

ASSESSMENT REPORT

PROPOSED MODIFICATION (DA 70-04-01 M1) OF THE TWO DEVELOPMENT CONSENTS GRANTED FOR THE CONSTRUCTION AND OPERATION OF THE TOMAGO ALUMINIUM SMELTER



File No: N91/00088 Pt7

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1. SUMMARY

The Tomago Aluminium Smelter is located on a 500 hectare site on Tomago Road in the Port Stephens local government area.

The construction and operation of the smelter was approved by two separate development consents, which have subsequently been modified:

- On 6 March 1981, following a Commission of Inquiry, the Minister for Planning and the Environment, approved the construction and operation of the Tomago Aluminium Smelter with 2 potlines and 480 pots;
- On 11 January 1991, following another Commission of Inquiry, the Minister for Planning approved the expansion of the Tomago Aluminium Smelter to include 3 potlines with 840 pots, and modified the 1981 consent; and
- On 14 February 1995, the Minister for Planning approved minor modifications to the 1981 and 1991 consents.

Tomago Aluminium Company Pty Ltd (Tomago) is now seeking to modify these consents to enable it to increase the production capacity of the smelter from 440,000 to 530,000 tonnes a year by 2007.

The proposed upgrade would cost \$ 200 million, generate up to \$ 215 million in additional export income a year, and create up to 300 construction jobs. Once operational, the upgraded smelter would continue to employ about 1,030 people.

On 11 April 2001, Tomago lodged two applications for the proposed modifications with the Department of Urban Affairs & Planning, under Section 96(2) of the *Environmental Planning and Assessment Act 1979* (the Act).

The Minister is the consent authority for these applications.

Between 27 April 2001 and 11 May 2001, the Department exhibited both applications in accordance with the requirements in Clause 118 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation).

During the exhibition period, the Department received seven submissions on the proposal, six from public authorities and one from a local resident. These submissions discussed the following potential impacts of the proposal: air quality, water quality, noise, disposal of spent pot linings, traffic, and health risks.

The Department has assessed both applications, the accompanying Statement of Environmental Effects (SEE), and the submissions on the applications, and recommends that the Minister approve the proposed modifications subject to conditions.

2. SITE CONTEXT

The Tomago Aluminium Smelter is located approximately 13km north-west of Newcastle in the industrial suburb of Tomago (see Figure 1).

The smelter occupies about 110 hectares of the 500 hectare site, and is surrounded by a buffer area, which includes very little urban development, apart from a caravan park (Figure 1), and part of the Kooragang Nature Reserve, which is a wetland of national significance.

Figure 1: The Tomago Aluminium Smelter and its Surrounds

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- On 14 February 1995, the Minister for Planning approved minor modifications to the 1981 and 1991 consents.

In addition, Tomago has obtained two licences from the EPA - one for the smelter, and one for the associated waste facility at Wallaroo - and an export licence from the Commonwealth Government to transport small quantities of spent pot linings to Italy for use in steel manufacture.

At present, the smelter employs over 1,030 people, and has a production capacity of about 440,000 tonnes a year.

3. THE PROPOSED MODIFICATION

Tomago is seeking to modify its existing consents to enable it to increase the smelter's production capacity from 440,000 to 530,000 tonnes a year by 2007.

The proposal (see Figure 2) involves:

- Replacing the existing pot linings with a new cathode block design and new preformed side wall blocks;
- Strengthening the steel pot shells to increase the heat extraction from each pot;
- Installing up to 144 cooling fans in the basement of the existing potlines to maintain the current operating temperature (960°C);
- Increasing the capacity of the substation to 225kA;
- Modifying most of the facilities associated with manufacturing the carbon anodes to enable them to produce larger anodes for the new design; and
- Increasing the casting capacity of the smelter from 20 to 25 tonnes per hour.

These works would cost about \$ 120 million.

In association with these proposed works, Tomago is proposing to extend Bake Oven No. 2 by 20 sections. However, this extension was approved by the Minister in 1991, and does not form part of the proposed modification.

The extension of Bake House No. 2 would cost about \$75 million.

Tomago is proposing to carry out these works in three distinct phases:

- Phase 1 includes the extension of Bake House No. 2, and the modification of the anode manufacturing facilities;
- Phase 2 involves the progressive replacement of the pot linings and pot shells; and
- Phase 3 involves the gradual introduction of the new anodes, and shift to the final amperage of 225kA.

Tomago expects to implement the project by 2007.

Figure 2: The Tomago Aluminium Smelter

STATUTORY FRAMEWORK

Section 96

Under Section 96(2) of the *Environmental Planning & Assessment Act 1979*, a consent authority may modify a consent if:

*It is satisfied that the development to which the consent as modified relates is **substantially the same development** as the development for which consent was originally granted and before that consent as originally granted was modified (if at all) under this section.*

The Department considers the proposed modification to be substantially the same development because:

- The increased production capacity would be achieved mainly by upgrading the existing plant;
- The proposed works would occur within the existing building envelope; and
- The proposed upgrade would comply with the existing environmental controls, and generate very few off-site impacts.

Consequently the Department is satisfied that the use of Section 96(2) of the Act is appropriate.

Integrated Development

The original consents pre-date the integrated development scheme in the Act. Consequently, the proposed modifications are not classified as integrated development.

Designated Development

The proposed modifications are classified as alterations to a designated development and are therefore potentially designated development.

However, under Clause 35 of Part 2 of Schedule 3 of the Regulation, development involving alterations or additions to development (whether existing or approved) is not designated development if:

In the opinion of the consent authority, the alterations or additions do not significantly increase the environmental impacts of the total development (that is the development together with the additions or alterations) compared with the existing or approved development.

Clause 36 of Part 2 of Schedule 3 of the Regulation, sets out the factors which the consent authority must take into consideration when determining whether a development involving alterations and/or additions to development is designated or not. These factors include:

(a)The impact of the existing development having regard to factors including:

- (i)previous environmental management performance, including compliance with the conditions of any consents, licences, leases or authorisations by a public authority and compliance with any relevant codes of practice, and*
- (ii)rehabilitation or restoration of any disturbed land, and*
- (iii)the number and nature of all past changes and their cumulative effects, and*

(b)the likely impact of the proposed alterations or additions having regard to factors including:

- (i)the scale, character or nature of the proposal in relation to the development, and*
- (ii)the existing vegetation, air, noise and water quality, scenic character and special features of the land on which the development is or is to be carried out and the surrounding locality, and*
- (iii)the degree to which the potential environmental impacts can be predicted with adequate certainty, and*
- (iv)the capacity of the receiving environment to accommodate changes in environmental impacts, and*

(c)any proposals:

- (i)to mitigate the environmental impacts and manage any residual risk, and*
- (ii)to facilitate compliance with relevant standards, codes of practice or guidelines published by the Department or other public authorities.*

Having regard to these criteria, the Department is satisfied that the proposed modifications would not significantly increase the environmental impacts of the total development for the following reasons:

- Tomago has generally complied with the conditions of its existing development consents and licences;
- All the land which was disturbed during the initial development of the smelter has either been landscaped or rehabilitated;
- The scale of the proposed modifications is relatively minor in relation to the total development, and would be carried out within the existing building envelope;
- The potential impacts of the proposed modifications can be predicted with reasonable certainty, given the wealth of monitoring data available on the performance of the smelter's operations over the last 15 years;
- The receiving environment is capable of accommodating the potential impacts of the proposal; and
- Tomago has demonstrated that the impacts associated with the proposed upgrade could be accommodated within the smelter's existing "environmental envelope".

Consequently, the Department recommends that the Minister determine that the proposed alterations to the existing smelter are not designated development.

Relevant Planning Instruments/Policies

The following planning instruments are relevant to the proposal:

- *State Environmental Planning Policy (SEPP) 33 - Hazardous and Offensive Development*
- *Port Stephens Local Environmental Plan (LEP) 2000*
- *Hunter Regional Environmental Plan (REP) 1989.*

The proposal has been assessed against the relevant provisions in these planning instruments in Section 6 and Appendix A.

This assessment concludes that the proposal is consistent with the relevant aims and objectives of these instruments, and satisfies the relevant assessment criteria (see Appendix A).

4. CONSULTATION

Tomago lodged the modification applications with the Department on 11 April 2001.

The Department subsequently:

- Exhibited the applications and the accompanying SEE at the Department's Information Centre in Sydney, the Department's Newcastle Office, Port Stephens Council and the Nature Conservation Council between 27 April 2001 and 11 May 2001;
- Notified all the persons who made submissions to the 1981 and 1991 development applications; and
- Published a notice of the application in the *Newcastle Herald* on 26 April 2001 and 1 May 2001.

This satisfies the requirements for public participation in Clause 118 of the Regulation.

During the exhibition period, the Department received 7 submissions on the proposal, 6 from public authorities and 1 from a local resident. These submissions discussed the following potential impacts of the proposal: air quality, water quality, noise, disposal of spent pot linings, traffic, and health.

These issues are discussed in more detail in Section 6 and Appendix A.

5. CONSIDERATION OF ISSUES

The Department believes the following issues require further consideration.

6.1 Air Quality

The smelter emits sulphur dioxide, fluoride, nitrogen oxide, and fine particulates, but the main concerns relate to the potential impacts associated with the sulphur dioxide and fluoride emissions.

Sulphur Dioxide

Over the last 7 years, Tomago has monitored the sulphur dioxide concentrations of the smelter at 2 locations in the buffer zone: the Meteorological Station and the Tomago Farm.

The results of this monitoring are summarised alongside the National Environmental Protection Measure (NEPM) air quality goals.

NEPM	Meteorological Station	Tomago Farm
20 pphm over 1 hour	6.1	10.4
8 pphm over 24 hours	1.47	3.12
2 ppm over 1 year	0.266	0.72

At both locations, the concentrations were well within the NEPM goals.

It is estimated that the proposal (to increase production by 20%) would increase the smelter's sulphur dioxide emissions by 20%.

P Zib and Associates used three recognised air dispersion models to assess the potential impacts of the increased sulphur dioxide emissions. The results of this modelling suggest that the ground level concentrations of sulphur dioxide would remain well within the NEPM goals at all locations around the smelter.

These results are susceptible to variations in the sulphur content of coke and pitch used at the smelter, so P Zib tested the sensitivity of the results to variations in the sulphur content of coke and pitch.

These tests indicate that, if the sulphur content of the coke and pitch is at the higher end of the spectrum allowed by the EPA (3% for coke and 2.5% for pitch), then the ground level concentrations of sulphur dioxide could exceed the NEPM goals at a few small areas in the buffer zone. However, over the last 7 years, the average sulphur content has been 2.5% for coke and 0.4% for pitch, which is well within the levels used in the sensitivity testing.

The Department is therefore satisfied that the proposed expansion would not generate any adverse sulphur dioxide emissions.

The EPA has recommended that Tomago be required to upgrade the existing air monitoring program during the proposed upgrade, especially in relation to monitoring ambient sulphur dioxide levels.

Fluoride

Over the last 15 years, Tomago has continuously monitored ambient fluoride concentrations at 8 locations around the smelter.

These results are generally in compliance with the ANZEC goals for ambient fluoride levels, but the levels consistently exceed the goals at one of the eight locations. This site is in the buffer zone, however, and does not have any activities or significant attributes that would be affected by the higher fluoride levels.

The annual average emission rate of the smelter is 0.54kgF/tAl¹, with a range of between 0.47 and 0.63kgF/tAl. Using this average, the smelter currently generates about 237,600 tonnes of fluoride a year.

These results are well below EPA's current controls, which require the annual average emission rates of the smelter to be below 0.8kgF/tAl.

The existing buffer area is designed to accommodate around 300 tonnes of fluoride a year which, at the proposed production rate of 530,000 tonnes a year, equates to about 0.566kgF/tAl.

At the current annual average emission rate, the proposal would generate about 286,200 tonnes of fluoride a year, which would be within the existing capacity of the buffer zone.

¹ kgF/tAl = kilograms of Fluoride per tonne of Aluminium produced.

However, at the upper end of the annual average emission rate range (0.63kgF/tAl), the smelter would produce up to 333,900 tonnes of fluoride a year.

Tomago is proposing to maintain the total fluoride emissions at less than 300 tonnes a year by undertaking several initiatives at the smelter, including improved monitoring and practice.

The EPA is satisfied that the increased air emissions from the upgraded plant can be managed satisfactorily within the existing buffer zone, but indicates that Tomago should be required to extend the real time monitoring of roof vent emissions of gaseous fluoride to all three potlines during the proposed upgrade.

6.2 Water Quality

The proposal should have little or no impact on surface water flows, and is not expected to increase the volume, or alter the quality of, the process water generated by the smelter. However, the increase in fluoride emissions associated with the proposal could increase the concentration of fluoride in the surrounding surface and ground water.

Surface Water

Tomago is currently required to monitor the fluoride concentration of the surface waters within 16.5km of the smelter.

These results show that the fluoride concentrations are generally below 1mg/litre, and between 1-2mg/litre at 2 locations, which is well within the range predicted in the 1990 EIS.

As discussed above, the proposed upgrade is unlikely to increase the fluoride emissions above the levels predicted in the 1990 EIS, and is therefore not expected to increase the surface water fluoride concentrations above 2mg/litre at any of the locations in the surrounding area.

Groundwater

Tomago and the Hunter Water Corporation have monitored the quality of the groundwater at several locations in the area since the smelter started operating on the site.

These results indicate that the highest concentrations of fluoride occur under the potlines and adjacent to the runoff collection pond and the spent pot lining storage buildings, but that these concentrations get significantly weaker the further you go from the smelter.

The general conclusion from these results, is that the groundwater impacts of the smelter are extremely localised, and that the smelter is not affecting the quality of the regional groundwater system, and in particular the Tomago Sandbeds.

As discussed, the proposal would increase the fluoride emissions by about 20%, but these emissions would generally occur within the existing limits. Consequently, the proposal is not expected to significantly increase or change the existing groundwater impacts of the smelter.

The Hunter Water Corporation is satisfied with this assessment, and has asked for the existing monitoring regime to be retained.

6.3 Fauna and Flora

The fluoride emissions from the smelter have the potential to damage vegetation.

The existing buffer zone was designed to absorb the potential vegetation impacts of the smelter on site, assuming its emissions would not exceed 300 tonnes of fluoride a year.

Tomago conducts regular monitoring of the average fluoride concentration in the overstorey of the vegetation in the vicinity of the smelter. The results of this monitoring show that the current vegetation impacts of the smelter are contained within the existing buffer zone, and that the recommended "background" level of fluoride (20 micrograms of fluoride per gram of vegetative material) lies almost completely within the buffer zone.

As discussed, the proposed increase in fluoride emissions would occur within existing limits, and is not expected to significantly change the existing vegetation impacts of the smelter.

The NPWS has raised general concerns about the potential impacts of the proposal on the vegetation in the Kooragang Island Nature Reserve, which is a nationally significant Ramsar wetland. Tomago is not currently required to monitor the vegetation impacts of the smelter in the Reserve, and the proposal is not expected to adversely affect this vegetation, however, the NPWS has asked Tomago to assist in the development of, and participate in, a periodic monitoring program targeting specific areas/species within the Reserve.

Tomago has agreed to do this, and the NPWS's request has been incorporated into the proposed conditions of consent.

6.4 Noise Impacts

The existing noise criteria for the smelter are currently 55dB(A) during the day and 45dB(A) at night.

For the past 9 years, Tomago has conducted quarterly night-time noise surveys at three sites surrounding the smelter (Old Punt Road, Detention Centre, and Tomago Ceramics).

These results show that Tomago is struggling to comply with the existing noise criteria, and is generating night-time noise levels ranging from 44dB(A) to 56dB(A).

HLA Envirosciences undertook a noise impact assessment of the proposal, which concluded that, subject to the proposed restrictions on the sound power output of the new plant, the proposal would not increase the noise impact of the smelter.

According to the EPA, however, this assessment is unsatisfactory, as it was based on the old *Environmental Noise Control Manual*, which has been replaced by the new *Industrial Noise Policy*. The EPA therefore recommends that Tomago be required to carry out further noise assessment of the proposal in accordance with the new *Industrial Noise Policy*.

6.5 Waste

Fluorinated Wastes

The smelter generates fluorinated wastes from the potline, cast house, and electrode operations.

In 1991, Tomago predicted that the smelter would generate around 3,900 tonnes of fluorinated waste a year.

At present, Tomago is recycling the wastes from the potlines internally, and sending an increasing proportion of the electrode waste for reuse in the cement industry. Consequently, the smelter is only generating about 1,300 tonnes of fluorinated waste a year, which is being sent to the Wallaroo waste disposal facility for disposal.

In the next few years, however, there is a good chance that all the electrode waste would be reused in the cement industry, and that the smelter would send only about 220 tonnes of the waste to landfill each year.

Spent Pot Linings

The smelter currently generates between 1,100 and 8,900 tonnes of spent pot linings each year.

Spent pot linings, which consist of the carbon cathode lining of the smelting pots, have low concentrations of contaminants, such as fluoride and cyanide salts. Consequently, they are classified as hazardous waste under the Environmentally Hazardous Chemicals Act, and cannot be sent to landfill.

At present, Tomago has a licence to store spent pot linings on site in secure, lined, and covered buildings.

On site storage peaked at 36,000 tonnes in March 1998, but Tomago has subsequently obtained a permit to export some spent pot linings to Italy for reuse in the steel industry.

Tomago is currently storing about 23,500 tonnes of spent pot linings on site. However, this is expected to rise steadily over the next few years as the existing pot linings are replaced with the new cathode block design.

Under the 1991 development consent, Tomago is required to adopt any system that - in the opinion of the EPA - is feasible on economic, environmental, and industrial reliability criteria to convert the spent pot linings to non-hazardous waste.

To date, viable treatment technologies have been slow to emerge.

The EPA is concerned that the storage and export of spent pot linings may not be sustainable in the longer term, and believes that new treatment technologies are emerging, which may be viable by 2007.

Consequently, the EPA has recommended that Tomago be required to adopt a new treatment process by 2007.

In consultation with the EPA, the Department has drafted a condition which requires the Applicant to adopt a new treatment system by 31 December 2007, but provides for this deadline to be extended if new treatment technologies are slow to emerge, or these technologies are considered to be unfeasible on economic, environmental, or industrial reliability criteria.

6.6 Traffic

The smelter currently generates about 153 heavy vehicle trips a day: 87 to import raw materials, and 66 to export to finished produce.

The proposal would increase this by 20%, or 31 trips a day.

This increase would be spread over the day, and have a negligible impact on the road system and surrounding intersections.

The RTA does not object to the proposal, but thinks that Tomago should be required to investigate ways of improving the performance of the intersection of the Princes Highway and Tomago Road, which is congested during peak periods.

The Department cannot see any nexus between the additional traffic generated by the proposal and the RTA's request, and believes that there are probably several factors - many of which do not involve the smelter - for the poor performance of the intersection. Consequently, it is reluctant to include the RTA's request in the proposed conditions of consent.

6.7 Hazards

Under SEPP 33, the proposal is a "potentially hazardous" development, because of the frequency at which pitch (a Class 9 good) is delivered to the site.

In accordance with SEPP 33, Granherne conducted a Preliminary Hazard Analysis of the development, which included the existing smelter and the proposed modifications. This analysis concluded that the development is not "hazardous".

The Department is satisfied that potential risk impacts of the proposal are acceptably low, however, it believes the Applicant should be required to update the following hazard studies to accommodate the proposed changes:

- Fire Safety Study.
- Construction Safety Study.
- Updated Emergency Plan.
- Safety Management System.
- Incident Reporting.

In addition, the Department is concerned that Tomago has not implemented several of the recommendations in the Hazard Audit 1995. Although this Audit, and the most recent Audit (which was concluded in 2000), considered the smelter's safety management systems to be sound, the Department believes Tomago should be required to implement the outstanding recommendations in both audits, and provide the Department with regular updates on the implementation of these recommendations.

6.8 Energy

The proposal would increase the smelter's energy demand from 730MW a year to 865 MW a year by 2008, which would increase the smelter's greenhouse gas emissions, mainly CO².

However, the Department considers this increase to be relatively minor, and is satisfied that Tomago is actively pursuing opportunities to reduce the smelter's greenhouse gas emissions.

6.9 Health Risks

One submission expressed concerns about the potential health risks of the proposal on the surrounding community and workers at the smelter, particularly in the pot room.

The potential health risks to the surrounding community are generally associated with the air emissions of the smelter and the transport of pitch. These issues are discussed in Sections 6.1 and 6.7 of the report, and are not expected to pose any health risks to the surrounding community.

While the Department recognises that the working environment at certain parts of the smelter may be detrimental to the health of on-site workers, it is generally satisfied that Tomago has implemented measures to minimise these potential impacts (protective equipment for workers etc). In addition, these matters are regulated by WorkCover NSW, and the Department does not believe that it is necessary to duplicate Workcover's operational health and safety requirements in the proposed conditions of consent.

6.10 Social and Economic Impacts

The proposed upgrade would have a positive impact on the NSW economy: it would cost about \$ 200 million, and generate up to \$ 215 million in additional export income each year for Tomago, which would have several positive flow-on effects for the companies that supply Tomago with goods and services.

During construction, the proposed works would generate up to 300 jobs. However, once the upgraded smelter is operational, Tomago would continue to employ about 1,030 people, which is roughly what it employs now.

6. SECTION 79C CONSIDERATION

Section 79C of the Act sets out matters that a consent authority must take into consideration when it determines an application.

The Department has assessed the proposed modifications on their merits against these matters, and is satisfied that they can be carried out without generating any significant impacts on the environment. Consequently, it believes that the proposed modifications are in the public interest.

7. RECOMMENDED CONDITIONS OF CONSENT

The Department has prepared a set of recommended conditions of consent for the proposed modifications, which include most of the conditions recommended by the various agencies.

Tomago has reviewed and accepted these proposed conditions.

8. CONCLUSION

The Department has assessed the proposal on its merits, and is satisfied that it would improve the efficiency of the smelter, and generate significant economic benefits for NSW during the construction and operation of the upgraded smelter. It is also satisfied that the proposed modifications can be carried out without generating any significant impacts on the environment or the surrounding community.

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

9. RECOMMENDATION

It is recommended that the Minister:

1. Review this assessment report;
2. Approve the proposed modifications under Section 96(2) of the Act, subject to conditions; and
3. Sign the attached instruments (tagged "A" and "B").

Endorsed:

David Kitto
Planning Officer

Sam Haddad
Executive Director

APPENDIX A

SECTION 79C MATTERS FOR CONSIDERATION

The following assessment is based on the matters listed for consideration under section 79C(1) of the amended *Environmental Planning and Assessment Act 1979*.

(a) The provisions of:

(i) any environmental planning instrument;

In relation to the Tomago Aluminium Smelter, three environmental planning instruments are applicable:

- *State Environmental Planning Policy (SEPP) 33 - Hazardous and Offensive Development*

See Section 6.7.

- *Port Stephens Local Environmental Plan (LEP) 2000*

The proposed modifications are consistent with the provisions of the relevant *Port Stephens LEP*. The subject land is zoned 4(a) - Industrial General zone of which the objectives are:

- (a) *to enable the development of a wide range of industrial service and storage activities and a limited range of business and retail activities, and*
- (b) *to allow industrial development only after comprehensive hazard analysis and risk assessment provide adequate safeguards designed to protect the surrounding environment and ecological balance;*
- (c) *to regulate industries in proximity to or adjacent to urban areas and ensure that adequate buffers are provided between adjacent land use zones so that activities will not have a significant detrimental effect on the surrounding amenity;*
- (d) *to encourage a high standard of design and amenity in industrial area.*

- *Hunter Regional Environmental Plan (REP) 1989*

The proposed modifications are consistent with the provisions of the Hunter REP. The objectives of the REP in relation to industrial development are contained in Clause 15 and are:

- (a) *to ensure that sufficient zoned and serviced industrial land is provided in locations appropriate to the needs of industry, while ensuring protection of the environment, and*
- (b) *to promote the distribution of employment in secondary industry in a manner compatible with the availability of services and distribution of population.*

(ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority;

N/A.

(iii) any development control plan;

N/A.

- (iv) any matters prescribed by the regulations that apply to the land to which the development application relates.**

In relation to (iii), clause 66 of the Environmental Planning and Assessment Regulation 1994 requires the following matters to be taken into consideration by a consent authority in determining an application:

66(a) The Government Coastal Policy (where relevant)

The *Government Coastal Policy* is not relevant to this modification.

66(b) In the case of a DA for the demolition of a building, the provisions of Australian Standard AS 2601-1991: The demolition of structures, as in force 1 July 1993.

No buildings will be demolished under this modification.

- (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,**

Natural Environment

See Section 6.

Built Environment

The proposed modifications would occur within the existing building envelope.

Social and Economic Impacts

See Section 6.

- (c) the suitability of the site for the development,**

The existing site is suitable for the proposed development.

- (d) any submissions made in accordance with this Act or the regulations,**

See Section 6 and Appendix B.

- (e) the public interest.**

The proposed modifications would increase the efficiency of the smelter, and generate increased economic activity without generating any significant environmental impacts. Consequently, the Department believes that the proposed modifications are in the public interest.

APPENDIX B SUMMARY OF SUBMISSIONS

Agency/Person	Issue	Response
NPWS	<ul style="list-style-type: none"> Lack of monitoring sites within Kooragang Island which is part of the Tomago Aluminium Smelter's buffer area. 	See Section 6.3.
EPA	<ul style="list-style-type: none"> Existing environmental monitoring program does not meet current standards, particularly for air emissions; Noise assessment was not satisfactory. Adopting procedures to convert spent pot linings into a non-hazardous material 	See Sections 6.1, 6.4 and 6.5.
Hunter Water	<ul style="list-style-type: none"> Impact of fluoride emissions on the Tomago Sandbeds; Increase in potable water demand 	See Section 6.2.
Benjamin Bray of Raymond Terrace.	<ul style="list-style-type: none"> Cumulative impacts of pollution on the local environment; Increases in greenhouse gases and solid waste streams from the smelter; Health hazards in the potroom; and Health risks to the community. 	See Sections 6.5, 6.8, and 6.9.
NSW Fisheries	<ul style="list-style-type: none"> No issues 	

Energy Australia	<ul style="list-style-type: none"> • The Smelter takes its electricity supply is from the Transgrid system and not the Energy Australia network • Need confirmation that that the Kooragang Bulk Facility's installation will only be making more intensive use of the existing electrical connection rather than requiring an increase in the maximum capacity of the connection. 	Warren Brooks from Tomago confirmed the proposal would not later the electricity requirements at the Kooragang Bulk Facility.
RTA	<ul style="list-style-type: none"> • SEE did not assess the intersection between Pacific Highway and Tomago Road as a significant portion of traffic use this intersection. 	See Section 6.6.

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