NSW GOVERNMENT
Department of Planning

MAJOR PROJECT ASSESSMENT
Ore Preparation Upgrade Project – BlueScope Steelworks, Port Kembla

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

June 2007

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June 2007

EXECUTIVE SUMMARY

BlueScope Steel (AIS) Pty Ltd (the Proponent) has lodged a major project application for the upgrade of the Ore Preparation Area. The Ore Preparation Area consists of the Sinter Plant and the Raw Materials Handling Area and is located within the Port Kembla Steelworks. The Proponent also proposes to increase the production capacity of the Sinter Plant by 20% from 5.5 million tonnes to 6.6 million tonnes per annum.

The Proponent is the major supplier of steel to the Australian market and a major exporter of steel products and technology to New Zealand, Asia, the US, Europe, the Middle East, and the Pacific. In the 2004-05 financial year, the Port Kembla Steelworks produced more than five million tonnes of raw steel.

The Proponent has advised that the upgrade works at the Sinter Plant would economically benefit the Port Kembla industrial area and the region. The project would ensure the continued viability of the Port Kembla Steelworks and allow the Proponent to be more competitive in the future. The proposed upgrade would improve operational security for the Port Kembla Steelworks and would secure supply for the Proponent's key downstream customers both internal and external.

The Department has assessed the Environmental Assessment, Statement of Commitments, Response to Submissions Report and the seven submissions received during the exhibition of the proposal. The assessment indicates that air and noise impacts are issues which require further detailed consideration. The air quality impact assessment indicates that the proposal is unlikely to have air quality impacts during construction but the proposal has the potential to impact on the air quality of the surrounding area during its operational phase. Particulate emissions would not increase due to the proposed replacement and repair of items but it is predicted that levels of SO_x would increase from 305 mg/Nm^3 to 357 mg/Nm^3 and for NO_x from 220 mg/Nm^3 to 258 mg/Nm^3 at the point of discharge. The Department is satisfied that the Waste Gas Cleaning Plant would be able to cope with the extra load for both SO_x and NO_x. The total load of SO_x would be approximately 530 tonnes of SO_2 but the Proponent intends to use a sulfur rich gas recovery plant (gypsum plant) as a means of capturing the sulfur. The total amount removed will not be known until the gypsum plant is fully operational. The recommended conditions of approval require monitoring of emissions from the Room De-dusting Stack and the Waste Gas Cleaning Plant Exhaust Stack. If the monitoring detects non-compliance with the specified discharge limits, then the Proponent must outline additional measures to mitigate any exceedances. An issue mentioned in the submissions from the Port Kembla Port Corporation and the Federal Automotive Industry relates to the potential of the project to impact on motor vehicles which would be arriving at Port Kembla Port from late 2007. The Proponent has addressed the issues raised and has responded that the nature of emissions will not change as a result of the upgrade and increase in capacity. Fugitive emissions would be controlled using dust control management and investigations would be conducted to reduce particulate emissions further.

In terms of noise impacts, the Proponent has indicated that construction and operational noise levels have little potential for exceedances when compared to existing noise levels. Construction noise is expected to produce noise levels within the 35 dB(A) night time criterion at all residential areas provided that pile driving is carried out during daytime construction hours. Recommended conditions of approval specify construction hours which would limit work which is likely to be audible at residential premises to Monday to Friday 7am to 6pm and Saturdays 8am to 1pm. Operational noise level would decrease in the order of 0.1 dB(A) for the most affected residential areas, including Mt St Thomas and Cringila North. Both the Department and DECC require that the Proponent carry out extensive monitoring to confirm the predicted noise levels and if non-compliance is identified then details must be provided which outline additional measures to be taken to mitigate any impacts.

The Department is satisfied that the impacts of the project can be mitigated and/or managed to ensure an acceptable level of environmental performance. The Department believes that the increase in capacity of the Sinter Plant and the upgrade to the Ore Preparation Area would be achieved at a minimal environmental cost to the surrounding areas while providing for the ongoing viability of the Port Kembla Steelworks, and therefore the prosperity of the Illawarra region.

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1. BACKGROUND

BlueScope Steel (AIS) Pty Ltd (the Proponent) has lodged a major project application for the upgrade of the Ore Preparation Area. The Ore Preparation Area consists of the Sinter Plant and the Raw Materials Handling Area and is located within the Port Kembla Steelworks. As well as the upgrade, the Proponent proposes to increase the production capacity of the Sinter Plant from 5.5 million tonnes to 6.6 million tonnes per annum. The proposal would increase the production of the Sinter Plant by 20% and would also improve the efficiency of the Raw Materials Handling Area.

The project is one of a number of improvements being investigated by the Proponent to remove production bottlenecks, enhance capacity, further increase operational security and ensure production facilities are capable of meeting the company's own future downstream demands and those of its customers.

1.1 Existing Operations

The Proponent is the major supplier of steel to the Australian market and a major exporter of steel products and technology to New Zealand, Asia, the US, Europe, the Middle East, and the Pacific. In the 2004-05 financial year, the Port Kembla Steelworks produced more than five million tonnes of raw steel (exporting approximately two million tonnes valued at more than $1 billion per annum). The Proponent currently operates manufacturing facilities in Australia and overseas.

The Proponent employs approximately 3,600 staff at its Port Kembla operations while also providing work for 3,200 contractors and is thus one of the largest employers in the Illawarra region. The Port Kembla Steelworks is of considerable economic importance to the Illawarra region and NSW. Flow on effects from its operations include:

- approximately 16,000 jobs across the Illawarra region;
- $1.86 billion in gross regional product; and
- $0.9 billion in household income.

1.2 The Ore Preparation Area

The Ore Preparation Area consists of the Sinter Plant and the Raw Materials Handling Area. The Sinter Plant's major function is to produce sinter of the right size and composition to encourage even smelting in the blast furnace. Sinter is composed of fine iron ore particles and other materials such as fluxes which remove impurities from the iron ore during the smelting process. The Raw Materials Handling Area supplies raw materials to the Sinter Plant. The raw materials are imported by ship, road and rail. The Ore Preparation Area supplies feed material to the two operating blast furnace at the Port Kembla Steelworks – the No.5 and No.6 Blast Furnaces.

Following the smelting process in the blast furnaces, the molten iron is transferred to the Steelmaking area within the Steelworks for processing into steel.

1.3 Location

The Port Kembla Steelworks is located approximately 80 km south of Sydney and 2.5 km south of Wollongong. Port Kembla is a suburb of the City of Wollongong and is the main industrial centre in the Illawarra region. The Port Kembla Steelworks occupies 742 hectares with all sectors of the Steelworks internally linked by road and rail. The different sectors comprise of Cokemaking, Steelmaking and Ironmaking facilities on the southern half of the site and the Plate Mill, Hot Strip Mill, Cryogenic Plant and the Packaging Products section on the northern section of the steelworks (refer to Figure 1)

The Sinter Plant and the Raw Materials Handling Area are located adjacent to each other in the south eastern end of the site in the Ironmaking section of the Steelworks and adjacent to Port Kembla's Inner Harbour. Raw materials are delivered to the Raw Materials Handling Area via rail, road and sea.

1.4 Surrounding Land Uses

The Port Kembla Steelworks is located within a heavy industrial area and is constructed around Port Kembla. The Ore Preparation Area does not immediately adjoin noise-sensitive neighbours. The closest neighbours are the grain terminal, which is located approximately 500m to the north east, the coal loader, 450m north east and Incitec's fertiliser plant, 1500m to the south east (refer to Figure 2).

The nearest residential areas to the Ore Preparation Area include Cringila residences approximately 1400m from the site, followed by Coniston and Mt St Thomas approximately 2300m north and north-west, and Figtree and Unanderra residences, 3000m to the west.

Flagstaff Park is the nearest public reserve and is located approximately 1700m south west of the site and north of Flagstaff Road in Warrawong.

Figure 1 – Port Kembla Steelworks

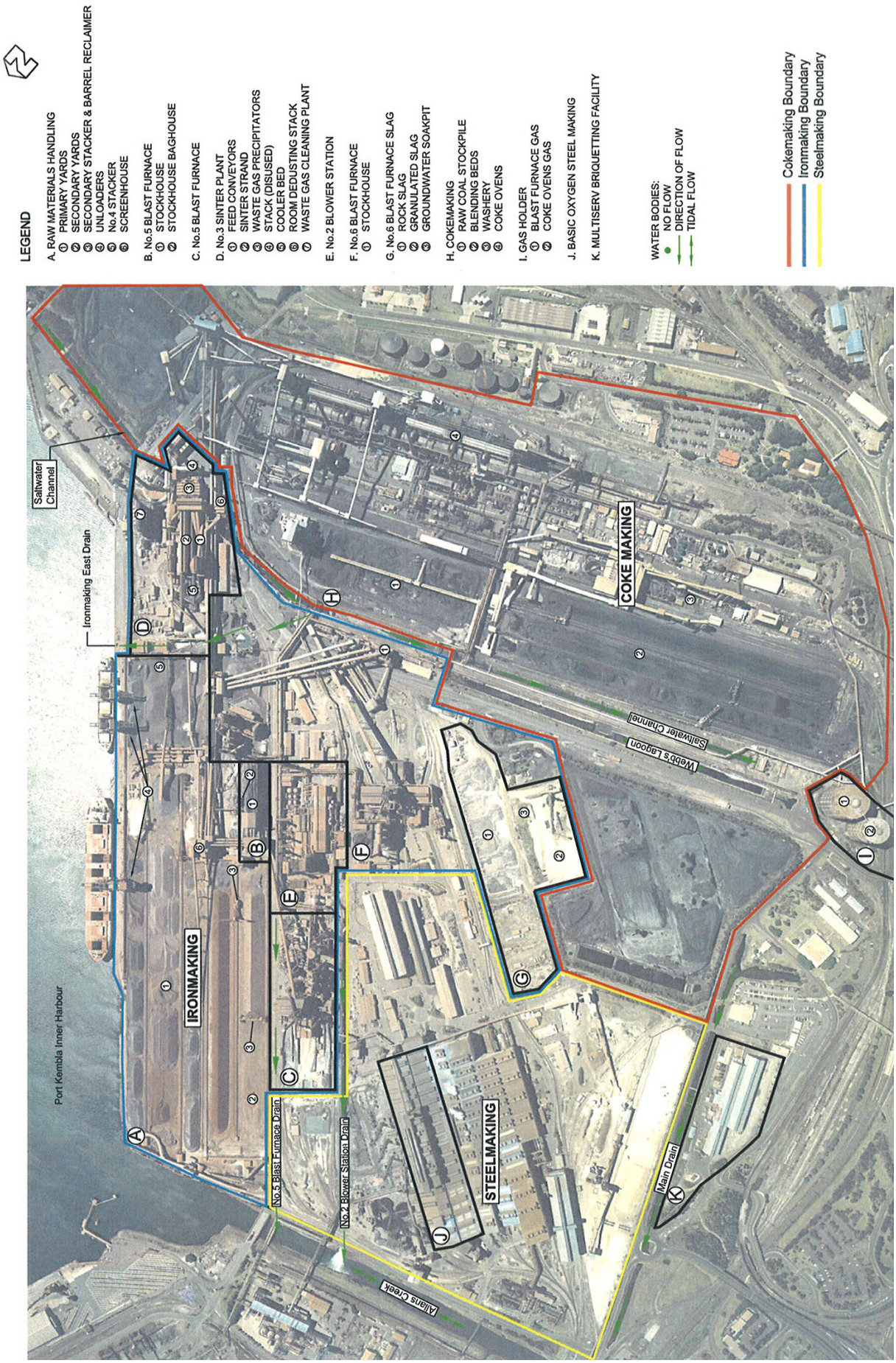
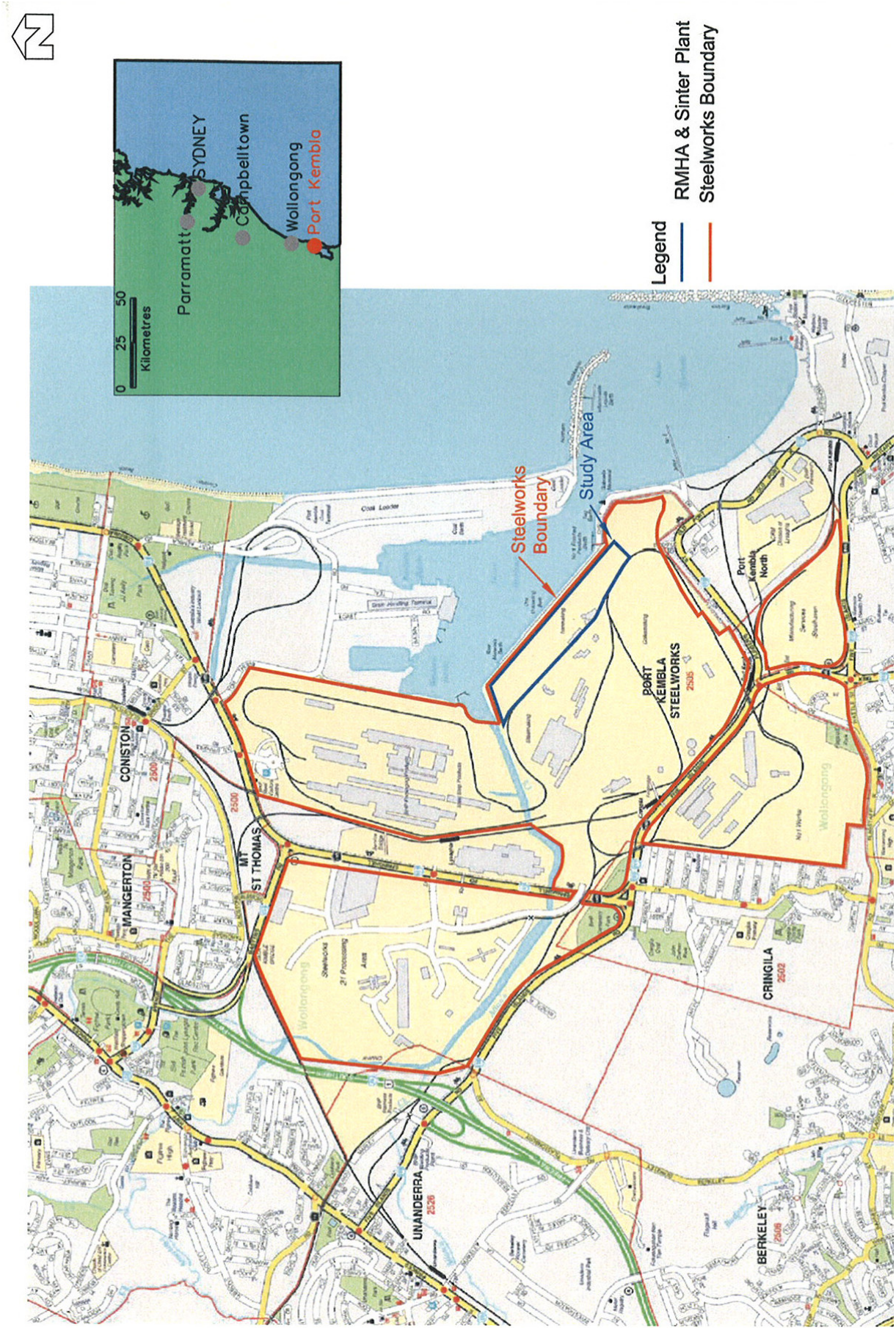


Figure 2 – Locality Plan



2. PROPOSED DEVELOPMENT

2.1 Project Description

The proposal involves an upgrade to the Ore Preparation Area and an increase in the production capacity of the Sinter Plant from 5.5 million tonnes to 6.6 million tonnes per annum.

The upgrade to the Ore Preparation Area includes:

- construction of new infrastructure to improve the efficiency of operations, including: installation of new strand feeding technology; installation of a new ignition furnace; lengthening and deepening of the sinter strand and modification of structural components of the strand;
- repair and refurbishment of equipment such as waste gas precipitator shells and internals; room de-dusting and associated duct work; wind boxes; and waste gas mains and attached dust hoppers;
- rebuilding of the Sinter Cooler and modification to the three existing 1.25MW cooler fans;
- extension of the Sinter Plant building by approximately 14m at the Sinter Cooler end; and
- works within the Raw Materials Handling Area to increase the fines handling and storage capacity. Works to be undertaken include: construction of seven new conveyors, installation of a new shuttle conveyor, rebuilding of a Conveyor House and other minor maintenance works.

The capital investment in the project is expected to be around $100 million and would employ approximately 200 people during the construction period. It would take approximately 24 months to design, construct and commission the project. The major construction activities are likely to occur in the second half of 2009 while the No 5 Blast Furnace is shutdown for reline work (approved by the Minister in November 2005).

2.2 Submissions Report

Copies of the seven submissions (refer to section 4 of this report) received in response to the exhibition of the application were referred to the Proponent at the conclusion of the exhibition period. The Proponent was directed to prepare a Submissions Report which addressed all issues raised in submissions, and to detail if the proposal would have to be amended in light of these issues. The Report was also required, where appropriate, to update commitments made by the Proponent in its Statement of Commitments.

The Proponent submitted the Submissions Report to the Department on 3 May 2007. A copy of the Report is provided in Appendix D to this report.

2.3 Justification for the Project

The Proponent has advised that the upgrade works at the Sinter Plant would economically benefit the Port Kembla industrial area and the region. The project would ensure the continued viability of the Port Kembla Steelworks and allow the Proponent to be more competitive in the future. In particular, the upgrade and increase in sinter production would:

- ensure that the blast furnaces would be less dependent on more expensive imported iron ore pellets. This would lead to a significant reduction in hot metal (molten iron) production costs;
- enable greater consistency in the quantity and quality of hot metal produced and thereby increasing the security in the iron-making operations;
- reduce process water usage in the order of 634 kL per day due to the proposed modification to the cooler which once upgraded would no longer require cooling water spray nozzles; and
- allow for increased recycling of materials such as blast furnace flue dust and mill scale.

Ultimately, the proposed upgrade would improve operational security for the Port Kembla Steelworks and would secure supply for the Proponent's key downstream customers both internal and external.

3. STATUTORY CONTEXT

3.1 Major Project

On 31 August 2006, the Director-General under delegation from the Minister for Planning formed the opinion pursuant to clause 6 of *State Environmental Planning Policy (Major Projects) 2005* that the proposal is for the purpose of development described in Schedule 1 of that Policy (clause 9(a) – development that has a capital value of more than $30 million or employs 100 or more people for any of the following purposes: metal or mineral refining or smelting; metal founding, rolling, drawing, extruding, coating, fabricating or manufacturing works; metal or mineral recycling or recovery). The proposal is thus declared to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies.

3.2 Director-General's Requirements and Adequacy of Environmental Assessment

The Director-General's requirements for this proposal were originally issued under Part 4 of the Act. On 10 February 2006, the Director-General's requirements were adopted as requirements for the preparation of an Environmental Assessment under Part 3A. For the purpose of section 75I(2)(g) of the *Environmental Planning and Assessment Act 1979*, the Environmental Assessment for the project complied with the Director-General's requirements on its second submission and the Proponent was notified of this compliance on 20 February 2007.

3.3 Exhibition and Notification

The Environmental Assessment for the proposal was placed on public exhibition from 5 March 2007 to 5 April 2007. Exhibition locations were as follows:

- the Department of Planning's head office;
- Wollongong City Council; and
- Wollongong City Library.

The Environmental Assessment was also provided for viewing and/or downloading on the Department's internet site. Notification of the exhibition of the Environmental Assessment appeared in the Illawarra Mercury on two separate occasions: 5 March 2007 and 19 March 2007.

3.4 Environmental Planning Instruments

There are no environmental planning instruments that substantially govern the carrying out of this project.

3.5 Permissibility

Under the *Wollongong Local Environmental Plan 1990,* (LEP) the Port Kembla Steelworks site is zoned 4(b) Heavy Industrial. The proposal is permissible with development consent under the LEP.

4. CONSULTATION AND ISSUES RAISED

The Major Project application and the Environmental Assessment were publicly exhibited from Monday 5 March 2007 until Thursday 5 April 2007. As a result of the public exhibition period, seven submissions were received. One submission objected to the proposal, one submission supported the proposal, and the rest of the submissions did not state a position.

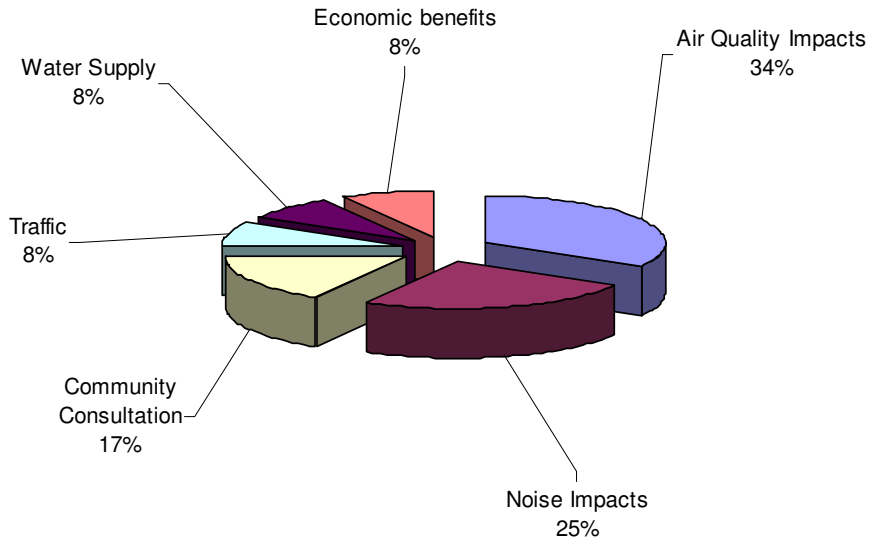
Submissions were received from four State government agencies:

- Department of Environment and Climate Change – **did not state a position**, recommended two additional Statements of Commitments requiring monitoring programs to address both air and noise impacts.
- Port Kembla Port Corporation – **did not state a position**, expressed concern at the lack of consultation by the Proponent and the potential for damage to the paintwork of imported new vehicles (arriving at the Port from late 2007) from particulate emissions;
- Roads and Traffic Authority – **did not state a position,** recommended a number of conditions requiring the preparation of a Traffic Management Plan and addressing other traffic measures; and
- Sydney Water Corporation – **did not state a position,** requested that the Proponent obtain a section 73 Compliance Certificate.

A submission was also received from the Federal Chamber of Automotive Industries which echoed the concerns of Port Kembla Port Corporation with respect to the potential for damage to the exterior finish of new vehicles from airborne particles.

A breakdown of all issues raised in submissions is presented in Figure 3. The frequency of each issue raised in submissions has been calculated based on its occurrence relative to the total number of issues raised, rather than the fraction of total submissions that raise a particular issue.

Figure 3 - Breakdown of Issues Raised in Submissions



Issues raised in submissions can be generally divided into three distinct groups: those directly related to the direct impacts of the proposal or its immediate surrounding environment; the indirect impacts of the proposal; and the processes applied to the decision-making process, both before and during the formal assessment period.

The first group of submissions, being those which relate to the direct impacts of the proposal on the surrounding environment (air, noise, traffic and water management) cover 75% of all issues raised in submissions. Of these

issues, air impacts and noise impacts constitute the most frequently raised issues of concern, at 34% and 25% respectively. The other issues raised relate to the decision-making process - lack of consultation and the economic benefits of the proposal.

Following an assessment of the proposal and the submissions received, the issues outlined in the table below have been highlighted as those requiring further consideration in this report.

Table 2 - Assessment of Submission Issue Categories

Issue Category	Section of this Report
Justification	section 2.3
Air quality impacts	section 5.2
Noise impacts	section 5.1

The issues of traffic and water management do not require further consideration because:

- traffic impacts are expected to be minor due to the small increase in construction traffic. Also operational traffic would remain the same since operational staff numbers would not increase and there would be no changes as a result of the proposal, that would lead to an increase in the volume of traffic around the site; and
- water management is not an issue since there would not be process wastewater discharges to surface waterways and the project would reduce process water usage at the Sinter Plant as the water sprays currently used on the Sinter Cooler will no longer be required leading to a saving of up to 634kL per day.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

Key issues raised in the submissions in response to the public exhibition of the project and/or identified during the Department's assessment included:

- air quality impacts; and
- noise impacts.

All other issues are considered to be minor and have been addressed as part of the Proponent's Statement of Commitments.

5.1 Air Quality Impacts

Issues

Construction Air Quality Impacts

The Environmental Assessment indicates that during construction there are two potential sources of air emissions which can impact on the local air quality. These are:

- dust generation from construction activities such as materials handling and truck movements. Dust generation can vary substantially and be weather-dependent, for example, increased likelihood in dry and windy conditions; and
- exhaust emissions (mainly diesel exhaust) from construction traffic and machinery.

Although estimated construction traffic volumes have been presented in the Environmental Assessment, emission levels have not been calculated. The Proponent advises that due to the relative small increase in traffic and machinery required for the construction stage, exhaust emissions are unlikely to lead to significant impacts at a local and regional level.

To manage dust impacts, exposed material will be regularly watered and land disturbance confined to small areas for short period of times. A Dust Management Plan will be prepared which would include monitoring to ensure compliance. The Proponent advises that it is unlikely that residential areas would be impacted due to distances to these areas (1.5km).

Operational Air Quality Impacts

Particulate emissions

For particulate emissions, dispersion modelling before and after recommissioning was undertaken using AUSPLUME. TSP (total suspended solids) and PM_{10} (particulate matter < 10 µm) concentrations were predicted, at ground level, for a number of scenarios:

- current sinter cooler bed operation emissions;
- proposed sinter cooler bed operation emissions;
- current de-dusting stack emissions;
- proposed de-dusting stack emissions;
- cumulative impact of current sinter cooler bed and room de-dusting stack; and
- cumulative impact of proposed sinter cooler bed and room de-dusting stack.

For existing operations, the PM_{10} contribution from both the sinter cooler and the room de-dusting precipitator is 2.7 µg/m^3, at the nearest residential area. The modelling showed that the predicted cumulative concentration is predicted to increase marginally to 3.0 µg/m^3. In terms of annual average PM_{10} concentration at ground level, the combined concentration is currently less than 0.2 µg/m^3. Modelling predicts that this concentration would not change and would thus not cause an exceedance to the annual goal of 30 µg/m^3.

For TSP, the annual cumulative average at ground level for the sinter cooler and the room de-dusting precipitator is not expected to change significantly due to the proposal (the current concentration in the residential areas due to existing operations is in the order of 3 µg/m^3). The Proponent indicates that, even though the production rate of the Sinter Plant would increase by 20%, the particulate emissions would not change because of the proposed upgrade and refurbishment of the Sinter Plant. Particulate emissions would be captured by the exhaust hoods

and treated in the room de-dusting plant which would undergo replacement and repair of the precipitator internal and thus improve its efficiency. Also, extension of the sinter strand would reduce the dust load to the room de-dusting system which would ensure that the emission concentration from the room de-dusting electrostatic precipitator stack would be maintained below 50 mg/m^3. This concentration has been imposed on the Proponent as a result of a Pollution Reduction Program (further details provided in the *Consideration* section below).

The Proponent also undertook an assessment of best available technology to further reduce particulate emissions. After exploring a number of options, the Proponent proposes to further explore the use of spare capacity in the room de-dusting system to treat additional dust loads from the Sinter Cooler.

Reducing fugitive particulate emissions from the Raw Materials Handling Area has also been investigated by the Proponent. The Proponent has undertaken a best available technology assessment which has shown that if a number of initiatives are implemented, the dust emissions from the Raw Materials Handling Area would improve slightly. In the Environmental Assessment, the Proponent advises that it would employ the majority of these initiatives, including, the use of shaped chute designs, sealing of chute loading and exits in conjunction with gallery design and water sprays.

SO_x and NO_x emissions

The Proponent advises that due to the operation of a new type of ignition furnace, there would be an increase in the gaseous fuel consumption which would lead to higher SO_x and NO_x concentrations. The current average SO_2 concentration is 305 mg/Nm^3 with the increase in sinter production, the SO_2 concentration is expected to be 357 mg/Nm^3. The maximum SO_2 load for the Waste Gas Cleaning Plant is expected to be 500 mg/Nm^3 , therefore the Plant has enough capacity to cope with the extra load. For NO, the current concentration is 220 mg/Nm^3, the increase in sinter production would increase the NO concentration to 258 mg/Nm^3. The Waste Gas Cleaning Plant has capacity for 300 mg/Nm^3. Therefore enough capacity exists to manage the additional load.

The Proponent predicts that the increase in sinter production would result in a net 10% increase in the mass of NO_x generated and an 18% increase in the amount of SO_x. The total mass of NO_x is expected to be in the order of 374 tonnes and will thus increase the total load from the Port Kembla Steelworks but would be below the 1998 baseline level. The Environmental Assessment indicates that the Proponent is committed to undertaking further investigation of reduction measures.

The increase in SO_x emissions would be approximately 530 tonnes of SO_2. The Proponent proposes to use a sulfur rich gas recovery plant (gypsum plant) as means to capture the sulfur. Due to the unique nature of the sulfur removal process, the amount of sulfur removed would not be known until fully operational but estimates range from 30% to 85%. As previously mentioned the amount of SO_x is likely to increase by 18%, therefore, even by taking the lowest estimate (30%), the gypsum plant would reduce the levels of SOx to less than those being experienced at the current sinter production level.

Submissions

Four out of the seven submissions raised air quality impacts as an issue (Department of Environment and Climate Change (DECC), Port Kembla Port Corporation (PKPC), Federal Chamber of Automotive Industries (FCAI) and a member of the community). Key issues raised in submissions are as follows:

- DECC suggested two additional statements of commitments. Firstly requiring an undertaking from the Proponent that it would conduct a feasibility study into the treatment of sinter cooler waste gas in the Sinter Room Dedusting System and secondly an investigation into the anticipated reduction in particulate emissions by conducting pre and post commissioning assessment;
- Both PKPC and FCAI have concerns regarding the potential impact of particulate fallout on motor vehicle imports which may result in damage to the paintwork of new motor vehicles; and
- a member of the public commented that the Sinter Plant is a major source of airborne dust and it is critical that the upgrade results in a decrease in dust emissions. Dust monitoring should be undertaken before and after the upgrade.

Consideration

The Proponent has provided assurances that the proposal can operate within the relevant air quality impact assessment criteria and that the assessment presented in the Environmental Assessment has been carried out in accordance with the procedures outlined in *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (DEC 2005).

The air quality assessment provided in the Environmental Assessment shows that dust impacts during the construction phase are unlikely to impact residential areas and will be managed by employing a number of mitigation measures which would be documented in a Dust Management Plan. PM_{10} concentration during operations would be slightly higher by 0.3 µg/m^3 but this would not lead to increases to the annual goal of 30 µg/m^3. Levels of TSP would remain constant due to the upgrade and refurbishment of the Sinter Plant, therefore, the concentration from the room de-dusting electrostatic precipitator stack would be maintained below 50 mg/m^3.

As mentioned above, the Proponent has made an undertaking in the Environmental Assessment that it would explore spare capacity in the de-dusting system to handle additional dust loads from the Sinter Cooler. If successful, this would assist in the reduction of overall dust emissions. DECC has recommended that this requirement be formalised in a condition of approval. The recommended condition also requires that the Proponent prepare a report outlining the results of the required investigations which is to be submitted to DECC and the Director-General twelve months after recommissioning of the Sinter Plant.

Modelling conducted shows that SO_x and NO_x concentrations will increase. Levels of SO_x would increase from 305 mg/Nm^3 to 357 mg/Nm^3 and for NO_x from 220 mg/Nm^3 to 258 mg/Nm^3. The Department is satisfied with the Proponent's assertion that the Waste Gas Cleaning Plant would be able to cope with the extra load. In terms of the extra increase in total SO_x and NO_x loads (374 mg/Nm^3 for NO_x and 530 mg/Nm^3 for SO_x), the Proponent advises that NO_x levels would still be below the 1998 baseline level while for SO_x, the final load cannot be calculated until the plant is fully operational but the Proponent has given a rough estimate for sulfur removal of 30% to 85%. To ensure that the specified discharge limits are met by the Proponent, conditions of approval are recommended which require monitoring of emissions from the Room De-dusting Stack and the Waste Gas Cleaning Plant Exhaust Stack. Monitoring shall be undertaken within three months following recommissioning and then as specified in the Environmental Protection Licence. The result of the monitoring (at three months) shall be included in a report which is to be provided to DECC and the Director-General. If the monitoring detected non-compliance with the specified discharge limits, then the report must outline additional measures which would be implemented to mitigate any exceedances.

In 2001, the then Minister for Urban Affairs and Planning approved the abovementioned Waste Gas Cleaning Plant. The Plant formed part of the implementation of a Pollution Reduction Program prepared in consultation with DECC with the aim of significantly reducing the impact of the Sinter Plant on the surrounding areas by reducing emissions of dust, dioxins and SO_x and NO_x. The 2001 consent specified a number of discharge limits for the Sinter Plant Waste Gas Cleaning Plant Exhaust Stack which would remain the same as a result of the subject proposal but DECC has advised that it has requested the Proponent to carry out investigations with the aim of reducing dioxin levels. The existing level was imposed by DECC in 2001 based on existing best available technology but with the undertaking that a review would be conducted in the future. The discharge limits specified in the 2001 consent are listed below.

Table 3: Sinter Plant Waste Gas Cleaning Plant Exhaust Stack

Pollutant	Units of measure	100% concentration limit	Method	Frequency
Solid Particles	mg/m^3	20	TM-15	Commissioning and then Quarterly
Sulfur Dioxide (SO_2)	mg/m^3	1000	As approved by the EPA	Commissioning and then Quarterly
Nitrogen Oxides (as NO_2 equivalent)	mg/m^3	2000	As approved by the EPA	Commissioning and then Quarterly
Sulfuric Acid Mist (H_2SO_4) or Sulfur Trioxide (SO_3)	mg/m^3	100	TM-3	Commissioning and then Quarterly
Dioxins/Furans	ng/m^3	0.3	TM-18	Commissioning and then Quarterly

In its Submissions Report, the Proponent addressed the concerns from Port Kembla Port Corporation and the Federal Automotive Industry regarding potential impacts on the motor vehicles which will be arriving at Port Kembla Port as a result of Government's decision to relocate shipments of new vehicles from Glebe Island to Port Kembla beginning from late 2007. Port Kembla Port Corporation and the Federal Automotive Industry have the following specific concerns:

- the nature of the particulates emitted from the Area Preparation Area are not described in sufficient detail and the potential impact on the exterior surfaces of motor vehicles not assessed;
- the air dispersion modelling does not include fugitive emissions;
- air dispersion modelling considers only typical emissions. No assessment of perturbation, for example, equipment failure and process errors which may lead to high emissions incidents; and
- the potential impact of increased SO_x emission on exterior surfaces of motor vehicles.

The Proponent has addressed each one of the above concerns and notes that the nature of the particulate emissions will not change and would mainly be composed of iron ore, coke, limestone and anthracite and the product sinter. A literature research and discussions with consultants did not provide information on which particles may impact on the exterior surfaces of motor vehicles. Therefore, since April 2006 in conjunction with the DECC and Port Kembla Port, two test panels have been positioned in the General Cargo Handling Facility. The panels have been inspected and cleaned weekly. Examination of the panels has not revealed any impacts on the painted surfaces due to fallout. There was one occasion where the test panels were affected by rust spotting but the Proponent indicates that the Port Kembla Port agrees that the likely cause of the rust is the cutting and grinding associated with the construction activities at the General Cargo Handling Facility. The Proponent advises that the monitoring of the two panels would continue for approximately another 12 months. The Department and DECC agree that an additional condition of approval is not required to ensure that the monitoring of the panels continues since the Proponent has made an undertaking that the monitoring would continue.

The air dispersion modelling did not include fugitive emissions because it concentrated on the main emission sources and also the current dust control management are very effective and there have not been incidents of fugitive emissions from the raw material stockpile impacting outside the boundary. Also, as previously mentioned, the Proponent is also investigating the feasibility of reducing fugitive emissions from the Raw Materials Handling Area.

Regarding the non-assessment of potential for perturbations, the Proponent advises that there would be no significant change from the existing potential for perturbations and existing controls to minimise process variation including operator training, equipment inspection and maintenance programmes will be maintained to reduce the risk of abnormal operating conditions.

The issue of increased SO_x emissions has already being addressed and it is anticipated that the emissions would be reduced. The Department concludes that the Proponent has adequately addressed the concerns of Port Kembla Port Corporation and the Federal Automotive Industry.

5.2 Noise Impacts

Issues

The noise assessment conducted by BRIDGES Acoustics and presented in the Environmental Assessment indicates that the proposed Ore Preparation Area upgrade has little potential for excessive noise or vibration relative to the current situation. Construction work is expected to produce noise levels within the 35 dB(A) night time noise criterion at all residential receivers provided that pile driving is carried out during daytime construction hours.

In terms of operational noise, the predicted noise levels will be below the existing background noise level. It is also predicted the new items of equipment will not exceed the night time noise criteria at any residential receivers under normal operating conditions and prevailing weather patterns for the area. Adverse weather patterns such as noise enhancing winds occur only towards the eastern quadrant away from or perpendicular to the direction of the residences and were thus not factored in the modelling undertaken by the BRIDGES Acoustics.

The Environmental Assessment identifies fixed equipment as being the main noise source which includes items such as fans, motors and turbines. The proposal includes the installation of a larger fan on the sinter cooler. This item has been identified as likely to cause exceedances in the noise levels, therefore to mitigate these impacts, the Proponent is installing silencers on the fan inlet to minimise occupational noise levels and maintain the overall noise signature of the Steelworks. It is expected that the installation of the silencers would lead to a reduction of at least 10 dB(A). Other new equipment will include fans which are expected to be quieter than those in the existing units.

Another source of noise at the Steelworks is intermittent or variable noise from mobile equipment such as trucks, locomotives and cars. In terms of construction traffic noise, the Environmental Assessment indicates that only minor additional traffic noise may be generated during the construction phase. It is expected that the additional traffic generated by construction activities represent less than 1% of existing traffic flows on all roads. The Environmental Assessment concludes that the additional construction traffic would not be measurable or noticeable at any residence. In terms of operational traffic, the Environmental Assessment indicates that there would not be additional operational staff employed and there would be no changes as a result of the proposal, that would lead to an increase in the volume of traffic around the site.

Submissions

Three submissions raised noise as an issue (Department of Environment and Climate Change (DECC), Port Kembla Port Corporation (PKPC) and a community member). Key issues raised in these submissions were as follows:

- DECC recommended an additional statement of commitment specifying the submission of a number of noise monitoring reports at specified stages;
- PKPC welcomed the predicted operational noise outcomes of the project which confirmed that there would be no increase in noise levels and recommended post-commissioning noise monitoring; and
- the public submission stated that the Sinter Plant is a major source of noise and it is critical that the upgrade results in a decrease in noise. Noise monitoring should be undertaken before and after the upgrade.

Consideration

Construction Noise

The Proponent is confident that construction noise will be below the 35 dB(A) night noise criterion at all residential receivers[1], in the absence of the pile driver and intense truck movements. Table 4 presents the predicted construction noise levels for three of the most affected residential areas. The Proponent advises that pile driving would only be carried out during the day and transport from No1 works (material storage site) would only occur for a few hours over short durations not exceeding two weeks.

Table 4 – Received Construction Noise Levels. dB(A)

	On-site Construction			Transport from No. 1 works	Total Received
Receiver	**Sinter Plant**	**Raw Materials**	**Pile Driver**		
Mt St Thomas	28.8	15.1	37.8	27	39
Cringila Nth	25.7	18.2	34.2	44	45
Cringila Sth	21.2	17.5.	30.2	29	33

Although the Steelworks operates 24 hours per day, 7 days per week, the construction hours recommended in the conditions of approval are for those specified in DECC's *Noise Control Guidelines Construction Site Noise* which specifies construction hours if the noise is likely to be audible at the receiver. The conditions of approval specify construction time of 7am to 6pm Monday to Friday, 8am to 1pm on Saturdays and no audible work to be performed on Sundays and Public Holidays. Given the current noise limits for the Steelworks, the construction time restrictions would generally only act to restrict the noisiest works, that is, pile driving.

Operational Noise

The noise modelling also predicts that operational noise would be below the existing background noise level and below existing traffic noise levels as shown in Table 5. Therefore, the Proponent does not intend to include additional noise control measures apart from the use of silencers on the fan inlet ducts of the fans on the sinter cooler, as discussed in the above section.

Receiver	**Existing Situation** $L_{Aeq,15min}$	**Proposed Situation** $L_{Aeq,15min}$	**Difference** $L_{Aeq,15min}$
Mt St Thomas	35.9	35.8	-0.1
Figtree	20.9	20.8	-0.1
Cringila Nth	32.8	32.6	-0.1
Cringila Sth	29.7	29.6	-0.1
Warrawong	31.3	31.2	-0.1
Port Kembla	33.8	33.7	-0.1
Grain Terminal	52.7	52.7	0
Coal Loader	51.9	51.9	0
Incitec	36.2	36.0	-0.2

The Department and DECC concur that the Ore Preparation Upgrade Project has been designed to operate at predicted noise levels where amenity criteria would not be exceeded at the nearest affected residential receivers. The Department and DECC require confirmation that the predicted noise levels would not exceed a noise contribution of 35 dB(A) at the nearest affected residence, therefore, it is recommended that the Proponent undertake a program which confirms the noise performance of the project. The Proponent must prepare a report

[1] The 35 dB(A) night noise criterion has been chosen because it has been DECC's goal for the Steelworks to meet the 45 L_{Aeq}, night amenity limit at all receivers. This goal requires a criterion of 35 $L_{Aeq(15\ minute)}$ for any new equipment installed on site.

which includes noise monitoring procedures and monitoring results. If the report identifies non-compliance then the Proponent must detail what additional measures would be implemented to ensure compliance. Monitoring reports are expected to be lodged at various times before commencement of construction and then after commissioning.

6. CONCLUSIONS AND RECOMMENDATIONS

The Department has assessed the Environmental Assessment, Statement of Commitments, Response to Submissions Report, the seven submissions received from the exhibition of the proposal and the technical support service provided by the Department of Environment and Climate Change and is satisfied that the impacts of the project can be mitigated and/or managed to ensure an acceptable level of environmental performance. The Department recommends that the Minister approve the project, subject to conditions.

The key issues raised in the submissions and/or identified during the Department's assessment include air quality impacts and noise impacts. The air quality impact assessment indicates that the proposal is unlikely to have air quality impacts during construction but the proposal has the potential to impact on the air quality of the surrounding area during its operational phase. It is predicted that levels of SO_x would increase from 305 mg/Nm^3 to 357 mg/Nm^3 and for NO_x from 220 mg/Nm^3 to 258 mg/Nm^3 but the Department is satisfied that the Waste Gas Cleaning Plant would be able to cope with the extra load for both SO_x and NO_x. It is also likely that levels of sulfur would be reduced since the Proponent intends to use a sulfur rich gas recovery plant (gypsum plant) as a means of capturing the sulfur. The total amount removed will not be known until the gypsum plant is fully operational. The recommended conditions of approval require monitoring of emissions from the Room De-dusting Stack and the Waste Gas Cleaning Plant Exhaust Stack. If the monitoring detects non-compliance with the specified discharge limits, then the Proponent is required to outline measures to mitigate any exceedances.

Noise modelling conducted for both construction noise and operational noise predict that the project has little potential for excessive noise or vibration relative to existing noise levels. Construction noise is expected to produce noise levels within the 35 dB(A) night time criterion at all residential received provided that pile driving is carried out during daytime construction hours. Operational noise level would decrease in the order of 0.1 dB(A) for the most affected residential areas, including Mt St Thomas and Cringila North. Both the Department and DECC require confirmation of the conclusions presented in the Environmental Assessment, therefore, it is recommended that Proponent undertake a program which confirms the noise performance of the project.

The recommended conditions of approval would ensure that the project would not result in any significant impacts to the surrounding environment. With these measures implemented during construction and operation, the Department does not consider that the project would result in significant adverse impact to the surrounding environment. The project is also consistent with adjacent industrial land uses and activities.

The proposed upgrade would improve operational security for the Port Kembla Steelworks and would secure supply for BlueScope Steel's key downstream customers both internal and external.

APPENDIX A – RECOMMENDED CONDITIONS OF APPROVAL

APPENDIX B – STATEMENT OF COMMITMENTS

APPENDIX C – RESPONSE TO SUBMISSIONS REPORT

APPENDIX D – ENVIRONMENTAL ASSESSMENT