 pm to 7 am period. As such, a worst case 1.9 truck movements in an hour is predicted for the night-

time period (10 pm – 7 am) which is the most stringent assessment period. As such 2 truck movements per hour (18 truck movements during the night-time period) have been assessed as a worst case scenario during the night-time period amenity assessment. A worst case 3 truck movements in a 15-minute period has been assessed for the night-time period intrusiveness assessment

In addition, the use of a forklift has been considered as part of the operational site works. Table 21 offers the noise spectrum data for the haulage truck and forklift within the assessment.

Table 21 Assumed noise levels for haulage trucks and forklift

Description	Octave band sound power noise levels, dB								
	O/A dB(A)	63	125	250	500	1000	2000	4000	8000
Haulage Truck	**100**	109	111	105	105	99	95	90	82
Forklift	**101**	104	99	94	95	96	97	87	81

6.2 Methodology

The modelling methodology assumed for the operational noise assessment were as described for assessment of construction noise.

6.2.1 General modelling assumptions

The following assumptions have been made in modelling all the operational noise emission scenarios:

- The Marstel Bulk Fuel Facility will operate at similar capacity during the entire 24 hour period;
- For all scenarios all equipment will be operating at the same time, which is unlikely, and is a conservative assumption; and
- The night-time period is the governing criteria.

6.2.2 Meteorological conditions modelled

Meteorological conditions such as the presence of a temperature inversion or light to moderate winds can have a significant effect on sound propagation.

Temperature inversions (i.e. when the normal temperature profile of the atmosphere is reversed such that the air temperature increases with increasing height above ground) typically occur at night and tend to assist the propagation of noise.

Likewise, a light to moderate wind (i.e. 1 to 3 m/s) from the source to the receiver tends to assist the propagation of noise to the receiver, while the impact of noise for any receivers in the opposite direction would be reduced. At wind speeds above approximately 5 m/s the wind becomes too turbulent to effectively assist the propagation of noise, and background noise levels tend to increase, masking any increases in noise level due to wind assisted propagation.

6.2.3 Meteorological conditions

Data used to perform the meteorological assessment was sourced from the EPA (formally Office of Environment and Heritage (OEH)) Newcastle Automatic Weather Station (AWS) which is approximately 4.5 km south of the Bulk Fuel Facility site. The time period used was from the 1 January 2009 to 29 December 2009.

6.2.3.1 Temperature inversion

The occurrence of F and G class inversions was determined in accordance with Appendix E of the INP and assessed individually and together for the total night-time period during the winter months (June, July and August) of these years. It was concluded that class F and G inversions occurred more than 30% of the total winter night-time period, with an overall average of 51% combined occurrence of both F and G class inversions.

As a result and in accordance with the INP guidelines, a default F Class inversion has been included in the predictions of noise levels at nearby residential receiver locations as they occur often enough to be considered significant and warrant inclusion in the assessment as part of the prevailing meteorological environment.

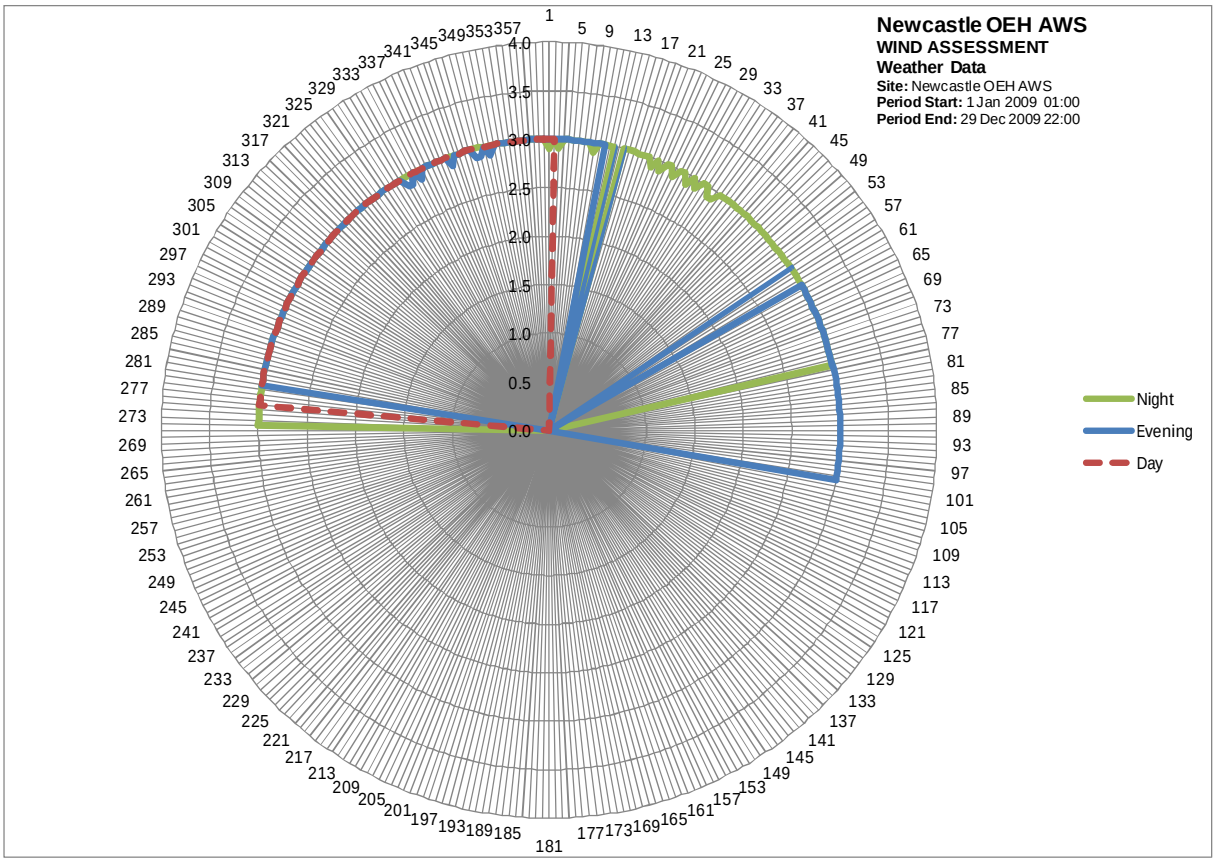
It is noted in the EPA INP that in the case of assessment under temperature inversion conditions *"...for residents downhill from the source a drainage-wind-flow wind speed of 2m/s also applies."(INP, 2000).* In this assessment the area surrounding the site is relatively flat and no residential receiver location is located at an elevation lower than the subject site. As a result, drainage wind associated with a temperature inversion has not been included in the assessment.

6.2.3.2 Prevailing wind conditions

The INP considers wind effects to be assessed when source-to-receiver wind speeds of 3 m/s or below occur for at least 30% of the assessment period in any season. The assessment of wind affected receivers has been done in accordance with *"Procedure to estimate the frequency of wind conditions that enhance noise levels",* produced by EPA October 2009.

The INP requires wind effects to be modelled at the highest measured wind speed. For all locations, receivers that are wind affected will be modelled at 3 m/s, this represents a conservative approach. A summary of the modelling requirements is provided graphically in **Figure 2**. **Appendix E** presents the results of the worst case wind assessment for the Bulk Fuel Facility site. It presents the directions for which receivers have to be assessed as wind affected. **Appendix E** presents the direction that the wind will come from, and so only residents that lie 180 degrees from this wind direction are required to be assessed as wind affected. It can be noted the based on the location of the receivers in Carrington and Mayfield they would be considered wind affected based upon the prevailing meteorological conditions.

Figure 2 INP wind assessment for weather data from EPA Newcastle AWS



6.2.4 Assessment conditions

Therefore, for each potentially 'worst case' stage, noise levels were predicted at the noise sensitive receptors based on:

1) Neutral atmospheric conditions i.e. relatively calm, no temperature inversion;
2) Worst case atmospheric conditions i.e. temperature inversion. (3˚C/100m); and
3) Worst case wind conditions (3 m/s source to receiver wind).

6.2.5 Modelled operational scenarios

Modelling for the proposed operations has been undertaken against both the intrusiveness and amenity criterion. For each of the scenarios the following noise modelling was undertaken:

Worst case amenity scenario (9 hour period)

1) Ship unloading (Ship Auxiliary power unit (APU) being the dominant noise source) with Tug boats;
2) Bulk fuel facility operating;
3) Forklift operating 15 minutes / hour;
4) Two truck movements per hour. Refer to Section 6.1.3 for details; and
5) Three meteorological conditions modelled (refer to Section 6.2.2).

Worst case intrusiveness scenario (15 minute period)

1) Ship unloading (Ship Auxiliary power unit (APU) being the dominant noise source) with Tug boats;
2) Bulk fuel facility operating;
3) Forklift operating continuously during a 15 minute period;
4) Three truck movements during a 15 minute period. Refer to Section 6.1.3 for details; and
5) Three meteorological conditions modelled (refer to Section 6.2.2).

The predicted noise impacts have been calculated based upon the assumed sound power levels presented in Section 6.1.

6.3 Predicted operational noise levels

6.3.1 Representative assessment receivers

The results of the environmental noise emissions during normal operations, temperature inversion and prevailing wind conditions, from the bulk fuel facility have been predicted to nearby representative receiver locations. The predicted noise levels presented in Table 22 are assessed against the INP amenity criteria and the predicted noise levels presented in Table 23 are assessed against the INP intrusiveness criteria. Noise contour maps for both scenarios are presented in **Appendix D**.

6.3.1.1 Amenity scenario

Table 22 Noise contribution at representative receiver locations during night-time operational conditions – Amenity criteria

Receiver	Criterion	Neutral		Temperature inversion (Class F, 3˚C/100m)		3m/s source to receiver wind	
		Result	Exceed	Result	Exceed	Result	Exceed
R1	37	24	-	29	-	30	-
R2	37	29	-	33	-	34	-
R3	37	27	-	32	-	32	-
R4	37	29	-	33	-	34	-
R5	37	19	-	23	-	24	-
R6	65	29	-	33	-	34	-
R7	37	27	-	32	-	32	-
R8	37	27	-	32	-	32	-
R9[2]	45	23	-	28	-	28	-
R10	70	43	-	45	-	45	-

Notes:

1) In the EPA INP the school classroom criteria is an internal noise level, with an acceptable noise level of 35 dB(A) and a recommended maximum of 40 dB(A). A 10 dB reduction has been assumed between external and internal noise levels based upon a window being open for adequate natural ventilation.

2) The noise impacts on schools are to be assessed during school hours. As there is not a significant variation in noise levels between the day and night operations, the predicted night time noise levels at the school have been assessed against the school criteria to determine the noise impact.

6.3.1.2 Intrusiveness scenario

Table 23 Noise contribution at representative receiver locations during night-time operational conditions – Intrusiveness criteria

Receiver	Criterion	Neutral		Temperature inversion (Class F, 3˚C/100m)		3m/s Source to receiver wind	
		Result	Exceed	Result	Exceed	Result	Exceed
R1	42	25	-	30	-	30	-
R2	42	30	-	34	-	35	-
R3	42	28	-	32	-	33	-
R4	42	30	-	34	-	35	-
R5	44	19	-	24	-	24	-

Receiver	Criterion	Neutral		Temperature inversion (Class F, 3˚C/100m)		3m/s Source to receiver wind	
		Result	Exceed	Result	Exceed	Result	Exceed
R6	-	30	-	34	-	35	-
R7	42	28	-	33	-	33	-
R8	42	28	-	32	-	33	-
R9[2]	45	24	-	29	-	29	-
R10	-	48	-	49	-	50	-

Notes:

1) In the EPA INP the school classroom criteria is an internal noise level, with an acceptable noise level of 35 dB(A) and a recommended maximum of 40 dB(A). A 10 dB reduction has been assumed between external and internal noise levels based upon a window being open for adequate natural ventilation.

2) The noise impacts on schools are to be assessed during school hours. As there is not a significant variation in noise levels between the day and night operations, the predicted night time noise levels at the school have been assessed against the school criteria to determine the noise impact.

6.3.2 Tonality and INP modifying factors

A screening test has been applied to the combined overall predicted noise levels at nearby noise sensitive receivers, refer to **Appendix F**.

The results in **Appendix F** show that none of the proposed noise sources, either individual or combined, to be operated at the Bulk Fuel Facility are tonal at the source, and as such they will not be tonal at nearby receiver locations.

In AECOM's experience Fuel Pumps are not typically tonal in nature, and additionally in this situation the fuel pumps are not a controlling noise source of predicted noise levels at nearby receiver locations from operations at the Bulk Fuel Facility.

Additionally, none of the proposed noise sources to be operated at the Bulk Fuel Facility contain characteristics such as impulsiveness, intermittency, irregularity or dominant low-frequency content in accordance with the INP.

The only exception is reversing alarms. Refer to Section 7.0 for a discussion of general recommendations in regards to reversing alarms.

6.4 Sleep disturbance

The application notes for the EPA *Industrial Noise Policy* (2000) recommend that sleep disturbance is assessed based on the emergence of the $L_{A1\ (1\ minute)}$ noise level over the corresponding $L_{A90\ (15\ minute)}$ noise level.

The following screening criterion for sleep disturbance is recommended for the assessment of sleep disturbance:

$$L_{A1\ (1\ minute)} < L_{A90\ (15\ minute)} + 15\ dB(A)$$

The noise sources with the greatest potential for causing sleep disturbance are the operations of the trucks when they enter and leave the site, and unloading and berth operations at Berth 4, such as crane operations.

The operation of the truck and the forklift at the Bulk Fuel Facility and potential use of cranes on the ship at Berth 4 are identified as the key noise sources that could potentially cause sleep disturbance. The predicted $L_{A1\ (1\ minute)}$ noise levels are based upon attended measurements undertaken during previous noise assessments. An average increase from L_{Aeq} to L_{max} was found to be 8 dB(A) for general forklift operations, and has also been found to be a reasonable assumption for construction equipment such as truck and crane operations when undertaking construction noise assessments. As such 8 dB(A) has been added to the LAeq sound power level of the truck and forklift operations. The ships power unit at Berth 4 has been identified as the dominant noise source during operations at Berth 4. However, the ships power unit is a relatively constant noise source, and as such there would not be a significant variation between the $L_{A1\ (1\ minute)}$ and $L_{Aeq\ (15\ minute)}$ noise levels. A crane with a

sound power level $L_{A1\ (1\ minute)}$ of 108 dB(A) has instead been used for the sleep disturbance assessment of the ship operations at Berth 4.

An assessment of a typical reversing beeper with a maximum sound power level of 118 dB(A) has been modelled to determine the impact of a reversing beeper on residential receiver locations. The results of this assessment are shown in Table 24, and show that the recommended noise criterion is not exceeded at any residential receiver location.

The night-time sleep disturbance assessment has been undertaken against the most stringent meteorological condition. The same predicted noise levels for 3 m/s source to receiver winds and Class F temperature inversion was predicted for all receiver locations, and so only the results for the Class F temperature inversion scenario have been presented. The results are presented in Table 24. Noise contour maps are provided in Appendix D.

The 900 m separation between the site and the nearest residential receivers means that the maximum external noise levels are not predicted to exceed 49 dB(A) due to the night-time operations of the bulk fuel facility. Therefore, the assessment indicates compliance at all assessment locations during the night-time period.

Table 24 $L_{A1\ (1\ minute)}$ Noise contribution at representative sensitive receiver locations during night time operational conditions

Receiver	Criterion	Predicted $L_{A1\ (1\ minute)}$ with temperature inversion (Class F, 3˚C/100m)			
		Result – Operations excluding reversing alarms	Exceed	Result – Reversing alarms only	Exceed
R1	52	40	-	44	-
R2	52	45	-	48	-
R3	52	44	-	46	-
R4	52	43	-	48	-
R5	54	31	-	35	-
R6	-[1]	41	-	47	-
R7	52	46	-	49	-
R8	52	46	-	49	-
R9	-[1]	45	-	40	-
R10	-[1]	74	-	65	-

Notes:

1) Only residential receivers have been assessed for sleep disturbance.

6.5 Cumulative noise impacts of concurrent operational activities

The EPA INP outlines that recommended total noise levels from industry at different receiver locations, and so in the case that there are other nearby industrial noise sources that are approved and will contribute to the overall noise level at nearby receiver locations, the cumulative impact of the other industrial sources should be considered. Table 25 presents that addition of existing industrial noise levels along with known approved nearby developments to consider the overall cumulative industrial noise level at nearby receiver locations.

Table 25 Predicted noise levels due to concurrent industrial noise emissions and operations of the Bulk Fuel Facility

Receiver location	Predicted noise level (external), $L_{Aeq\ 15\ minute}$ dB(A)				
	Existing and approved noise levels			Bulk Fuel Facility	
	Existing industrial ambient noise level[1]	NCIG[2] Coal Export Terminal[1]	Cumulative existing noise level excluding Bulk Fuel Facility	Predicted operational noise levels from Bulk Fuel Facility	Cumulative existing noise level including Bulk Fuel Facility
R1	45	44	48	30	48
R2	45	44	48	35	48
R3	45	44	48	33	48
R4	45	44	48	35	48
R5	49	36	49	24	49
R6	45	44	48	35	48
R7	45	44	48	33	48
R8	45	44	48	33	48
R9	45	44	48	29	48
R10	-	44		50	

Notes:

1) Existing noise levels have been adopted using the associated reference areas presented in Table 1. The predicted noise levels at Mayfield and Carrington areas have been predicted to in Spectrum Report project 07314 dated September 2008 and Newcastle Coal Infrastructure Group Coal Export Terminal Operational Noise Management Plan, Version 2 Development No. 06 0009, May 2010.

2) NCIG – Newcastle coal infrastructure group. These are maximum allowable noise contributions contained in Condition 2.13, Schedule 2 of the Minister for Planning Project Approval (06_0009).

Table 25, presents the predicted operational noise levels at nearby receiver locations, and shows that they are less than 10 dB below the predicted combined noise. As such the Bulk Fuel Facility noise emissions are predicted not increase the existing and approved noise levels at nearby receiver locations in Mayfield and Carrington.

6.6 Road traffic noise assessment

The existing traffic flows were determined from a RTA permanent count station, Station No. 05.953, located Mayfield West, west of Woodstock Street. It is proposed that the site will generate 56 movements per day by 2012, and 112 movements per day by 2016 as a direct result of the development. It has been concluded that if the proposed development were to go ahead, traffic on surrounding roads would be altered as detailed in Table 28.

Table 26 Potential traffic generation

Bulk Fuel Storage Facility	Adopted rates and movements
Road delivery movements	2012: 36 tanker movements per day, 10 PM peak hour movements. 2016: 72 tanker movements per day, 10 PM peak hour movements.
Staff/Visitor movements	2012: 20 vehicle movements per day, 10 PM peak hour movements. 2016: 40 vehicle movements per day, 10 PM peak hour movements.
Project trip total	2012: Daily 56 movements. Peak 20 movements 2016: Daily 112 movements. Peak 20 movements

Table 27 RTA traffic count for Industrial Drive, Mayfield (RTA, 2005)

Station Number	Location	1995	1998	2001	2004
05.953	Mayfield Nth-West Of Woodstock St	29746	29549	30334	30717

The existing traffic flows were determined from the most recent published RTA permanent count station data for Station No. 05.953, located Mayfield West, west of Woodstock Street which is located 1.4km to the west of the location of the access road at the intersection of Industrial Drive and Ingall Street. It is proposed that the site will generate 56 movements per day by 2012, and 112 movements per day by 2016 as a direct result of the development. It has been concluded that if the proposed development were to go ahead, traffic on surrounding roads would be altered as detailed in Table 28.

Table 28 Summary of traffic flow increase

Location	Year	Existing traffic numbers[1]	Existing traffic noise levels[3]	Nett increase	% Increase	Increase in noise levels, dB(A)
Industrial drive, Mayfield Station No. 05.953	2012	30717	69 dB(A) $L_{Aeq\ (15hr)}$ 62 dB(A) $L_{Aeq\ (9hr)}$	56[2]	0.2	<0.5
	2016			112[2]	0.4	<0.5

Notes:

1) Traffic Numbers are based upon the Traffic Volume Data for Hunter and Northern Regions 2004, produced by the Roads and Traffic Authority.

2) This is the worst case scenario where all traffic movements from the site head in the same direction from the site along Industrial Drive, Mayfield, and this is based upon the lowest annual average traffic flow numbers on Industrial Drive in proximity of the site.

3) Sourced from *"Noise Impact Assessment, Marstel Terminals Newcastle, Mayfield (BHP) Site, NSW",* 2008 by Spectrum Acoustics;

Table 29 Predicted traffic noise levels

Year	2012	
Period	$L_{Aeq\ (15hr)}$, Day (7:00 am – 10:00 pm)	$L_{Aeq\ (9hr)}$, Night (10:00 pm – 7:00 am)
Exiting noise levels, dB(A)[2]	69	62
Predicted noise levels from site generated traffic, dB(A)	50	51
Predicted noise levels with site generated traffic, dB(A)	69	62
Increase in noise levels as a result of site generated traffic, dB(A)	<0.5	<0.5

Notes:

1) The presented noise levels are for 2012, and similar results would be predicted for 2016 traffic noise levels.

2) Sourced from *"Noise Impact Assessment, Marstel Terminals Newcastle, Mayfield (BHP) Site, NSW",* 2008 by Spectrum Acoustics;

Predicted traffic noise increases on road surrounding the proposed development are less than 2 dB(A) for both the 2012 and 2016 scenarios based upon the estimated daily vehicle movements presented in Table 26. The existing traffic noise levels were presented in the Spectrum Report No.07314 dated September 2008. Even though the existing traffic noise levels exceed the recommended traffic noise criteria in accordance with the EPA RNP, the increase in traffic noise as a result of traffic from the project site would not have a noticeable impact on sensitive receivers adjacent to Industrial Drive, Mayfield, and it would not be reasonable or feasible to provide noise mitigation measures as the worst case traffic noise increase from the project site would not be noticeable to nearby receiver locations.

The proposed access route will generate approximately 40 truck movements/day and a number of light vehicles during working hours as part of the construction activities associated with the bulk fuel facility. The number of light vehicles are not anticipated to exceed the proposed number of vehicles associated with the operations of the bulk fuel facility. It is considered unlikely that the proposed vehicle movements associated with the construction site would exceed the applicable noise criteria on Industrial Drive. As such, no further consideration has been made within this assessment for construction road traffic noise.

7.0 Noise and Vibration Management and Mitigation Strategies

The noise and vibration management and mitigation strategies apply to both construction and operations of the proposed Marstel Bulk Fuel Facility.

The ICNG accepts the fact that large scale construction often results in excessive noise, albeit on a temporary basis, and where physical mitigation options are limited, stresses the importance of community engagement in a frank and upfront manner.

The ICNG recommends that the contractor demonstrate best practicable means of controlling noise and include noise mitigation measures in the construction management plan to minimise the noise impact at sensitive receivers. This may include the work practices described below.

7.1 Construction hours

The proposed Bulk Fuel facility construction activities are recommended to be scheduled during ICNG standard construction hours (Monday to Friday – 7:00 am to 6:00 pm and Saturday – 8:00 am to 1:00 pm).

7.2 Standard mitigation measures

All construction and operational activities associated with the site should be subject to the standard noise and vibration mitigation measures described below:

Where reasonable and feasible, apply best practice noise mitigation measures including:

- Maximise the offset distance between noisy plant items and nearby noise sensitive receivers;
- Avoiding the coincidence of noisy plants working simultaneously close together and adjacent to sensitive receivers would be avoided, where practicable;
- Where possible, equipment with directional noise emissions would be orientated away from sensitive receivers;
- Locate noisy plant away from potentially noise affected neighbours or behind barriers, such as sheds or walls;
- Loading and unloading would be carried out away from sensitive receivers, where practicable;
- The selection of site access points would take into account the proximity of noise sensitive receivers;
- Maintenance work on construction plants with the potential to generate noise impacts would be carried out away from noise sensitive receivers and confined to standard daytime construction hours, where possible;
- Minimising consecutive works in the same locality, where practicable;
- Turn off plant that is not being used;
- Examine, and implement where feasible and reasonable, alternative work practices which generate less noise – for example, use electric equipment instead of diesel or petrol powered equipment;
- Examine, and implement where feasible and reasonable, the use of silenced equipment and noise shielding around stationary plant (such as generators), subject to manufacturers' design requirements;
- Ensure plant is regularly maintained, and repair or replace equipment that becomes noisy;
- Arrange the work site to minimise the use of movement alarms on vehicles and mobile plant; and
- Undertake bulk fuel facility construction activities in accordance with the approved hours of work.

7.3 Respite periods

- There are no high impact noise activities proposed to take place, such as those likely to generate noise levels above L_{Aeq} 75 dB(A) or activities likely to generate noise with intermittent, impulsive, tonal or low-frequency characteristics which have the potential to affect the amenity of adjacent noise receivers; and

- In the case that high impact noise activities or activities likely to generate noise with intermittent, impulsive, tonal or low-frequency characteristics are required appropriate notification prior to works commencing and respite periods would have to be implemented.

7.4 Local road traffic – heavy vehicles noise mitigation

The following mitigation measures are proposed in order to minimise the impact of exceedances from heavy vehicles on local roads for the criteria at residential receiver locations:

- All trucks would be fitted with mufflers and any other noise control equipment in good working order.
- As far as practical and safety consideration, truck drivers would avoid:
  - Heavy acceleration and braking;
  - Compression braking;
  - Reversing as far as practicable;
  - High speeds;
  - Pick-ups and deliveries outside standard construction hours and
  - Idling outside noise sensitive receivers.

Truck routes to and from the worksite will be via major roads where possible, in accordance with the Traffic Management Protocol and Traffic Management Plan.

7.5 Reversing alarms

The use of broadband reversing alarms or other non-tonal vehicle movement and warning alarms is recommended. The potential noise impact associated with reversing alarms can be managed and minimised via a combination of proactive driver/operator training and operational procedures. The following additional mitigation strategies would be undertaken, taking into account that WorkCover OH&S requirements would need to be satisfied with respect to safety surrounding construction vehicles.

- The primary means for minimising reversing alarm noise would be through a dedicated effort on the part of all drivers to minimise, wherever feasible, the amount of reversing of their vehicles;
- Wherever feasible, turning circles would be created at the end points of vehicle work legs, which would allow trucks and the like, to turn and avoid the need for reversing; and
- Emphasis would be placed during driver training and site induction sessions on the potential adverse impact of reversing alarms and the need to minimise their use.

7.6 Equipment selection and maintenance

When carrying out operations at the Bulk Fuel Facility and during construction works the contractor should select equipment taking into account noise and vibration emissions, such as (but not limited to):

- Smaller equipment options or rubber-tracked equipment where equipment is fit-for-purpose and economically feasible;
- All equipment would be maintained and operated in an efficient manner, in accordance with manufacturer's specifications, to reduce the potential for adverse noise and vibration impacts; and
- Regular checks of equipment noise levels would be made to ensure that noise levels do not increase as a result of poor maintenance practice or say the replacement of individual items of equipment with alternatives which have higher noise emissions;

8.0 Conclusion

This report presents the results of a study on construction and operational noise and vibration emission from the proposed Marstel Bulk Fuel Facility, which is to be located at Mayfield, NSW.

Construction noise and vibration

Noise producing construction activities with typical associated equipment have been modelled at the project site to give an indication of the noise emissions that the nearest residential and commercial receivers will experience.

The construction noise and vibration assessment was conducted in accordance with NSW Environment Protection Authority (EPA) '*Interim Construction Noise Guidelines' (ICNG, 2009)*.

The construction noise assessment indicates compliance with EPA's ICNG acoustic requirements at all assessment locations during the daytime (i.e. during EPA's standard construction hours).

The construction vibration assessment indicates that due to the large buffer distance between the project site and nearby residential receivers, the risk of discomfort, regenerated noise and structural damage impacting on receivers is extremely low.

Operational noise and vibration

The operational environmental noise emission criteria for the development have been quantified in Section 4.0 of this report and have been established to comply with the EPA's Industrial Noise Policy (INP, 2000).

The operational noise impact assessment indicates compliance under neutral and prevailing meteorological conditions at all assessment locations during the daytime, evening and night-time periods. Compliance is conditional that the equipment installed produce noise levels similar or less than those shown in Section 6.0.

No items of plant and equipment used in operation of the project site are expected to generate significant levels of vibration and therefore, operational vibration impacts are consequently expected to be negligible.

Sleep disturbance

The sleep disturbance assessment was conducted in accordance with EPA's INP guidelines. The assessment indicates compliance at all assessment locations during the night-time period.

Cumulative noise impacts

An assessment of the cumulative impact of concurrent construction noise and vibration activities was undertaken. As there are no other known approved construction activities to occur concurrently with the proposed construction works there will not be any additional increase in the predicted noise impacts from construction activities on nearby noise sensitive receiver locations.

An assessment of the cumulative operational noise and vibration impacts from other industrial sites nearby to the project site in addition to the project site was undertaken to determine the total noise exposure of nearby receivers. The assessment found that based upon the predicted noise levels the Bulk Fuel Facility noise emissions are predicted not increase the existing and approved noise levels at nearby receiver locations.

Road traffic noise

The construction and operational road traffic noise assessment was conducted in accordance with EPA's Road Noise Policy (RNP, 2011) guideline.

The road traffic noise assessment associated with construction and operational phases of the Bulk Fuel Facility indicates compliance with EPA's RNP acoustic criteria.

Appendix A

Acoustic Terminology

The following is a brief description of acoustic terminology used in this report.

Sound power level	Sound power level is the total sound energy produced by a sound source.
Sound pressure level	Sound pressure level is the portion of sound energy at a point a distance from the sound source.
Decibel [dB]	The measurement unit of sound
A Weighted decibels [dB(A])	The A weighting is a frequency filter applied to measured noise levels to represent how humans hear sounds. The A-weighting filter emphasises frequencies in the speech range (between 1kHz and 4 kHz) which the human ear is most sensitive to, and places less emphasis on low frequencies at which the human ear is not so sensitive. When an overall sound level is A-weighted it is expressed in units of dB(A).
Decibel scale	The decibel scale is logarithmic in order to produce a better representation of the response of the human ear. A 3 dB increase in the sound pressure level corresponds to a doubling in the sound energy. A 10 dB increase in the sound pressure level corresponds to a perceived doubling in volume. Examples of decibel levels of common sounds are as follows:
	0dB(A) Threshold of human hearing
	30dB(A) A quiet country park
	40dB(A) Whisper in a library
	50dB(A) Open office space
	70dB(A) Inside a car on a freeway
	80dB(A) Outboard motor
	90dB(A) Heavy truck pass-by
	100dB(A) Jackhammer/Subway train
	110 dB(A) Rock Concert
	115dB(A) Limit of sound permitted in industry
	120dB(A) 747 take off at 250 metres
Frequency [f]	The repetition rate of the cycle measured in Hertz (Hz). The frequency corresponds to the pitch of the sound. A high frequency corresponds to a high pitched sound and a low frequency to a low pitched sound.
Equivalent continuous sound level [L_{eq}]	The constant sound level which, when occurring over the same period of time, would result in the receiver experiencing the same amount of sound energy.
L_{max}	The maximum sound pressure level measured over the measurement period
L_{min}	The minimum sound pressure level measured over the measurement period
L_{10}	The sound pressure level exceeded for 10% of the measurement period. For 10% of the measurement period it was louder than the L_{10}.
L_{90}	The sound pressure level exceeded for 90% of the measurement period. For 90% of the measurement period it was louder than the L_{90}.
Ambient noise	The all-encompassing noise at a point composed of sound from all sources near and far.

Background noise	The underlying level of noise present in the ambient noise when extraneous noise (such as transient traffic and dogs barking) is removed. The L90 sound pressure level is used to quantify background noise.
Traffic noise	The total noise resulting from road traffic. The L_{eq} sound pressure level is used to quantify traffic noise.
Day	The period from 0700 to 1800 h Monday to Saturday and 0800 to 1800 h Sundays and Public Holidays.
Evening	The period from 1800 to 2200 h Monday to Sunday and Public Holidays.
Night	The period from 2200 to 0700 h Monday to Saturday and 2200 to 0800 h Sundays and Public Holidays.
Assessment background level [ABL]	The overall background level for each day, evening and night period for each day of the noise monitoring.
Rating background level [RBL]	The overall background level for each day, evening and night period for the entire length of noise monitoring.

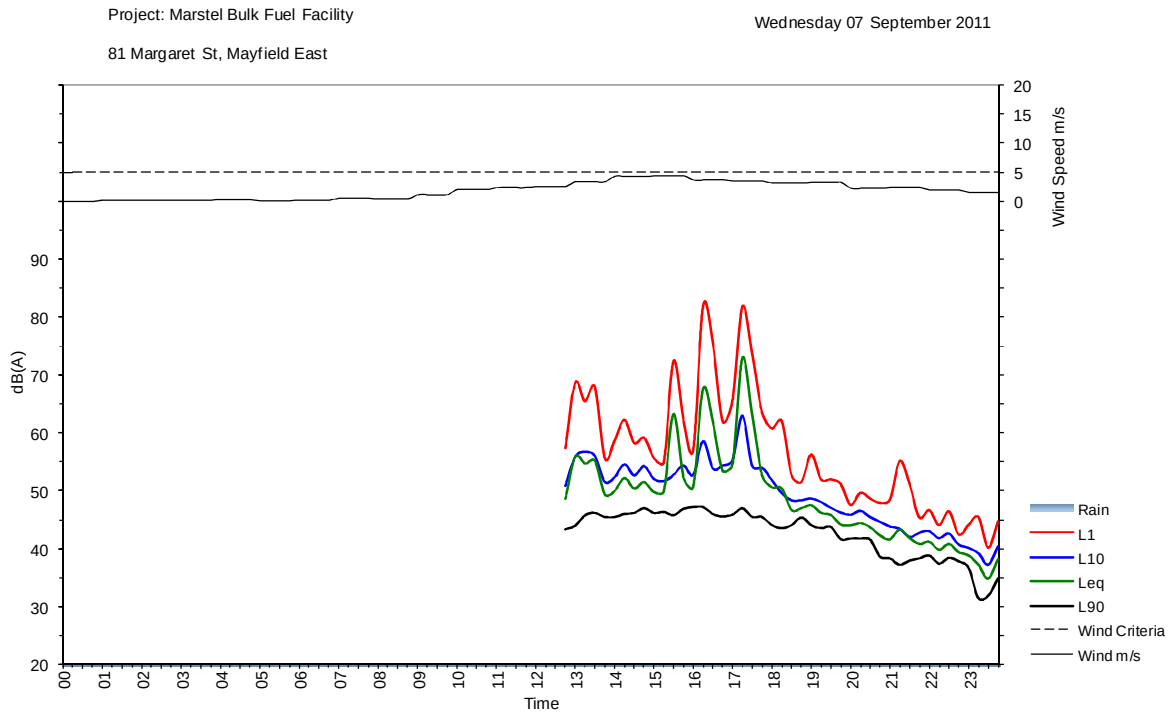
*Definitions of a number of terms have been adapted from Australian Standard AS1633:1985 “Acoustics – Glossary of terms and related symbols”, the EPA’s NSW Industrial Noise Policy and the EPA’s Road Noise Policy.

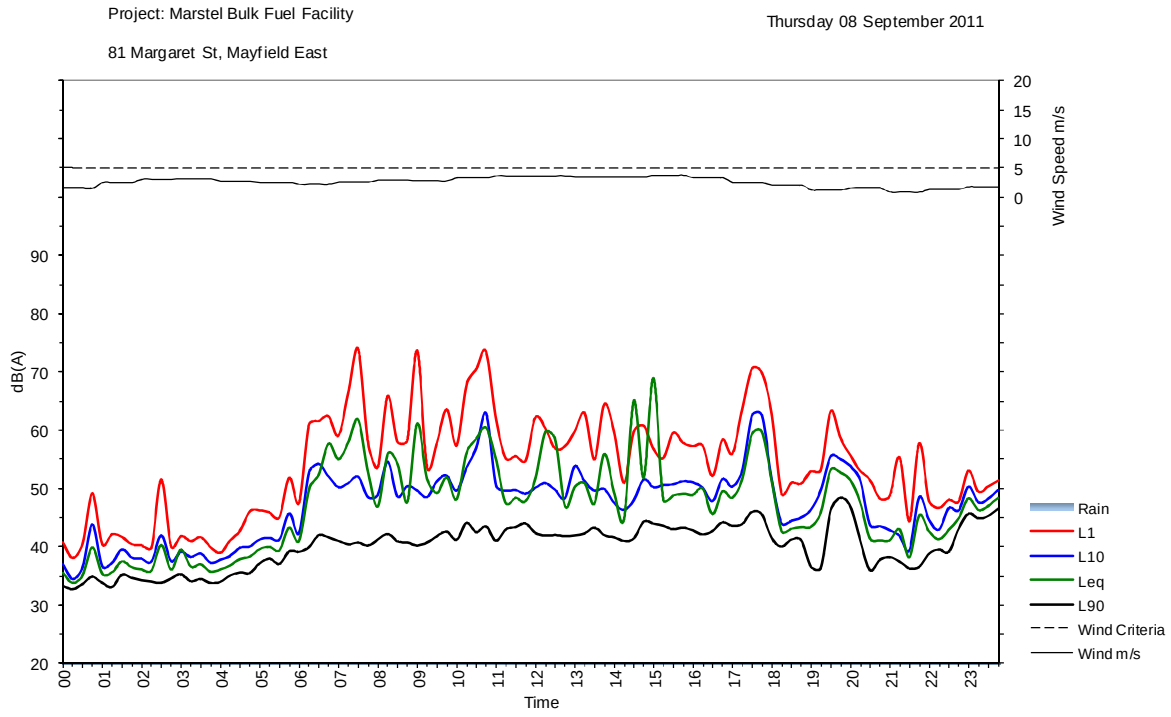
Appendix B

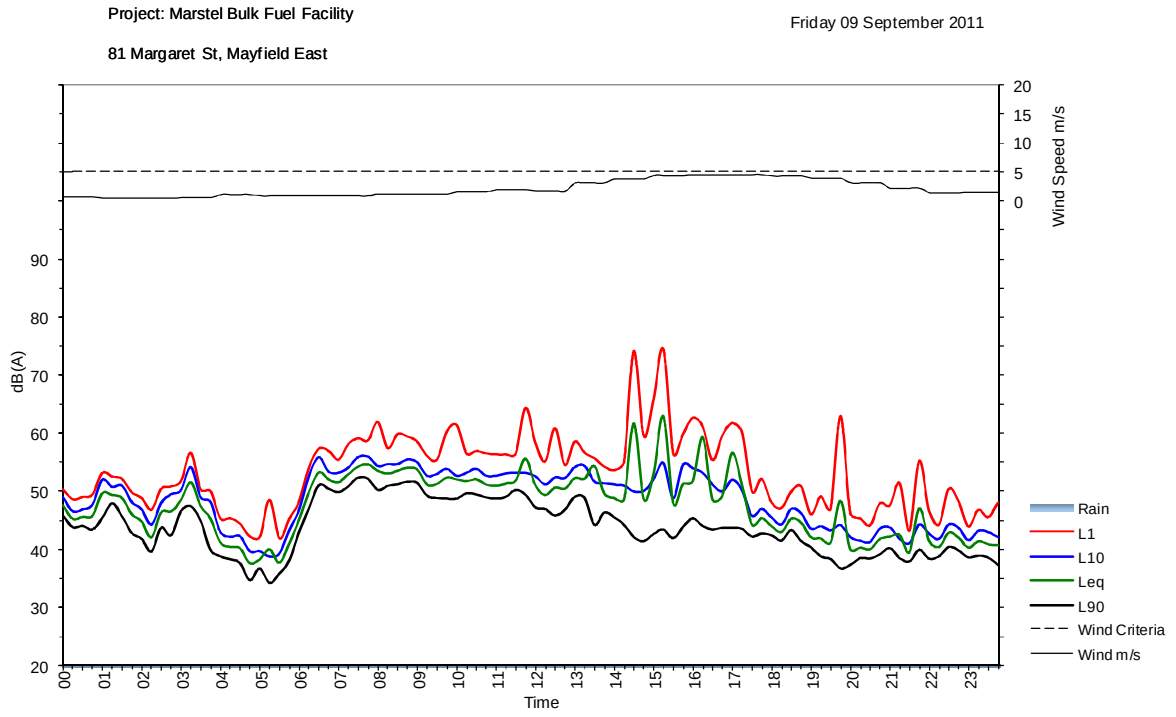
Long term noise monitoring graphs

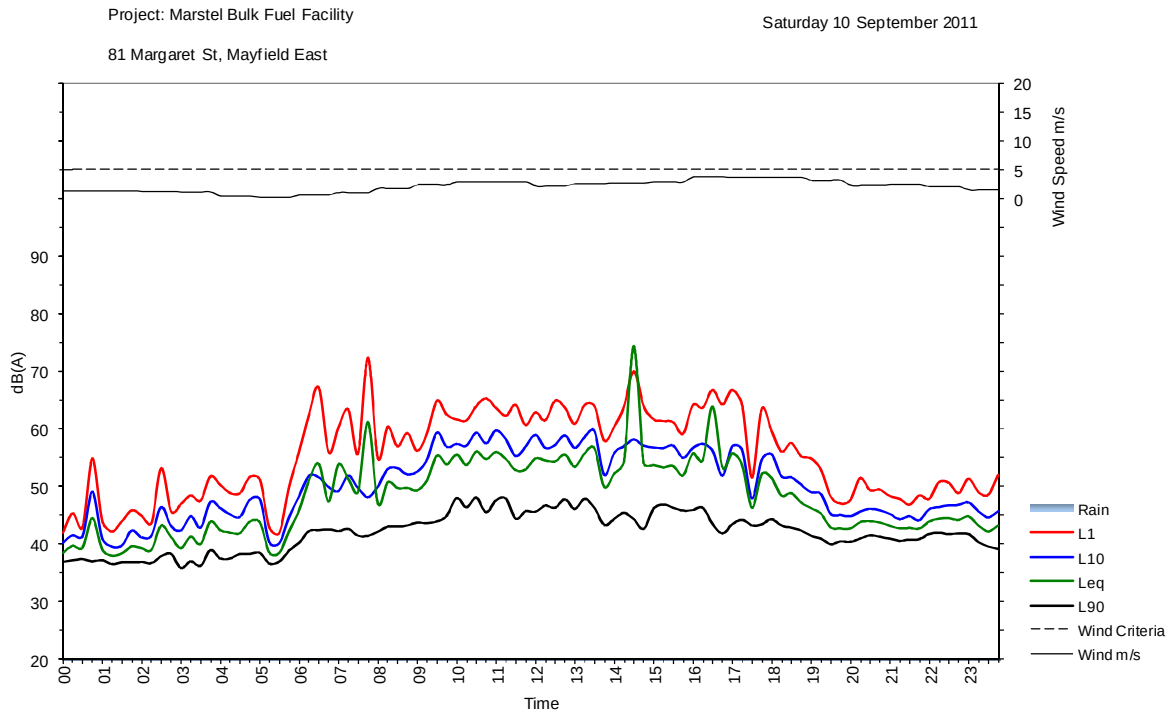
Appendix B Long term noise monitoring graphs

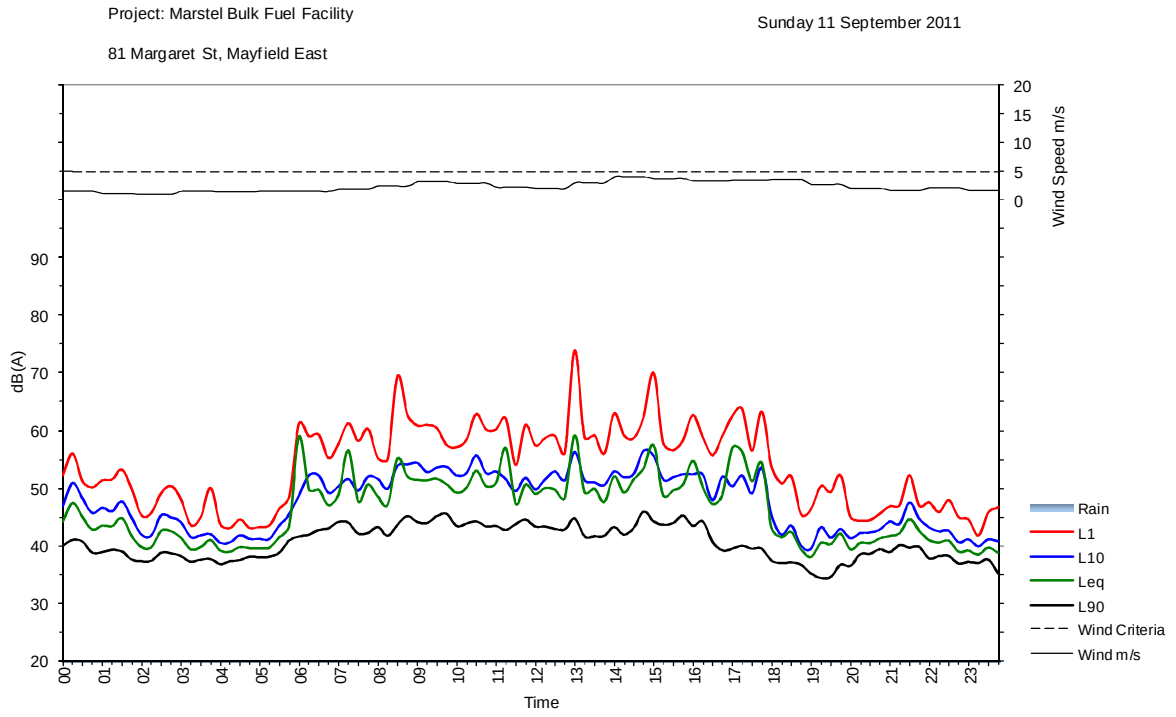
81 Margaret St, Mayfield East

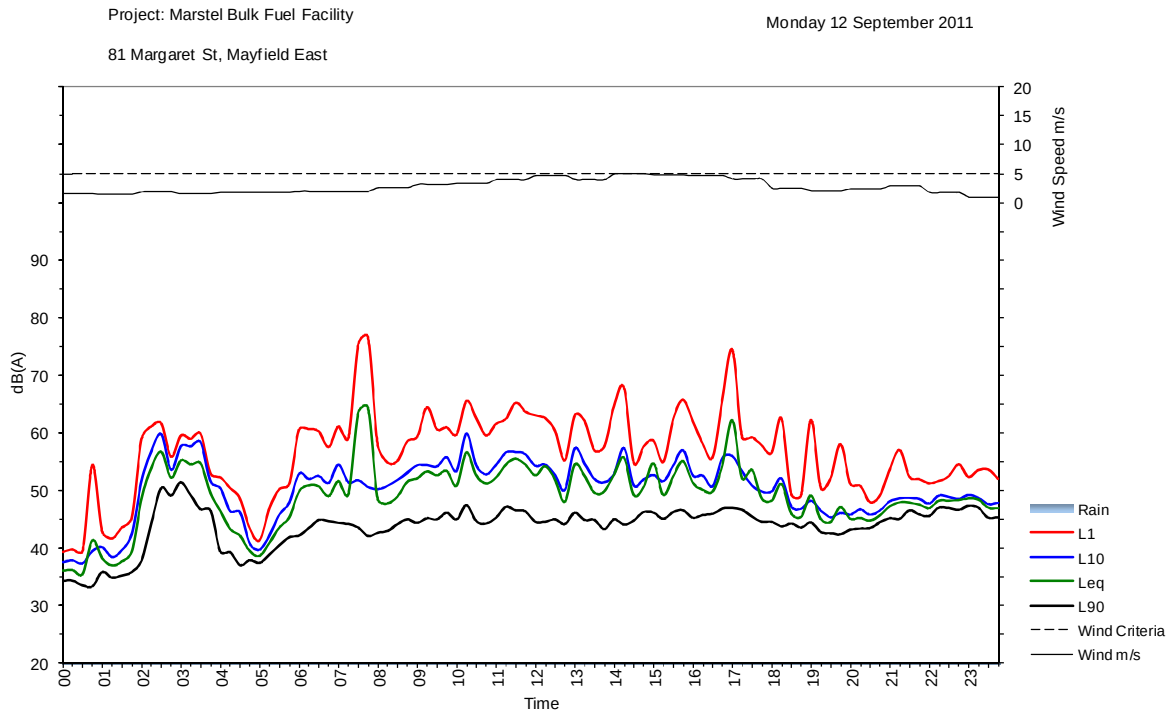


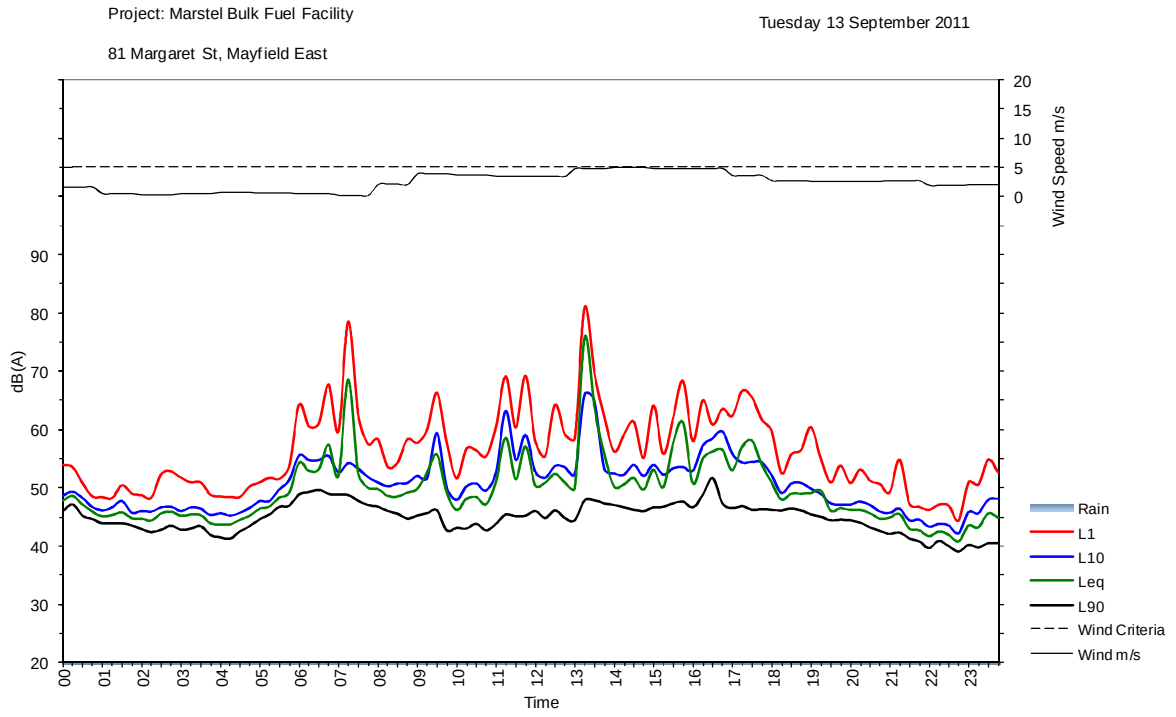


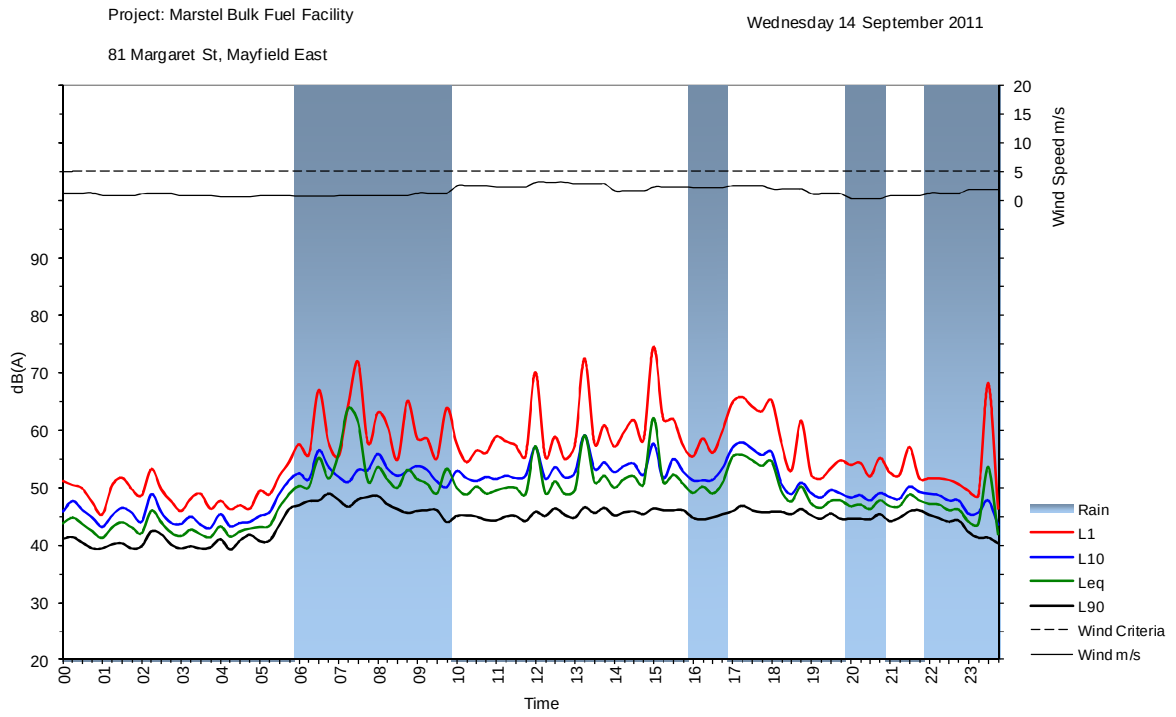

Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Friday 09 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

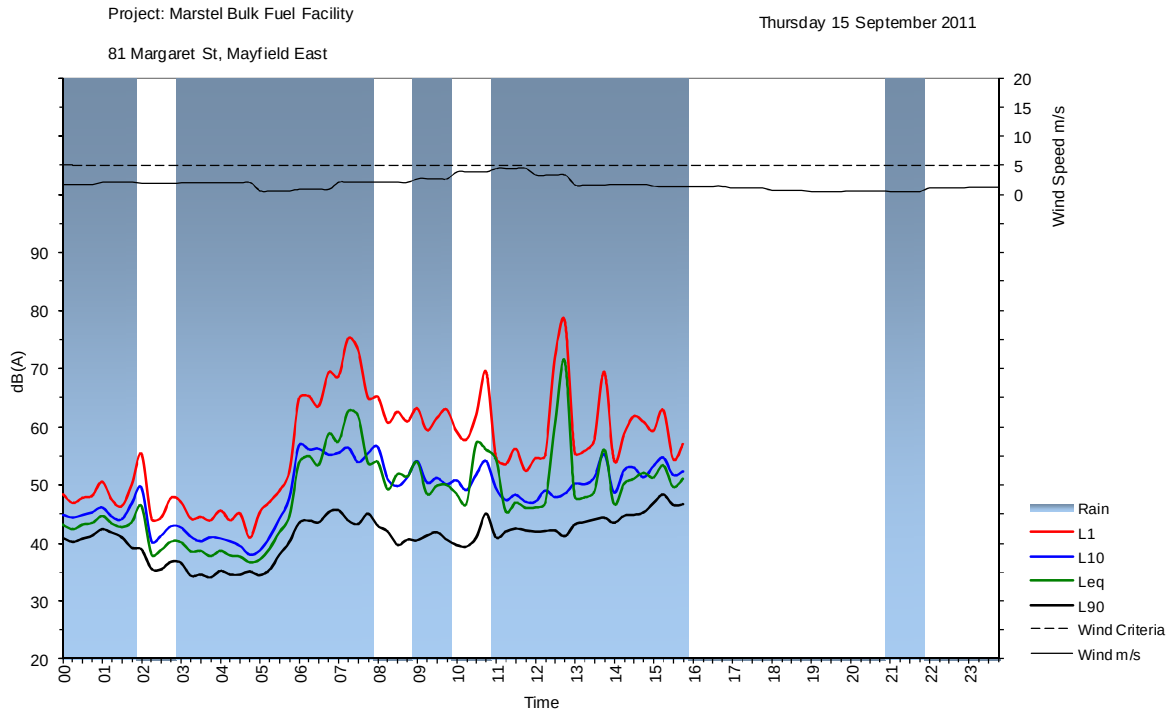

Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Saturday 10 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Sunday 11 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Monday 12 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Tuesday 13 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Wednesday 14 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s


Project: Marstel Bulk Fuel Facility
81 Margaret St, Mayfield East
Thursday 15 September 2011
dB(A)
Wind Speed m/s
Time
Rain
L1
L10
Leq
L90
Wind Criteria
Wind m/s

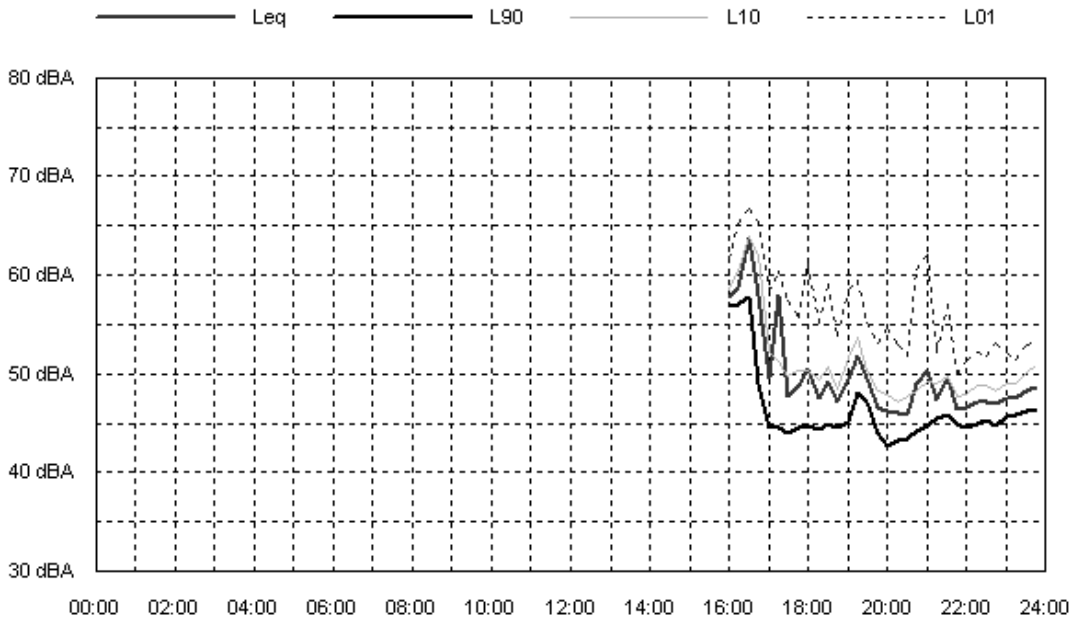
Appendix C

Noise logging graphs -

Mayfield Site Port-Related Activities Concept Plan EA - Wilkinson Murray, Report No. 09077, Version F, July 2010

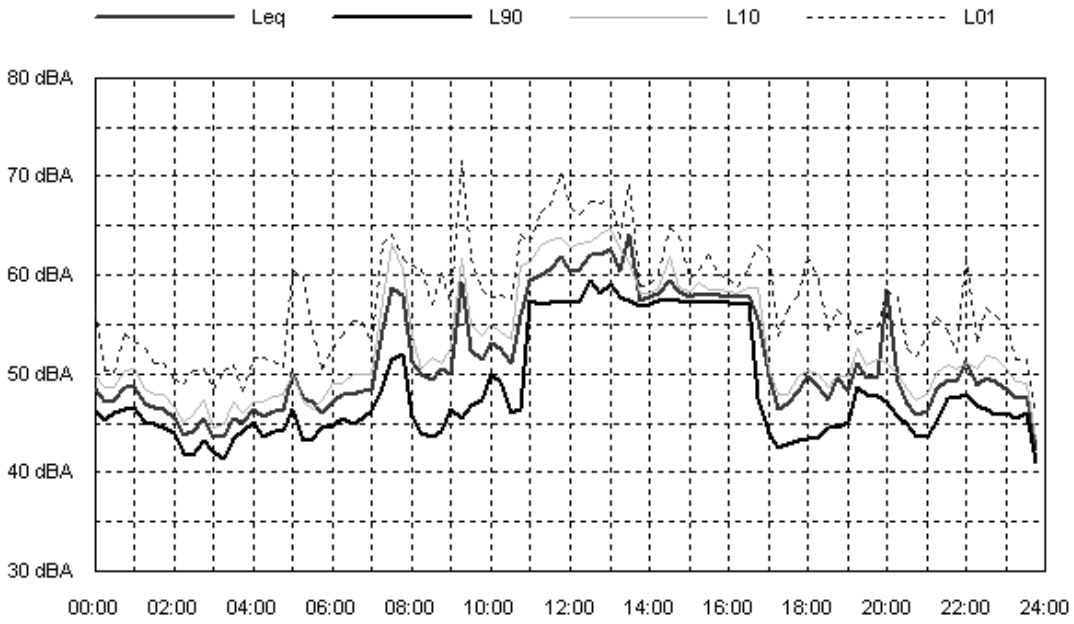
Location: 32 Elizabeth Street Carrington

Wed 18 Mar 09

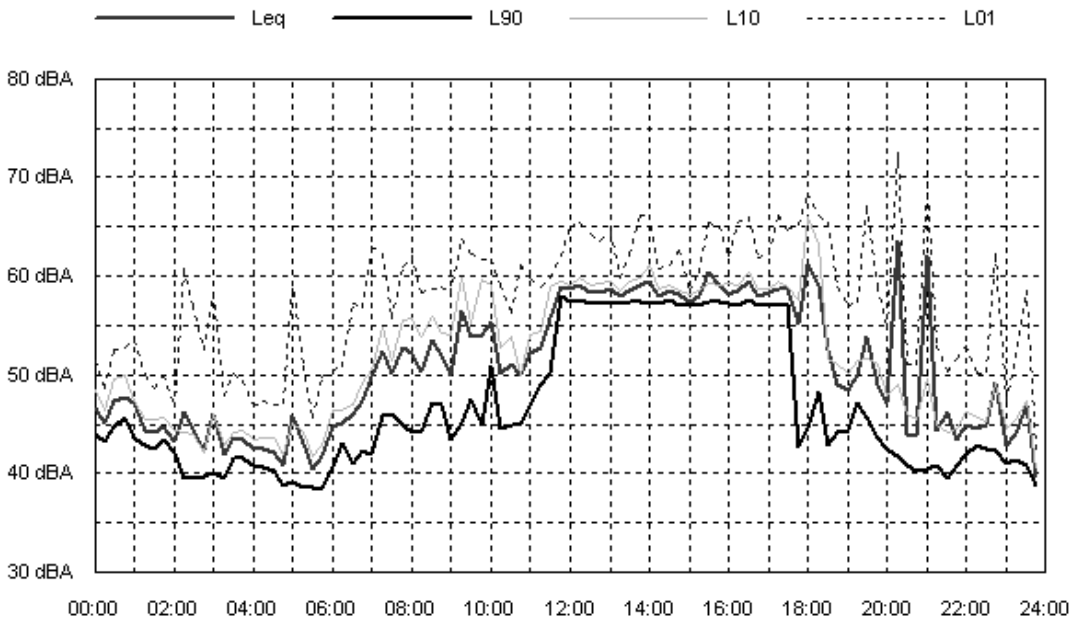


Location: 32 Elizabeth Street Carrington

Thu 19 Mar 09

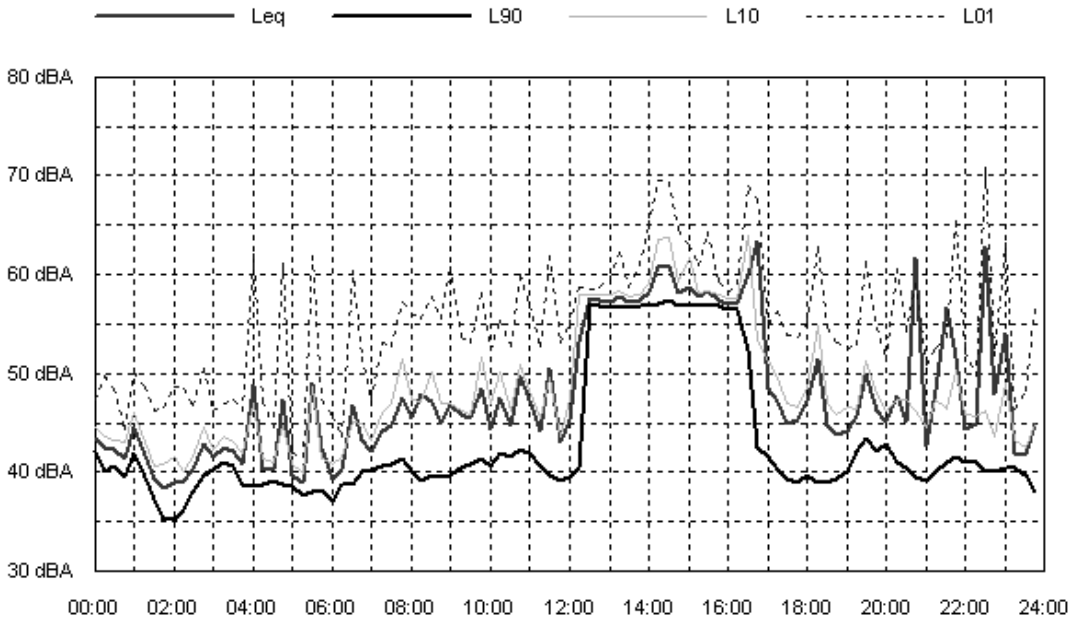


Fri 20 Mar 09

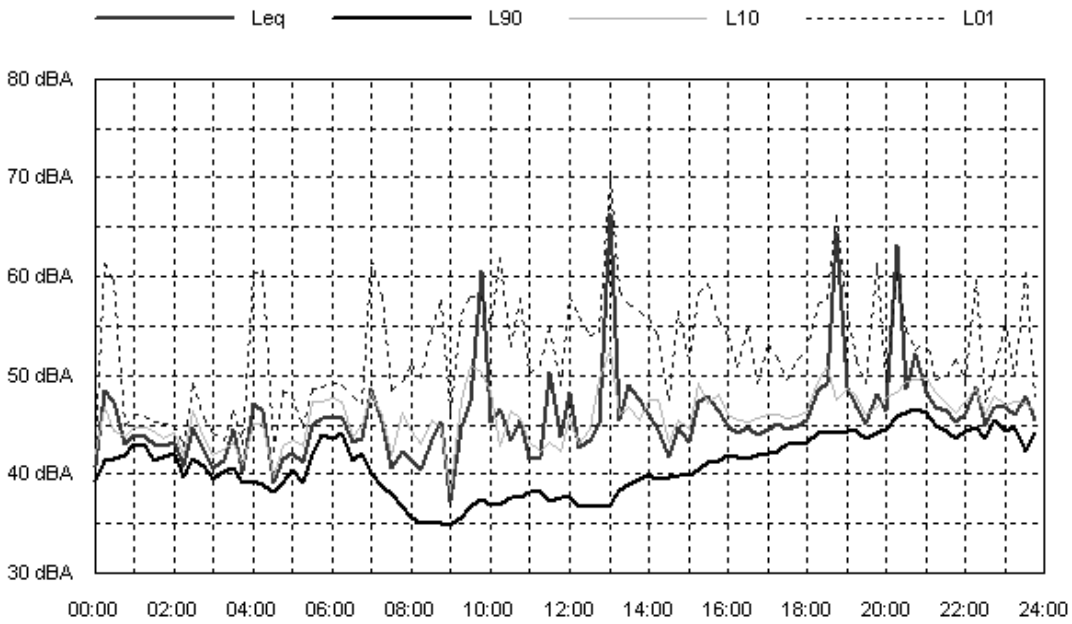


Location: 32 Elizabeth Street Carrington

Sat 21 Mar 09

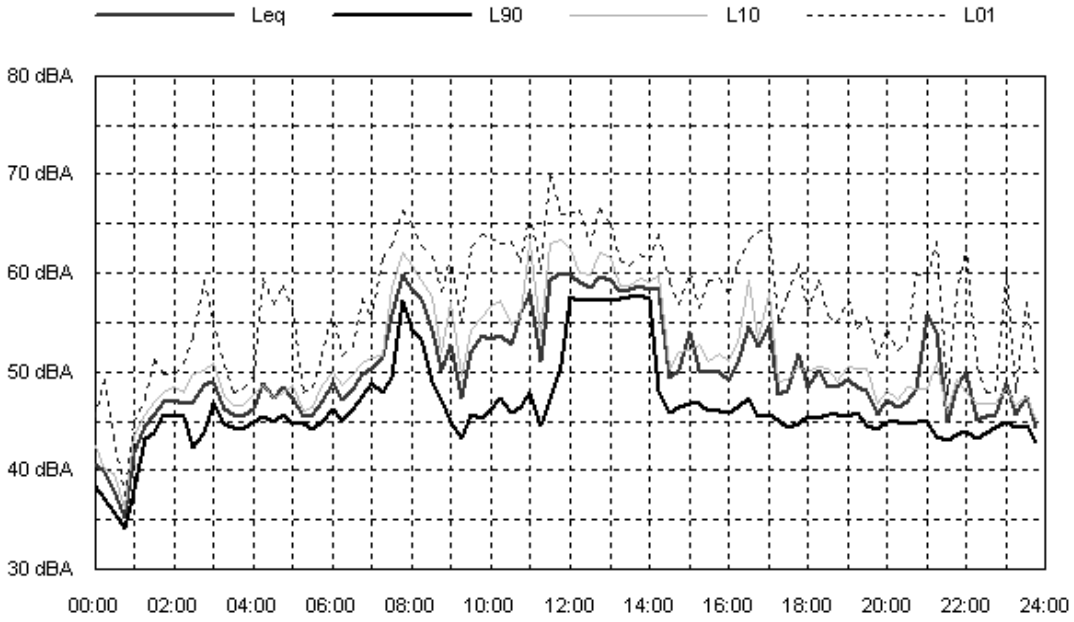


Sun 22 Mar 09

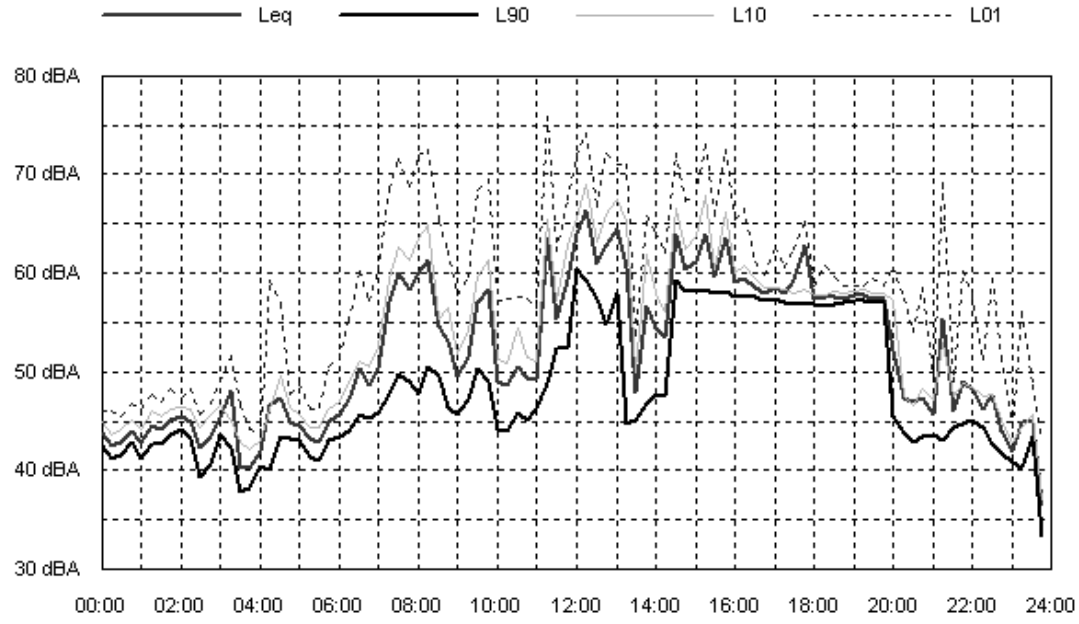


Location: 32 Elizabeth Street Carrington

Mon 23 Mar 09



Tue 24 Mar 09



Location: 32 Elizabeth Street Carrington

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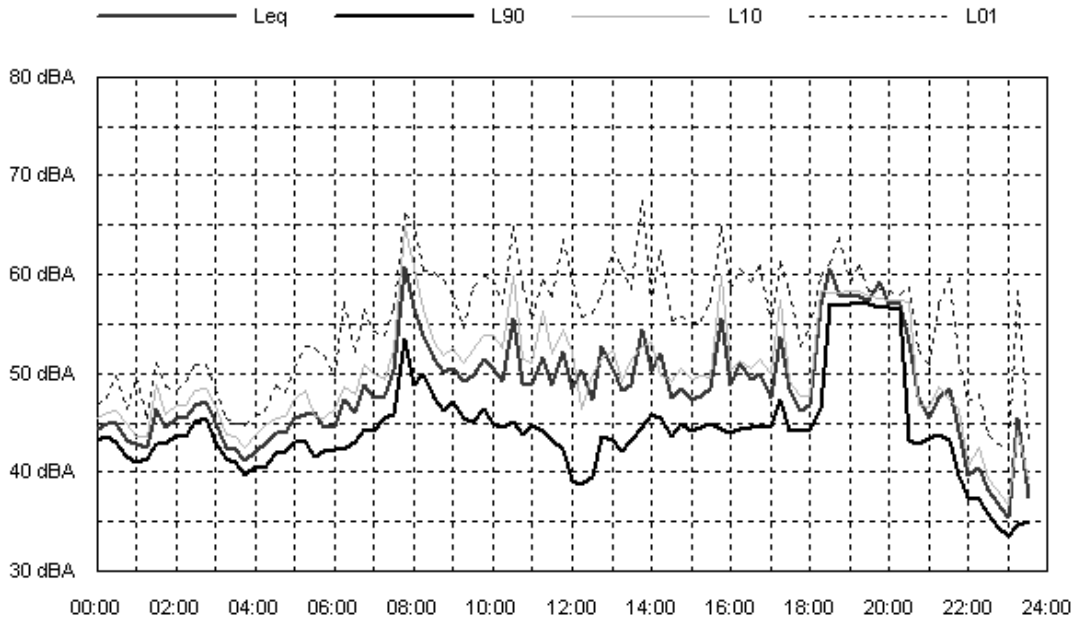

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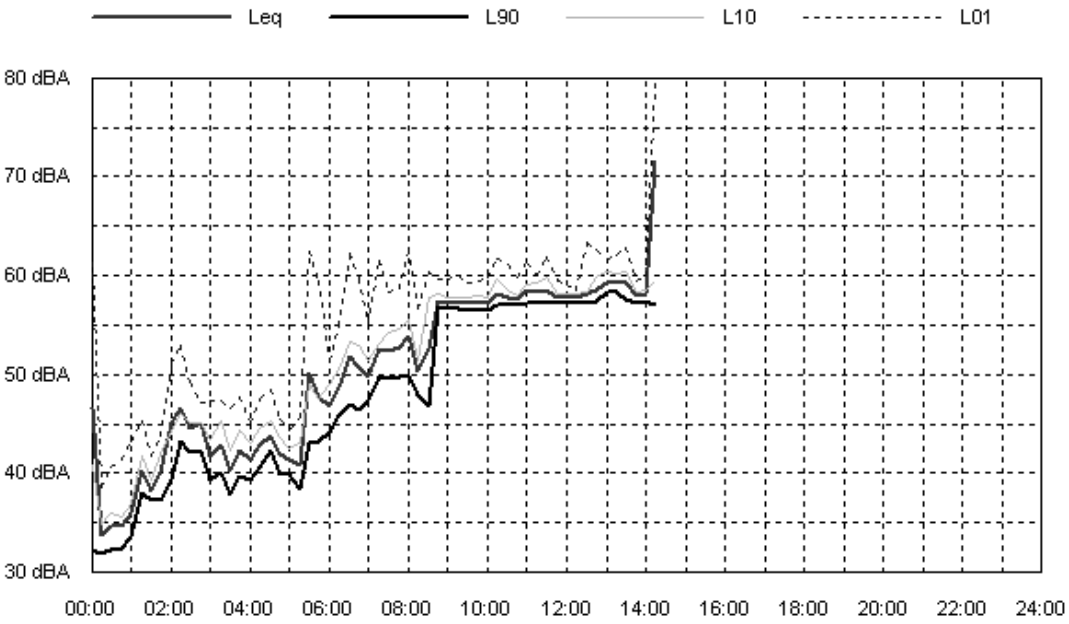
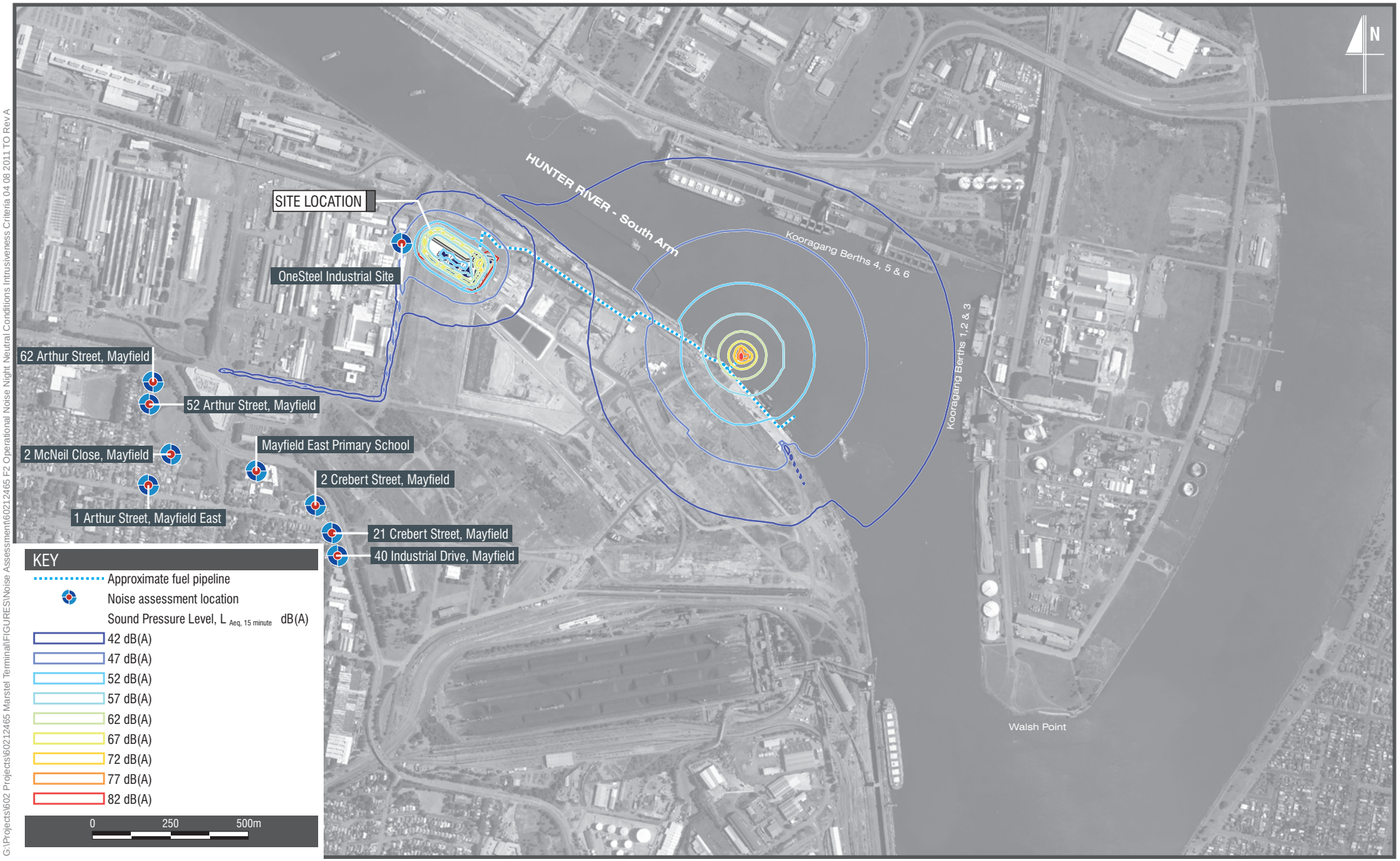


Appendix D

Operational and construction noise contour maps



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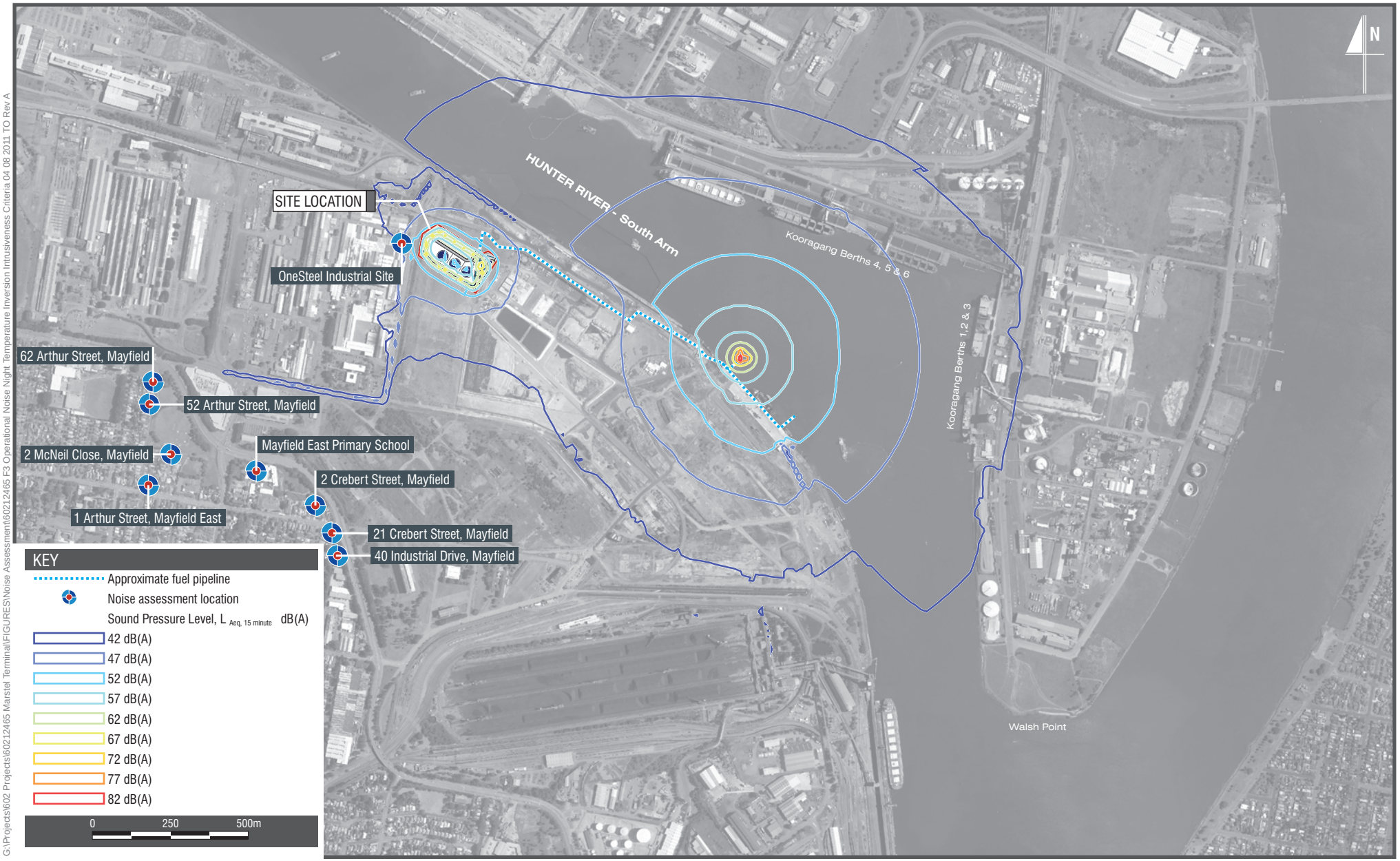
AECOM

OPERATIONAL NOISE - NIGHT - NEUTRAL CONDITIONS - INTRUSIVENESS CRITERIA

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 2



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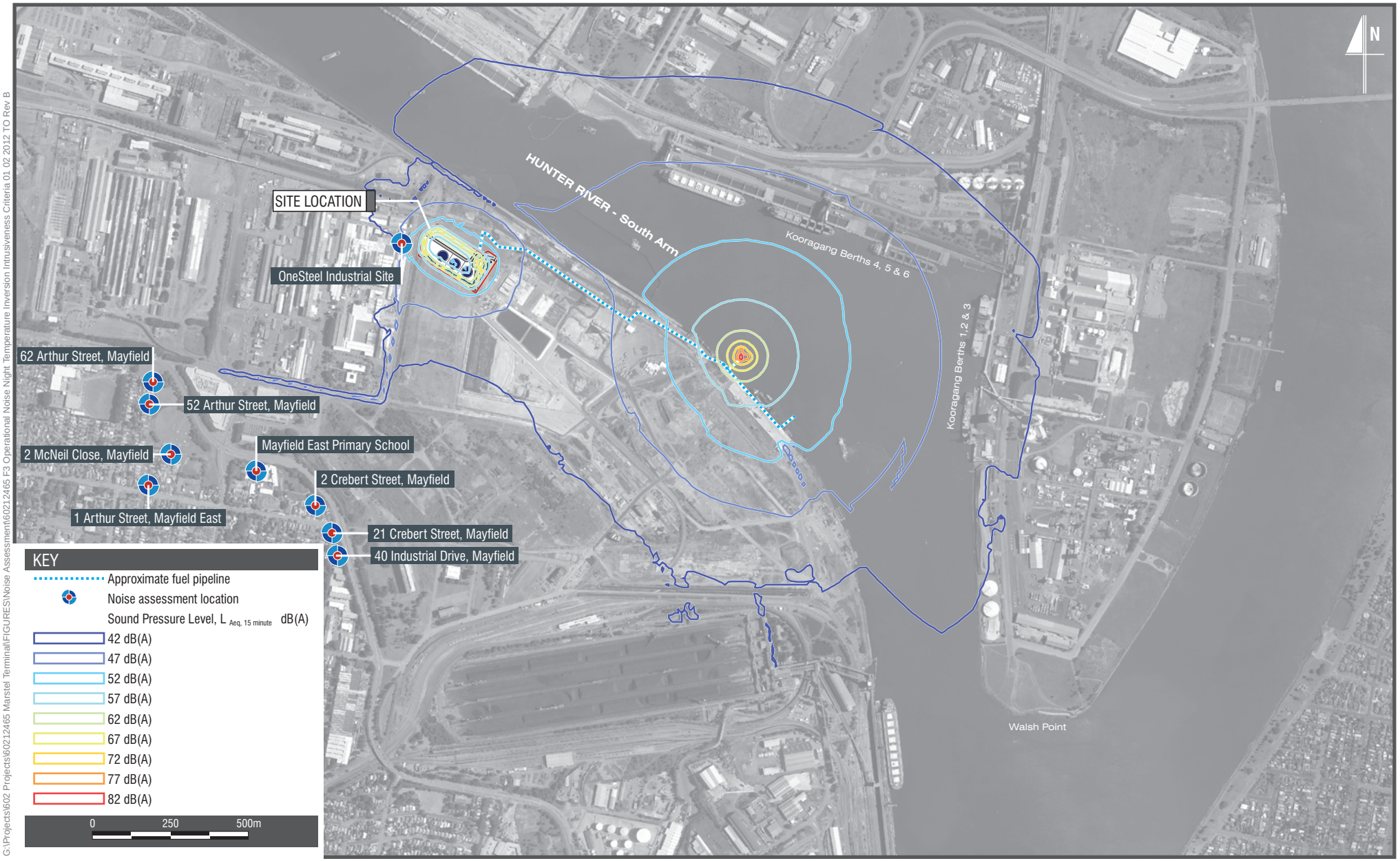
OPERATIONAL NOISE - NIGHT - TEMPERATURE INVERSION - INTRUSIVENESS CRITERIA

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 3



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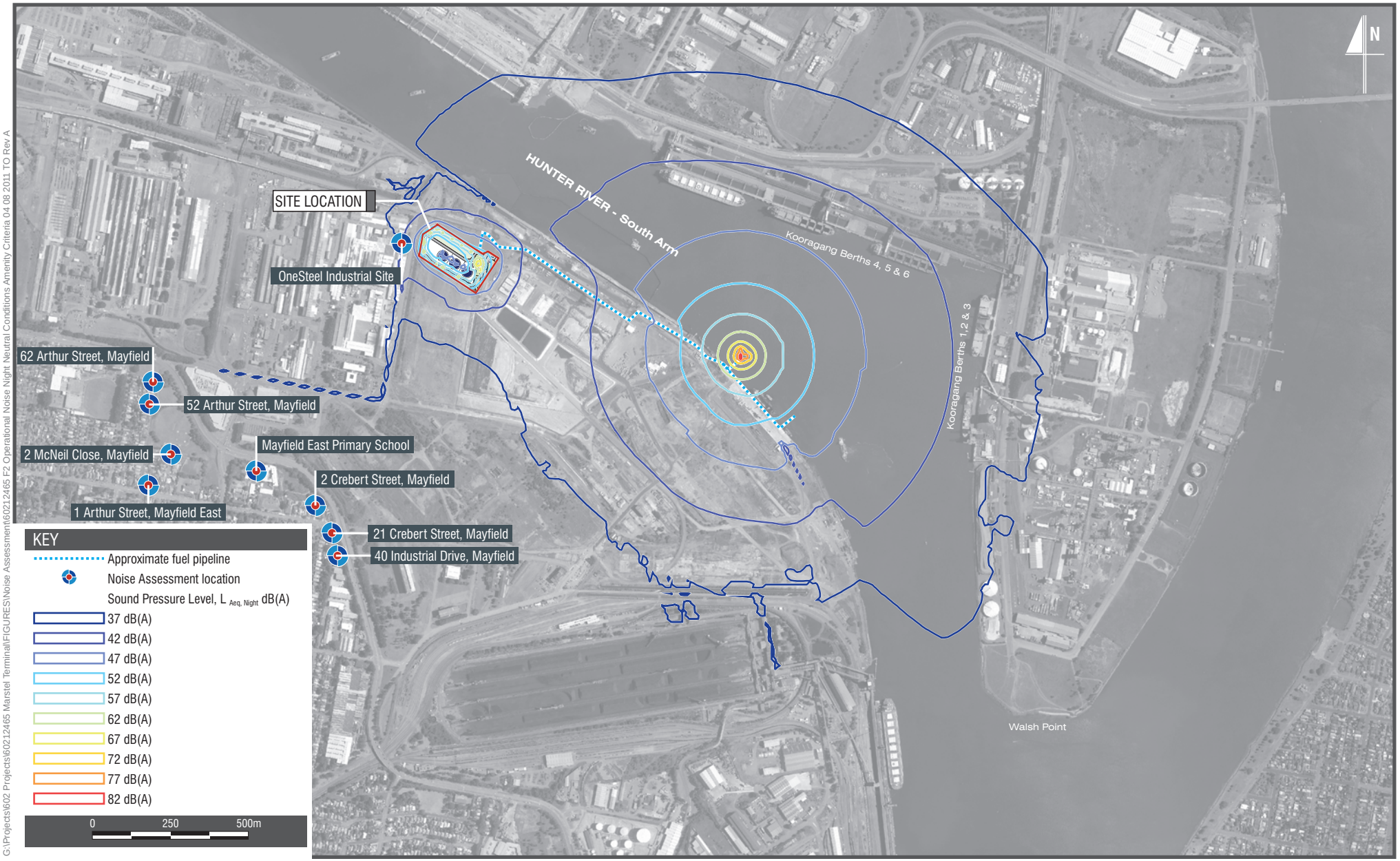
AECOM

OPERATIONAL NOISE - NIGHT - 3m/s SOURCE TO RECEIVER WIND - INTRUSIVENESS CRITERIA

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 4



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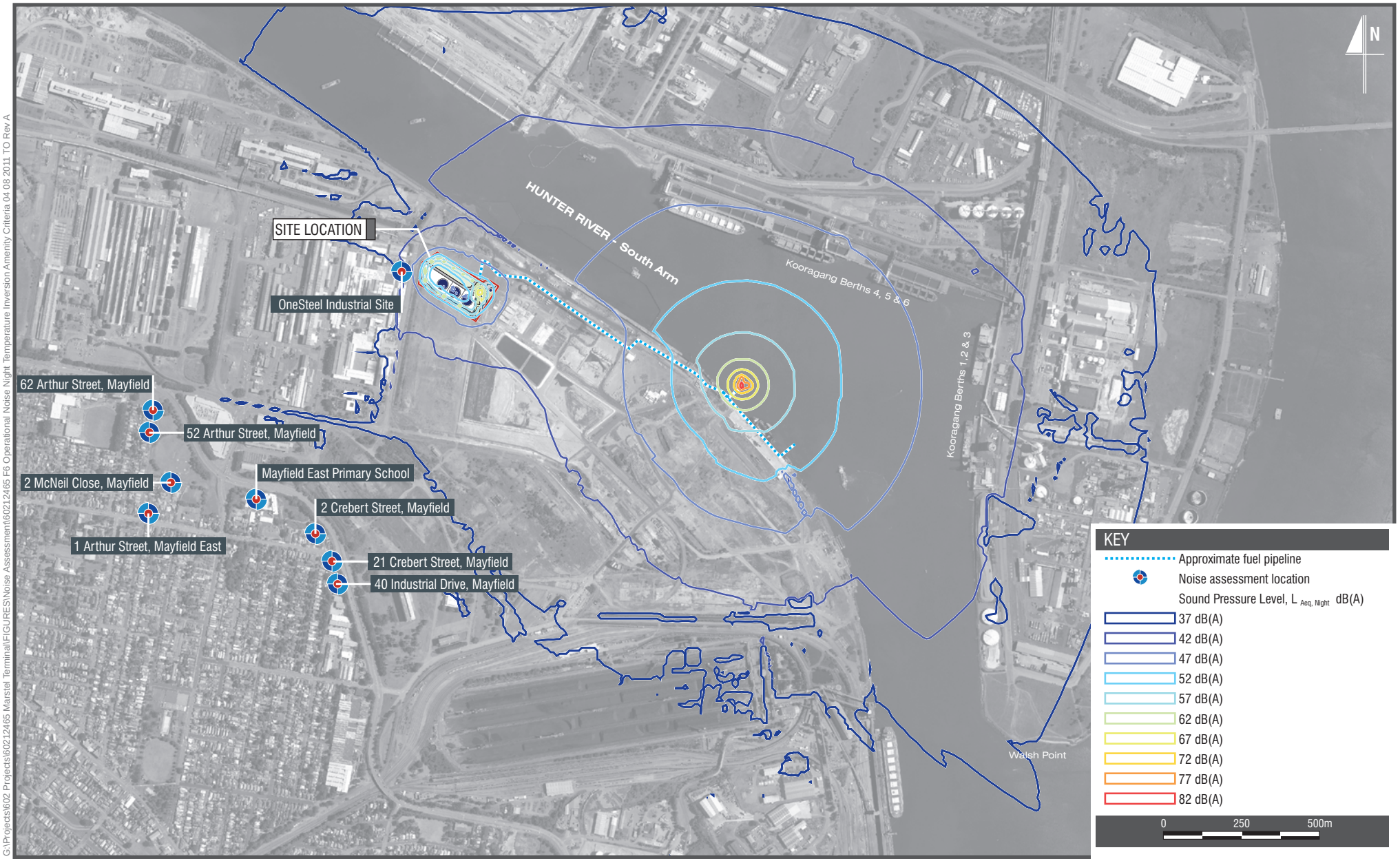
AECOM

OPERATIONAL NOISE - NIGHT - NEUTRAL CONDITIONS - AMENITY CRITERIA

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 5



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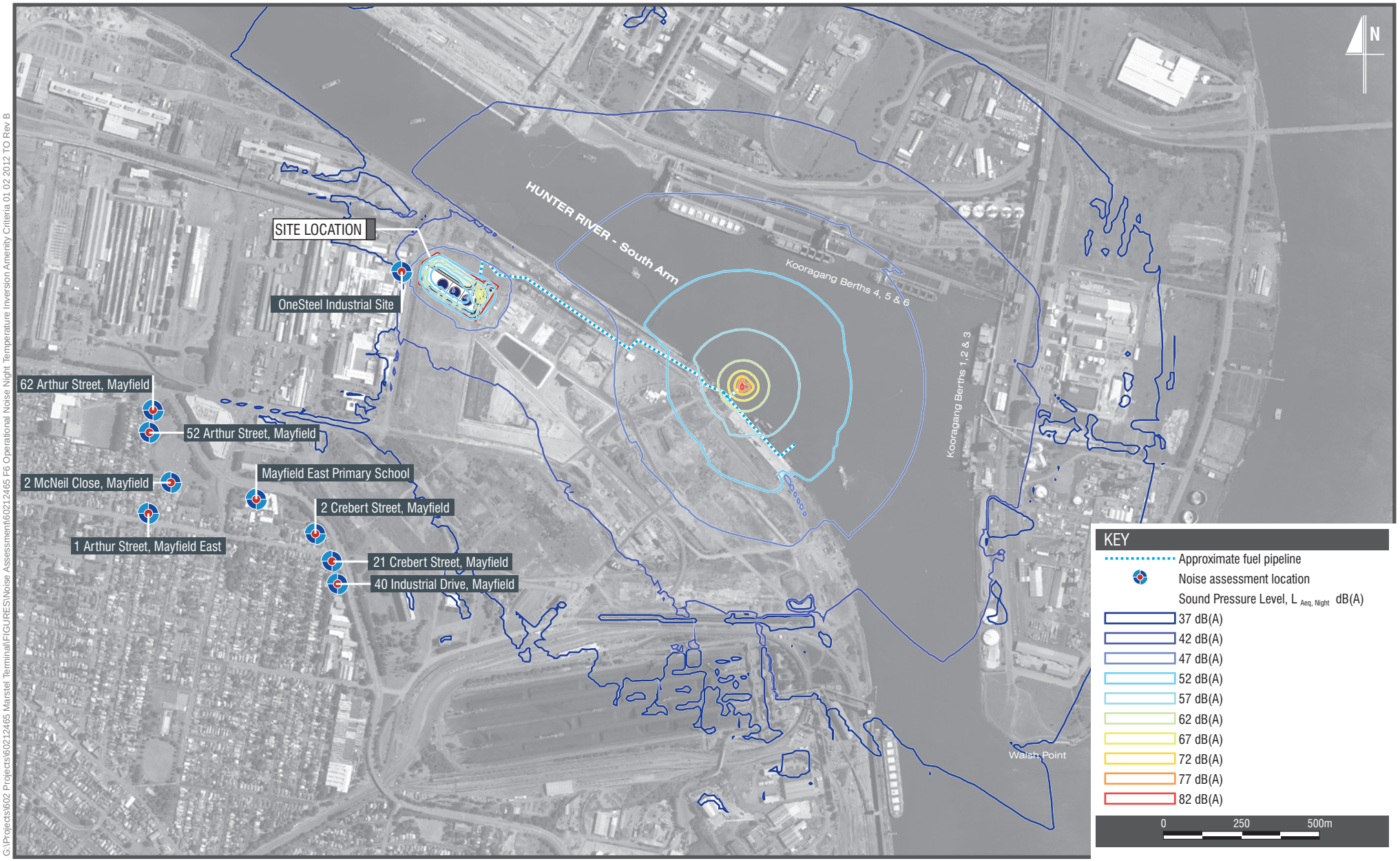
AECOM

OPERATIONAL NOISE - NIGHT - TEMPERATURE INVERSION - AMENITY CRITERIA

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 6



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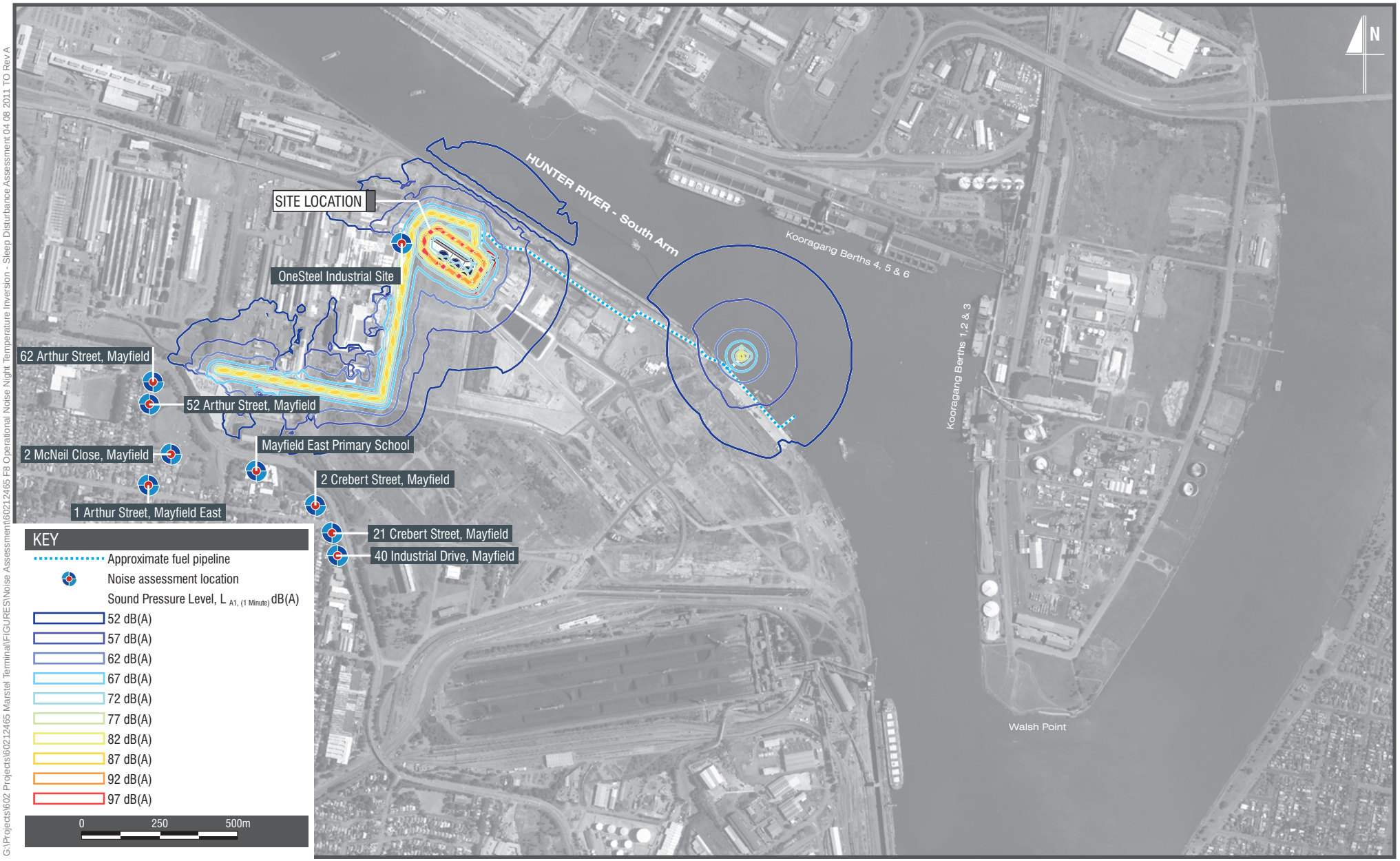
AECOM

OPERATIONAL NOISE - NIGHT - 3m/s SOURCE TO RECEIVER WIND - AMENITY CRITERIA

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 7



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AECOM

OPERATIONAL NOISE - NIGHT - TEMPERATURE INVERSION - SLEEP DISTURBANCE ASSESSMENT

Noise Assessment

Port of Newcastle, New South Wales

FIGURE 8

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AECOM

CONSTRUCTION NOISE - NEUTRAL CONDITIONS

Noise Assessment

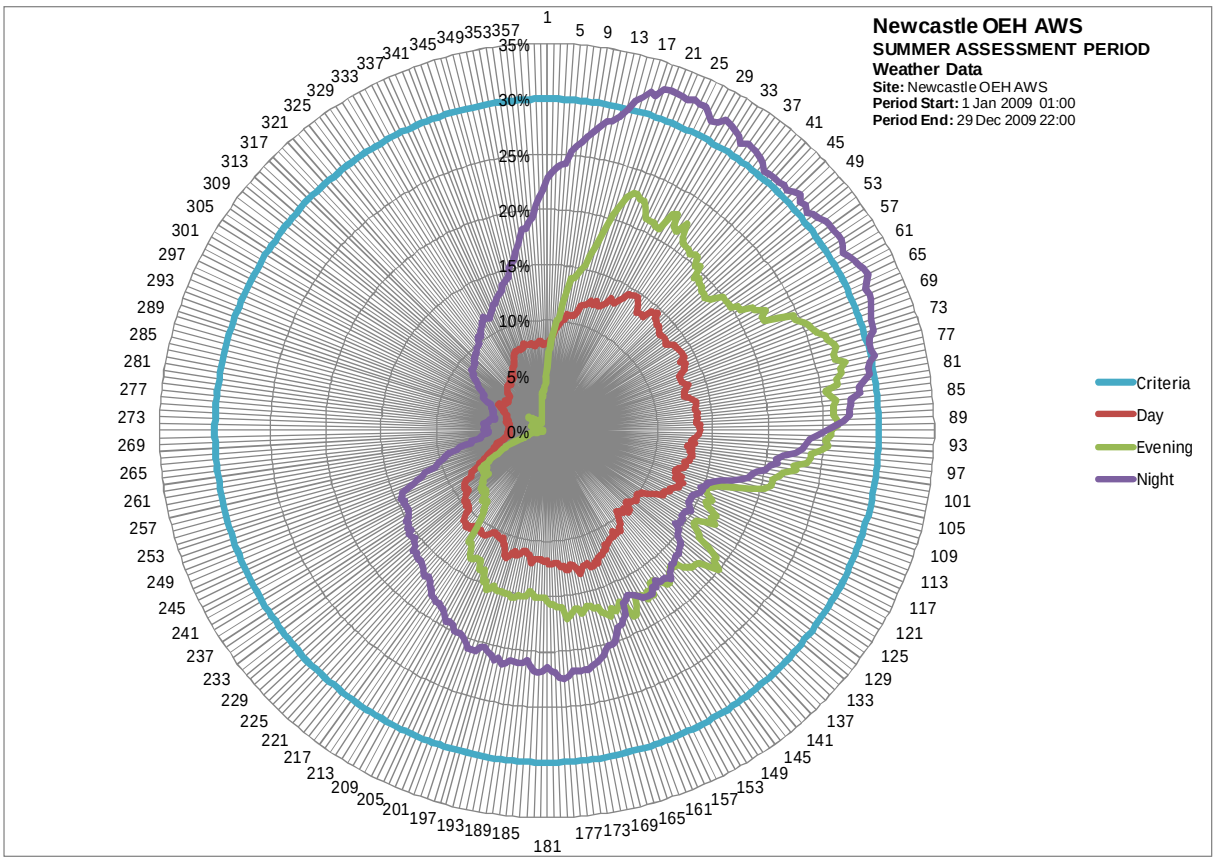
Port of Newcastle, New South Wales

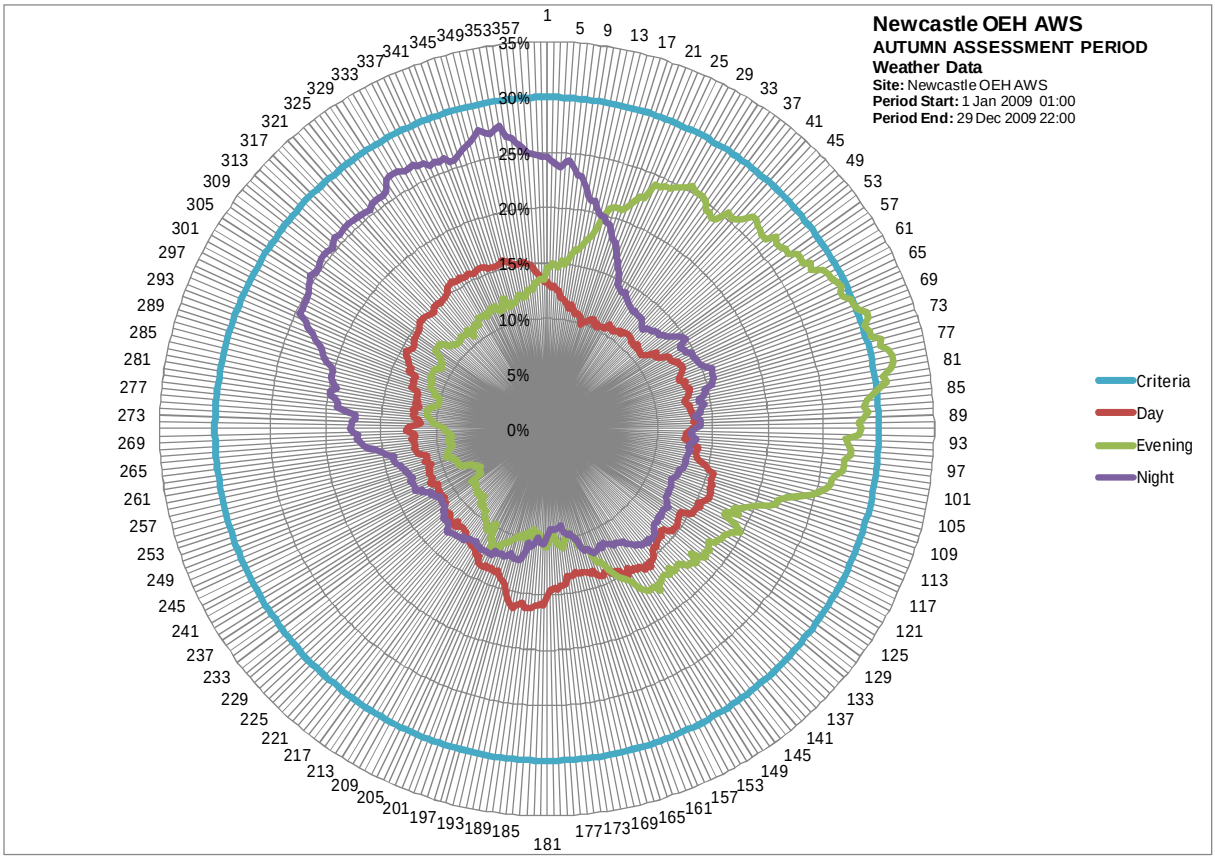
FIGURE 9

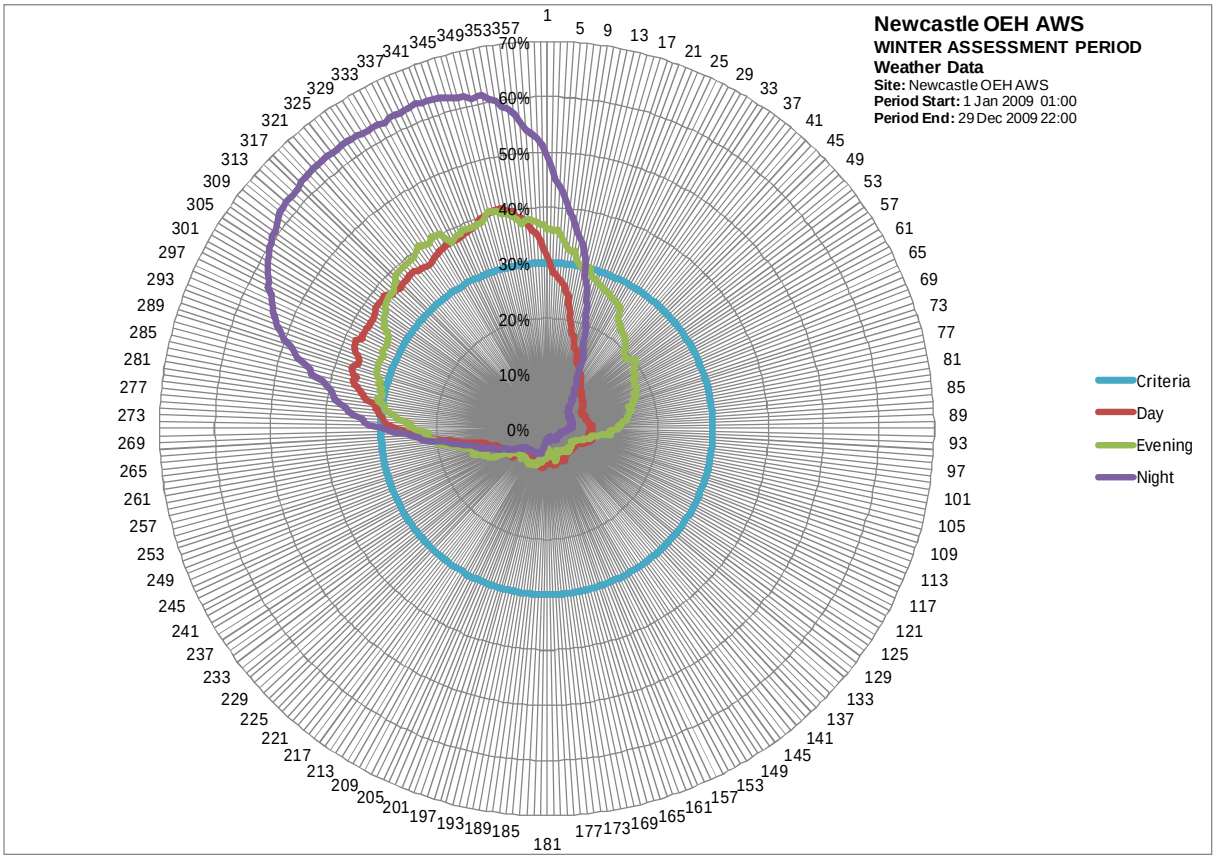
Appendix E

INP wind assessment

Appendix E INP wind assessment




Newcastle OEH AWS
AUTUMN ASSESSMENT PERIOD
Weather Data
Site: Newcastle OEH AWS
Period Start: 1 Jan 2009 01:00
Period End: 29 Dec 2009 22:00
Criteria
Day
Evening
Night


Newcastle OEH AWS
WINTER ASSESSMENT PERIOD
Weather Data
Site: Newcastle OEH AWS
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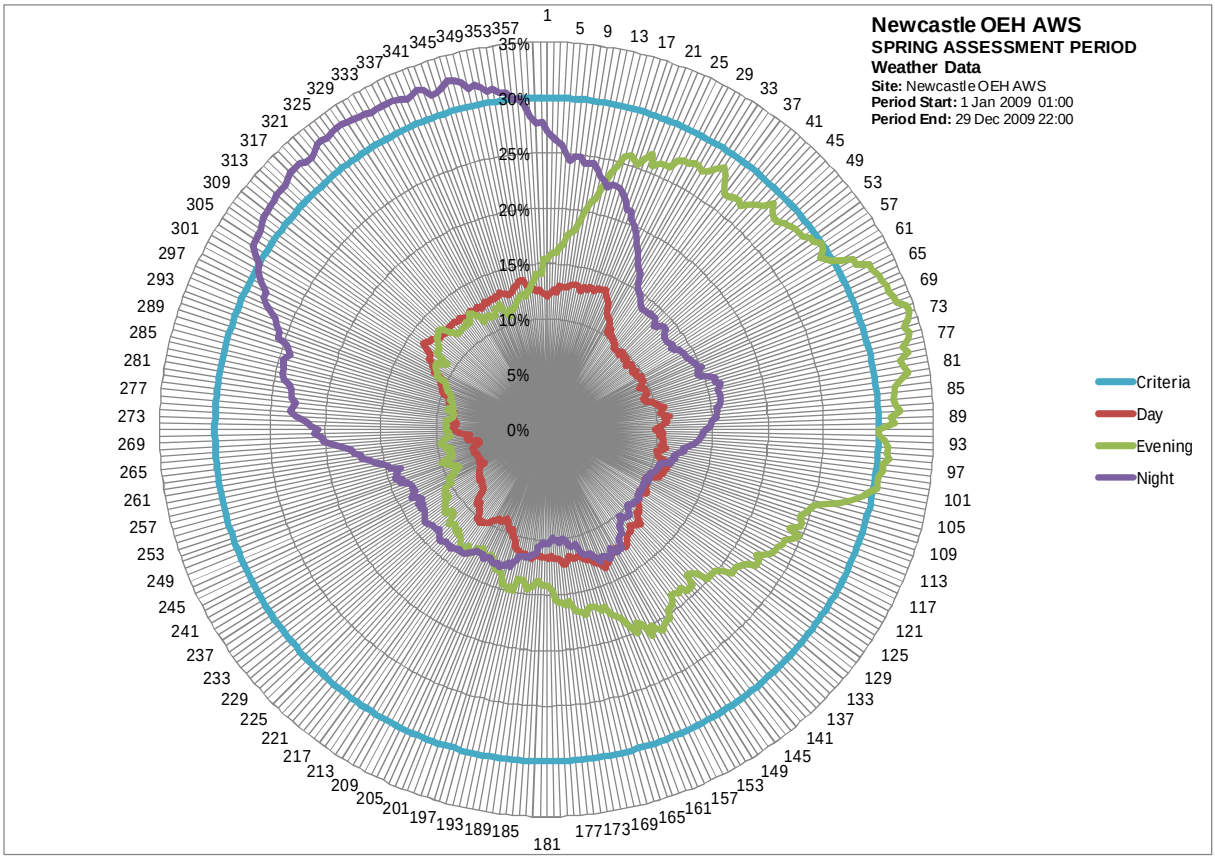
Period End: 29 Dec 2009 22:00
Criteria
Day
Evening
Night


Newcastle OEH AWS
SPRING ASSESSMENT PERIOD
Weather Data
Site: Newcastle OEH AWS
Period Start: 1 Jan 2009 01:00
Period End: 29 Dec 2009 22:00
Criteria
Day
Evening
Night

Appendix F

Tonality screening test

Appendix F Tonality screening test

Measured equipment sound power levels – One-third octave spectrums

Source	1/3 Octave Frequency Band (Hz) – Sound Power Level, dB																										Overall	
	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	dB	dB(A)
Ship/Tanker Auxiliary Power Unit	104	106	107	106	107	106	107	106	108	104	103	100	103	100	98	97	96	94	92	92	90	88	86	82	80	78	77	117	106
Forklift	85	94	101	102	91	97	98	89	90	90	88	88	88	89	92	90	92	91	94	91	90	85	82	78	77	76	73	108	101
Haulage Truck	87	92	102	95	95	101	99	92	96	92	89	88	88	90	88	89	91	90	90	89	87	86	84	83	81	79	82	108	100
Combined noise level	104	106	109	108	107	108	108	106	108	104	103	101	103	101	99	98	98	97	97	96	94	91	89	86	84	83	84	118	108