



ASSESSMENT REPORT

Section 96(1A) Modification Cargill Beef Abattoir's Wastewater Treatment Ponds

1. BACKGROUND

Cargill Beef Australia (CBA) has been operating the beef abattoir located in the Bomen Industrial Area, in the Wagga Wagga LGA (see Figure 1), since 1991. The abattoir was originally established in the late 1940's. For some time, odour emissions from the abattoir have been a significant on-going problem for the local area.

The abattoir is located some 5 kilometres to the north-east of the township of Wagga Wagga and is surrounded by a mix of rural residential and industrial uses. The closest residence is located on Byrnes Road, approximately 1km to the south of the site. There are also a number of residences located further to the west of the site at Cartwrights Hill, along East Street (approximately 1.2km from the site).

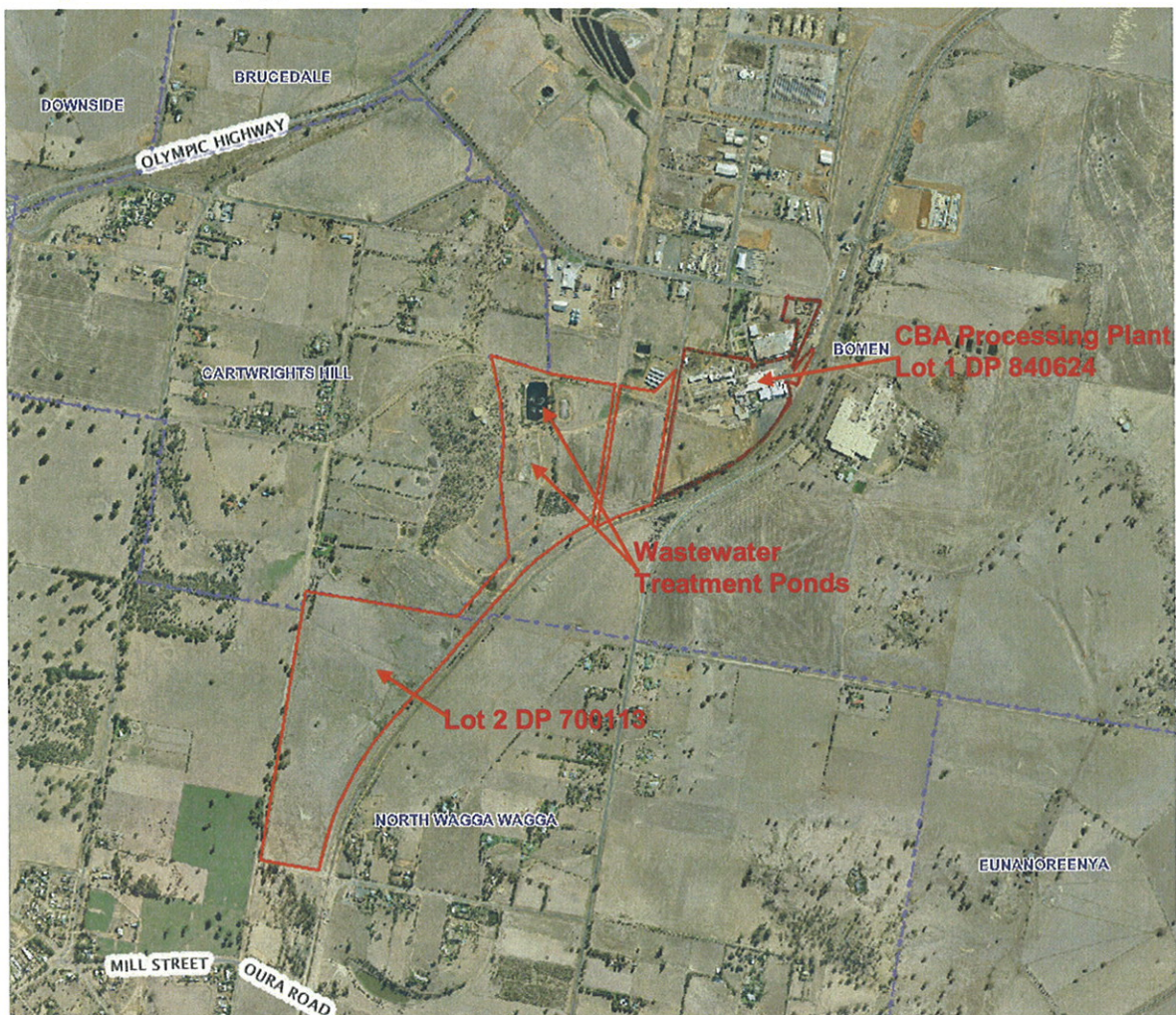


Figure 1 – Approved CBA Abattoir

On 27 February 2003, the then Minister for Planning approved a development application (220-07-2002-i) from CBA for the upgrade and expansion of the existing abattoir to facilitate an increase in production from 850 to 2000 head of cattle per day and to improve odour and effluent management practices.

The development has since been modified on 3 November 2003 and 31 March 2004 to amend the footprint to allow expansion of the abattoir to the south-east and to amend the consent conditions regarding the soil contamination and remediation.

Odour Performance

As part of the approval of the expansion of the abattoir in 2003, a detailed conditioning regime was included in the consent requiring CBA to undertake a detailed odour impact assessment to demonstrate compliance with a project specific 4 OU/m³ criteria and the no offensive odour provisions of s129 of the *Protection of the Environment Operations Act 1997*. The odour assessment was required to be undertaken within 15 months of the commencement of operations and should non-compliances be identified, the assessment would detail potential odour mitigation measures that would be adopted and the timing for their implementation, to ensure that the 4 OU/m³ criteria is met by CBA at all nearby properties.

On 31 August 2007, CBA submitted the odour impact assessment for the approval of the DECC and Director-General. The assessment indicated that the 4 OU/m³ criteria were exceeded regularly throughout the year. This exceedence was measured despite the abattoir being at a daily production rate of 60% of the final approved capacity of 2,000 head of cattle per day.

The assessment identified that the main source of odour generation were from the wastewater treatment ponds, roof vent and biofilter emissions from the rendering plant and cattle yard. To ensure that the 4 OU/m³ criteria is met by CBA at all nearby properties, CBA proposed, as part of the odour impact assessment, a number of mitigation measures, including:

- constructing a new covered anaerobic pond and biogas collection system, which would result in reduced loadings on the wastewater treatment system, reduced odour emissions from aerobic pond 4;
- de-sludge aerobic pond 4; and
- reduce roof vent emissions by optimising the odour collection system within the rendering plant.

As a result of the measures identified by the odour assessment report, CBA has proposed to modify the development consent to adopt one of the key mitigation measures. In addition to a modification of the consent, CBA have also been progressively working with DECC to de-sludge aerobic pond 4 and to improve the odour collection system within the rendering plant.

2. PROPOSED MODIFICATION

On 4 February 2009, CBA submitted an application to the Department to modify the Minister's consent under s96(1A) of the EP&A Act to enable the construction of a new covered anaerobic pond and biogas collection system.

The modification application would help facilitate the reduction in odour emissions generated by the abattoir, and enable the implementation of one of the key recommendations of the odour assessment.

The modification application involves:

- the construction of a new covered anaerobic pond (2b) to replace existing anaerobic ponds 1 and 2;
- a flare system to burn off gas captured by the new pond; and
- decommissioning of existing ponds 1 and 2 following the commissioning of the new pond, 2b (see Figure 2).

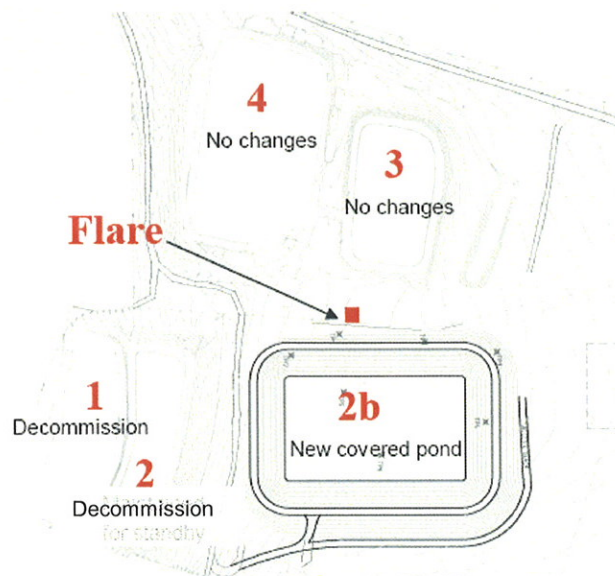


Figure 2 – Proposed Works

3. COMPLIANCE BACKGROUND

Since the lodgement of the modification application, the Department has undertaken a compliance inspection of the abattoir and some significant waste water management failures have been experienced.

On 26 March 2009, the Department carried out a site inspection that identified breaches with the Minister's consent, particularly in regards to the management of the wastewater treatment system and the control of odour emissions at the abattoir.

Since this inspection, the DECC advised the Department of some failures of existing ponds 3 and 4 resulting in further reduced treatment efficiency and significant odour emissions. The wastewater issues have caused pond 3 to convert from an anaerobic system to aerobic system resulting in the break-up of the crust across the pond which has resulted in the final pond receiving the crusted material. Due to the impacts on the final pond which at present is aerobic, wastewater from the final pond has caused some major issues with Wagga Wagga City Council's Sewage Treatment Plant which receives this wastewater under a Trade Waste Agreement, causing excessive frothing and overspill. Consequently, significant odour events have occurred, resulting in some community complaints.

As a result, the Department has been in detailed discussions with both CBA and the DECC with the view to resolving these issues. The Department requested CBA consider whether the current modification application should be amended to broaden its application to the wastewater system, however CBA were unable at that stage to clearly determine what additional works would be required. Consequently, the Department's assessment of the current modification application has experienced some delays. However, CBA has asked for the assessment of the current modification to be finalised to enable the odour management works to proceed while further investigations are being carried out.

To address the broader compliance issues, DECC has issued a Pollution Reduction Program (PRP) requiring CBA to:

- reduce the loading on pond 1;
- de-sludge ponds 3 and 4; and
- construct a new covered pond 2b, if approved by the Department, within the next 12 months.

Due to the findings of the Department's site inspection and subsequent problems experienced at the abattoir, the Department issued a notice of intention to give an order on 4 June 2009 to CBA under section 121B of the EP&A Act. The Department decided to issue the order as a means of ensuring CBA commits to a process of bringing the facility

into compliance, particularly in regards to odour generation, wastewater management and general compliance with the development consent. The order is consistent with the PRP process being undertaken with DECC.

A meeting is also proposed to be held on 2 July 2009 with the DECC, CBA and the Department to discuss the operational issues at the facility and the expectations under the PRP and Order to ensure the abattoir's compliance with the EPL and development consent.

4. STATUTORY CONTEXT

Consent Authority

The Minister was the consent authority for the original development application and is therefore the consent authority for this application. On 4 March 2009, the Minister delegated her powers and functions as a consent authority to modify certain development consents under section 96(1A) of the EP&A Act to the Director, Major Development Assessment. This modification meets the terms of this delegation and consequently, the Director may determine the application under delegated authority.

Section 96

Under Section 96(1A) of the EP&A Act, a consent authority may modify a development consent if it is satisfied that:

- a) *the proposed modification is of minimal environmental impact, and*
- b) *the development to which the consent as modified relates is substantially the same development for which consent was originally granted and before that consent as originally granted was modified (if at all).*

The Department has assessed the application, and is satisfied that the proposed modification is substantially the same development. The modification involves the replacement of two existing ponds with a new one, which was identified as a mitigation measure as part of the odour impact assessment required under the current consent, to ensure project specific odour criteria is met. The modification would not result in the increase of the production output nor any other operational changes. Additionally, the proposed new pond would be covered and would capture gases that would be flared, which would reduce current odour and greenhouse gas emissions. As such, the Department is satisfied that the consent as modified would not only be substantially the same as the development for which consent was originally granted but would also provide environmental benefits.

5. CONSULTATION

The Department is not required to notify the application, however it consulted the Department of Environment and Climate Change (DECC), Wagga Wagga Council (Council) and the Department of Water and Energy (DWE). The DWE did not raise any concerns with the project and Council did not provide any comments. Whilst DECC does not believe that the proposal would completely resolve current odour issues, it believes it would improve them, and it therefore supports the proposal subject to conditions. The Department has considered DECC's concerns carefully during its assessment of the project, and where necessary, recommended conditions of approval to address any residual concerns. It has also incorporated DECC's recommendations into the recommended conditions of approval.

6. CONSIDERATION

The Department has assessed the merits of the proposed modification in accordance with the relevant statutory requirements (see Appendix 1), and considers the key issue to be its potential odour impacts.

Odour

The odour impact assessment undertaken by CBA in 2007, as required under condition 5.5 of the Minister's consent, indicated that odour emissions from the wastewater system exceeded the project specific odour performance criteria of 4 OU/m³ regularly throughout

the year. This exceedence is occurring despite current cattle production rates being only at 60% of the approved 2,000 head per day authorised under the development consent. To ensure that the 4 OU/m³ criteria is met by CBA at all nearby properties, the odour assessment proposed a number of mitigation measures that could be implemented to address odour issues. This included construction of a new covered anaerobic pond to replace two existing anaerobic ponds and associated flare system to burn off gas captured by the new pond.

The odour assessment undertaken as part of the modification application indicated that the new pond and associated flare system would reduce current odour emissions, as hydrogen sulphide, the main identified cause of odour issues, would be neutralised during flaring of the captured gas. Whilst both the Department and DECC concur that the proposed development would reduce odour emissions at the current kill-rate of 1500 head of cattle per day, 5 days per week, both however believe that there is some residual concern that the proposed new pond may not be of sufficient capacity to effectively control odour emissions once CBA increases it's current kill rate to the final approved rate of 2,000 head of cattle per day.

However, both the Department and DECC believe that the construction of the new anaerobic pond is the first major step to substantially reduce current odour emissions and are willing to accept the current proposal subject to strict conditions. These conditions would ensure that the current odour emissions associated with the current kill-rate are substantially reduced.

However to ensure that the new pond design achieves an odour reduction, the Department has recommended a new condition requiring CBA to undertake further odour assessment to verify the odour reduction. As the abattoir is not operating at final capacity and since the original assessment was undertaken during this lower capacity, the condition requires CBA to undertake the assessment:

1. within 12 months from the commencement of commissioning of the new pond to ensure it is working effectively at the final capacity of 2, 000 head of cattle per day, 6 to 7 working days per week;
2. be undertaken by a suitably qualified expert; and
3. include contingency measures should the assessment indicate non-compliance with the 4OU criteria.

In addition the Department has recommended conditions requiring CBA to install an appropriate odour control device to control odours associated with the new pond and the flare system, to update some of the existing conditions to reflect the Department's current wording and required the environmental management plan be updated to incorporate the modification.

These requirements have been incorporated into the recommended conditions of approval. With these measures in place, the Department is satisfied that odour impacts on nearby properties would be adequately managed.

Additionally, the Department considers that there is a range of viable contingency measures that could be implemented to improve the wastewater system if subsequent monitoring shows that odour emissions associated with the system are having an adverse effect on nearby properties. These contingency measures include:

- increasing the size of the proposed new anaerobic pond 2b; and
- installing a dual system (i.e. duplication of the existing ponds 3 and 4) to provide for cleaning and maintenance.

Notwithstanding, the Department is also satisfied that the Order issued to CBA and the PRP process being undertaken by the DECC will also assist in ensuring odour generation from the abattoir is adequately managed and compliance with the development consent is achieved.

Other Issues

The proposed modification would generate some other minor impacts (see Table 1 below).

Table 1 – Other Issues

Issue	Impact	Recommendation
Hazards	- The preliminary hazard analysis indicated that the development would not have an offsite impact. - The Department considers that the proposal is unlikely to generate off site risks and that potential risks associated with the proposal are consistent with the risks predicted in the original assessment for the development. - Notwithstanding, the existing and the recommended conditions of approval would ensure any potential/residual impacts are adequately managed.	- The Department has recommended conditions requiring CBA to: ➤ prepare, as part of the existing Construction Environmental Management Plan, a Fire Safety Study and a Final Hazard Analysis prior to the commencement of construction; ➤ prepare and update, as part of the existing Operational Environmental Management Plan, a Safety Management System and an Emergency Plan, respectively prior to the commencement of operation; and
Waste	- The assessment indicated that the proposal would not result in any adverse waste impacts; in fact management of waste would be improved due to changes in its management due to the new covered pond and the flare system. - The Department considers that waste impacts would not only be consistent with the approved development but would also be improved due to the proposal. - Notwithstanding, the existing conditions of approval would ensure any potential/residual impacts are adequately managed.	- No additional recommendations are required; however the Department has recommended that CBA be required to: ➤ update the existing Waste Management Plan as part of the Construction and Operational Environmental Management Plans.
Greenhouse gas	- The flaring of the gas captured by the new covered pond would enable conversion of methane to CO₂, resulting in the greenhouse gas effect being reduced by 20:1. - Furthermore, it is envisaged that the greenhouse gas would be further reduced by being reused in a new cogeneration plant. In November 2008 DECC announced \$2.9m funding to CBA for the new cogeneration plant, which is scheduled for 2010, and would be subject to a separate approval. - The Department considers that the greenhouse gas impacts would not only be consistent with the approved development but would also be reduced due to the proposal. - Notwithstanding, the recommended conditions of approval would ensure any potential/residual impacts are adequately managed.	- The Department has recommended conditions requiring CBA to: ➤ prepare and implement an Energy Savings Action Plan for the project, in accordance with the requirements of the DWE and the <i>Guidelines for Energy Savings Action Plans</i>, DEUS 2005.
Soil and water	- The assessment indicated that the proposal would not result in any adverse soil and water impacts provided standard soil and erosion measures are implemented and appropriately maintained during the development. - The Department therefore considers that soil and water impacts would be minimal and consistent with the approved development. - Notwithstanding, the existing conditions of approval would ensure any potential/residual impacts are adequately managed.	- No additional recommendations are required; the Department has recommended that CBA be required to: ➤ update the existing Erosion and Sedimentation Management Plan and Water Management Plan as part of the existing Construction and Operational Environmental Management Plans, respectively.

STATUTORY CONSIDERATION - SECTION 96 1A OF EP&A ACT

Under section 96(1A) of the EP&A Act, a consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

Provision	Comment
a) it is satisfied that the proposed modification is of minimal environmental impact.	Complies (refer Section 5 above).
b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all).	Complies (refer Section 5 above).
c) it has notified the application in accordance with: i) the regulations, if the regulations so require, or ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent	No requirements in regulations or a DCP to notify. However, the application was referred to the DECC, Council and DWE.
d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.	Complies (refer to Section 4 above).

In determining an application for modification of a consent under this section, the consent authority must take into consideration such of the matters referred to in section 79C(1) as are of relevance to the development the subject of the application:

Provision	Comment
a) the provisions of: i) any environmental planning instrument, and 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 (unless the Director-General has notified the consent authority that the making of the draft instrument has been deferred indefinitely or has not been approved), and iii) any development control plan, and iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and iv) the regulations (to the extent that the prescribe matters for the purpose of this paragraph: • in the case of a development application for the carrying out of development in a local government area referred to in section 92 of the EP&A Regulation and on land to which the Government Coastal Policy applies, the provisions of that Policy, • in the case of a development application for the demolition of a building, the provisions of AS 2601.	The following environmental planning instrument (EPI) apply to the proposed modification: • <i>Wagga Wagga Rural Local Environmental Plan 1991</i> . The proposed modification is not inconsistent with this EPI.
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	Refer to Section 5 above.
c) the suitability of the site for the development	The site remains suitable for the proposed development.
d) any submissions made in accordance with this Act or the regulations	The modification was not exhibited, however it was referred to the DECC, Council and DWE. The DECC provided recommended conditions of approval.
e) the public interest	The proposed modification is improving the environmental performance of the facility by reducing odour emissions and is therefore in the public interest.

Visual	• The proposal is consistent with the existing landuse and is located within the existing Bomen Industrial Area. • The proposed flare system would result in a 6m high flare, which would not significantly impact on the residence of Cartwrights Hills and people travelling along Olympic Highway due to the angle of incidence and existing vegetation. • Additionally, the flare is envisaged to be temporary, as the gas, currently proposed to be flared, would be captured and used in a new cogeneration plant, which is scheduled for 2010, and would be subject to a separate approval. • The Department considers that visual impacts are consistent with the approved development and are keeping in nature with the existing land use. • Notwithstanding, the existing conditions of approval would ensure any potential/residual impacts are adequately managed.	• No additional recommendations are required; CBA must comply with the existing conditions.
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In summary, the Department considers that the modification represents an important step in working towards reducing odour emissions from the site and in achieving compliance with the odour criteria and overall development consent. The Department considers that the proposal represents a minor modification to the operation of the facility, having minimal impacts and resulting in an overall environmental benefit by improving the environmental performance of the facility.

7. CONCLUSION

The Department has assessed the application in accordance with the requirements in section 79C of the EP&A Act, and is satisfied that:

- the development as modified would remain consistent with the aims, objectives and requirements of the relevant environmental planning instruments;
- the proposal would have minimal environmental impacts;
- the site is suitable for the development; and
- the proposal is generally in the public interest.

Consequently, the Department is satisfied that the proposed modification should be approved.

8. RECOMMENDATION

It is RECOMMENDED that the Director of MDA:

- approve the application; and
- sign the attached instrument of modification (**tagged A**).

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