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Contact: : Daniel Stokes – 02 4908 6804 – armidale@epa.nsw.gov.au
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The Planning Secretary
The Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Ms Ania Dorocinska

Email: Ania.Dorocinska@planning.nsw.gov.au

BY EMAIL

Dear Ms Dorocinska,

RE: BAIADA INTEGRATED POULTRY PROCESSING FACILITY (SSD-9394)

I refer to the development application, accompanying information and additional information provided for the Baiada Integrated Poultry Processing Facility (SSD_9394) received by the Environment Protection Authority (EPA) on 23 July 2019.

The EPA has reviewed the Environment Impact Statement (EIS) titled, '*Environmental Impact Statement – Oakburn Poultry Processing Plant – Tamworth NSW*' dated 2 July 2019 and has determined that it is unable to recommend project approval conditions for the proposal due to inadequate information provided in the EIS.

The EPA requires additional information on the following:

1. **Noise Impact Assessment** – additional information on the background noise monitoring and noise monitoring calculations.
2. **Water Impact Assessment** – additional information on the impacts and disposal of the brine stream from the water treatment process, adequacy of pond liners, impacts of truck wash and stormwater run-off, and disposal options for the sludge.
3. **Air Quality Impact Assessment** – additional information to assess the odour impacts from the proposed facility based on the proposed bird capacity and operating hours.

Specific information requirements are provided at **Attachment A**. Once the information identified in Attachment A is received, the EPA will review the additional information and provide recommended project approval conditions, if appropriate.

If you have any questions, or wish to discuss this matter further, please contact Daniel Stokes on 4908 6804 or via email to: armidale@epa.nsw.gov.au.

Yours sincerely



REBECCA SCRIVENER
Head Regional Operations Unit - Armidale
Environment Protection Authority

ATTACHMENT A

Additional Information Required to Inform EPA Assessment of Baiada Integrated Poultry Processing Facility

1. BACKGROUND

Baiada (Tamworth) Pty Ltd (Baiada) has lodged a State Significant Development Application seeking Development Consent to construct an Integrated Poultry Processing Plant at 1154 Gunnedah Road, Westdale located in Tamworth. Baiada has operated a rendering facility at this site since 2000. The current proposal is seeking approval for:

- Construction of a new poultry processing plant consisting of:
 - 38,936m² of Gross Floor Area providing for live bird storage, processing, chilling, cold store and distribution facilities.
 - 1,600m² workshop and store building;
 - 3,791m² of ancillary administration, staff amenities and childcare space;
 - Expanded Waste Water Treatment Plant; and
 - Installation of ancillary infrastructure, landscaping and services.
- Construction of a new access driveway via an easement connecting to Armstrong Street via Workshop Lane;
- Construction of a new staff car parking area providing 820 car parking spaces;
- Site landscaping and screening vegetation;
- Increase the approved level of poultry processing on the site to a maximum of 3 million birds per week;
- Increase the approved level of rendering at the existing rendering plant to a maximum of 1,680 tonnes of finished product per week (240 tonnes per day, 7 days a week); and
- Allow all operational aspects of the site to occur at anytime with no restrictions (24 hours per day, 7 days a week).

2. NOISE IMPACT ASSESSMENT

The EPA has reviewed the noise assessment provided with the EIS documents on the planning portal (<https://www.planningportal.nsw.gov.au/major-projects/project/10536>) for the Baiada Oakburn Poultry Processing Facility, SSD9394. The acoustic report included in the EIS generally addresses the SEARs noise requirements for the application.

However, further information is required from the applicant before we can recommend conditions.

- Additional information is needed on the background noise monitoring. Noise logger graphs for each location and a description of the existing ambient noise environment at each monitoring location is needed for the EPA to complete its assessment. Demonstration that noise measurement and the derivations of rating background levels (RBL) have been collected and calculated in accordance with the Noise Policy for Industry (NPfI) is also required.
- Additional information is needed on the calculation methodology presented for the adverse meteorological conditions in Section 3.1.3 of the acoustic report to validate the noise model assumptions and outcomes. The assessment was undertaken under adverse weather conditions stipulated in the (superseded) Industrial Noise Policy. However, the procedure described in Fact Sheet D of the NPfI should be applied, and information provided to evaluate whether predictions made using the NPfI methods would result in different predicted noise level outcomes compared to those presented in the acoustic report.

- Clarification is required on how Equation 2 within the acoustic report (Section 3.1.2) has been incorporated into the ENM model. Equation 2 contains a standard correction for distance loss, however the EPA expects this algorithm is applied by the ENM model. If source noise levels have been included into a model that already includes a distance loss correction, then predicted noise levels at the residential receiver locations may be underestimated.
- The acoustic report has not considered the possibility of tonal aspects from the mechanical plant and equipment which has the potential to add a 5 dBA penalty to the noise level at the receiver. If tonal characteristics are present this would likely result in non-compliance with the Project Noise Trigger Levels at most locations during the evening and night periods. As such, any potential tonal or low frequency adjustments must be made addressed in accordance with Fact Sheet C of the NPfl.
- The report makes no reference to Section 3.4.5 of the NPfl “Noise mitigation for the night-time collection of poultry”. The proponent is requested to take this into account as appropriate/applicable.
- The vibration aspects of both the operation and construction of the development have not been included as required under SEARs. However, given the distance of the development to the nearest affected receiver locations this is unlikely to be an issue.

3. WATER IMPACT ASSESSMENT

Process effluent management

There are no proposed operational process discharges to water as 75% of the water treatment plant effluent will be reused within the plant and Baiada is negotiating a discharge to sewer through a trade waste agreement for the brine stream. The treatment process includes a Waste Water Treatment Plant (WWTP) and an Advanced Water Treatment Plant, including filtration and low-pressure Reverse Osmosis (RO). The system will be designed to meet and exceed the relevant industrial re-use water quality standards which are not regulated by the EPA.

A RO concentrate stream will be produced. This stream will have a high concentration of dissolved salts and is intended to be discharged to the municipal sewer where it will be shandied with other reticulated sewer and treated water at the Westdale Sewer Treatment Plant (STP). This discharge is proposed to be subject to a Trade Waste Agreement (TWA) with Tamworth Regional Council.

The EIS states that the applicant has met with Council with respect to the terms of the TWA who have advised that, while having concerns with receiving inflows with a higher than normal concentration of dissolved salts, the Council is committed to working with Baiada on a workable solution. The Environmental Impact Statement (EIS) notes that Baiada is researching the use of peracetic acid as an alternative to chlorination which may reduce the TDS in the concentrated stream.

It is noted that if a TWA is accepted there are some potential risks, including:

- saline wastewater can damage STP assets and affect the treatment process
- salinity is generally not effectively treated in STPs and any increased salinity in STP effluent could impact receiving waters or reduce potential for reuse.

If a TWA is not in place there would be a waste stream requiring management with limited options due to its high salinity, e.g. disposal as crystallised salt which would require an additional treatment step and an appropriately designed landfill. These potential risks should be considered as part of the development assessment process.

It is recommended that the fate of brine waste stream is considered as part of the development assessment process.

Pond linings

The EIS indicates there will be adequate liners for processing and treatment systems used on site such as the Covered Anaerobic Lagoons. It is noted that part of the WWTP is currently under construction as Baiada has recently obtained consent from Council for construction of that part of the plant. This part of the plant consists of the series of Sequence Batch Reactors, Coverer Anaerobic Lagoons and maturation ponds which is aimed at improving the quality of the existing wastewater generated by the rendering plant.

The proponent needs to confirm the adequacy of liners for processing and treatment systems for both the existing and proposed development.

WTP sludge management

It is unclear how sludge not returned to the treatment process will be managed.

The proponent needs to identify and described management measures of any sludge that is not returned into the treatment process.

Stormwater and discharges to waters

Stormwater risks are limited to construction stage erosion and sediment control and then general site runoff from rooves, car parks, access roads, surrounds and truck wash. These activities (except for the truck wash, see below) should be able to be managed with standard stormwater management techniques. It appears that live bird receivals are indoors and therefore bird handling should not affect stormwater quality. The EIS states that unloading of live birds will occur on the western side of the building with the facilities designed for trucks to reverse and deliver live bird modules before processing occurs.

Truck wash

The EIS states that if car or truck washing occurs on site it will be within a bunded area where surfactants will be captured and treated prior to discharging into the stormwater network. There are no details provided on the extent or type of truck wash facilities.

The proponent needs to clarify whether the insides of trucks, that may contain feathers and manure, will be washed and treated in a system that discharges offsite.

4. AIR QUALITY IMPACT ASSESSMENT

Analysis of issues

The EPA has reviewed the Air Quality Report: Odour Impact Assessment (AQR¹) submitted for the proposal as Appendix 9 of the Environmental Impact Statement (EIS²). There is insufficient information in the AQR to assess the odour impacts from the proposed facility based on the proposed bird capacity and operating hours.

The AQR provides a quantitative assessment of predicted odour impact utilising CALPUFF. The odour assessment includes odour from the proposed upgraded waste water treatment plant, the poultry processing facility (PPF) and the existing protein recovery plant (PRP) but does not include odour from the existing poultry farms.

The AQR includes adequate worst-case emission scenarios for the waste water treatment plant (WWTP) - assuming daytime filling for sequencing batch reactor (SBR)- but not for the PPF and PRP.

The odour at the childcare centre exceeds the project impact assessment criteria (IAC) for 24-hour operation. During day time operation (6am-6pm) of the childcare centre, odour is not predicted to exceed the IAC. Mitigation strategies (carbon filters, landscaping and remaining indoors at night) are suggested but not proposed.

The AQR does not include an air quality assessment for the boilers at the PRP, including an assessment of meeting the Clean Air Regulations emission limits.

The following issues need to be addressed by the proponent to enable to EPA to complete its assessment.

PPF live bird ventilation emission rate factors are not adequately explained and justified

The proposal is seeking to increase the maximum processing for the PPF from 1 million birds/week to 3 million birds/week (~430,000 birds/day). The proposal is also seeking approval for operation of all aspects of the site facility 24 hours/day, 7 days/week with no restrictions. The existing Out Street facility is licenced for 120,000 birds/day. The PPF live bird storage ventilation ducts (AQR¹ section 2.1.1.2) were modelled using an odour emission factor of 0.35 OU/m²/s (measured at the Out Street facility) and a ventilation rate of 900,000 m³/h based on a maximum capacity of 90,000 birds (present 2am – 9pm).

The odour emission inventory for the live bird storage ventilation ducts is based on data from a facility licenced for 120,000 birds/day. As the proposal is seeking to process ~430,000 birds/day, it is unclear if the assumed odour emission rate for live bird ventilation adequately reflects the proposal.

The AQR needs to be revised to include information on:

- **Actual maximum live bird storage capacity at proposed PPF**
- **Duration live birds are present at the proposed PPF and**
- **Justification for using a ventilation rate based on 90,000 birds when the proposed PPF will process 3 million birds/week.**

¹ Baiada Poultry Pty. Ltd. Proposed Poultry Processing Facility Odour Impact Assessment, Final Report, June 2019, The Odour Unit

² Environmental Impact Statement, Oakburn Poultry Processing Plant – Tamworth NSW, July 2019, PSA Consulting Australia

PPF live bird ventilation worst-case scenario not based on maximum bird processing

A worst-case scenario was performed by multiplying the live bird emission factor by three. It is unclear why this scenario was considered worst-case. A factor of three does not account for the greater capacity at Oakburn compared to the Out Street facility.

The worst-case scenario provided in the AQR is inadequate as it does not account for the greater capacity at Oakburn compared to Out Street. Further, the worst-case scenario was not included in the cumulative odour emissions modelling (Figure 3.1).

The AQR needs to be revised to include:

- **a scenario which reflects the proposed maximum bird capacity of the PPF and include this scenario in the cumulative odour assessment and**
- **a descriptive and justified analysis of the worst-case scenario of odour emissions for the live bird storage facility. This worst-case scenario should then be modelled and included in a cumulative odour assessment.**

PPF Ventilation rate not representative of proposed facility processing capacity

The ventilation rate for the PPF Ventilation Ducts (section 2.1.1.3) was based on nominally increasing the value measured at another poultry processing facility (Baiada Hanwood) by 50%. There is no justification of how this nominal increase of 50 % relates to the capacity of the two facilities.

The AQR needs to be revised to provide realistic and justified ventilation rates for the proposed PPF ventilation ducts.

PRP impact assessment of air impurity emissions from boilers not included in AQIA

The proposal includes an additional boiler for the PRP². The AQR does not include any information about emissions from the existing and proposed boilers at the PRP facility and whether the additional boiler has been included as either an existing or proposed upgraded source as part of the assessment of the facility.

The AQR needs to be revised to include an air quality impact assessment for the existing and proposed boilers at the PRP. This is to include information about both the existing and proposed boilers at the PRP such as:

- **Size of boiler**
- **Fuel type**
- **Emissions performance**
- **Compliance with the POEO (Clean Air) Regulation 2010, Group 6 emission standards**

PRP facility increased production assessment

The proposal is seeking to increase the production rate from an average of 160 tonnes/day to a maximum of 240 tonnes/day. The AQR is unclear if this increased production has been accounted for in the assessment and if it will be achieved through increased operating hours and/or increased throughput. The odour emissions from the PRP have been modelled in the AQR based on 24 hours/7 days a week operation:

“As a conservative measure, the theoretical maximum production rates have been used (i.e. 24 hours, 7 days per week).” (Section 2.1.3.1)

However, these operating hours are not likely to be conservative, but are actual operating hours if this is how the proposed increase in production is to be achieved.

Possible errors in the emission inventory have been identified and include:

1. Table 2.4 Low Temperature – Storage odour emission rates (84 OU.m³/s) do not match test data provided in Appendix B (page 43 of AQR) which shows 100 OU.m³/s
2. Table 2.4 Raw Materials/Loading Bay peak emission rates (10,493 OU.m³/s) do not match the table in Appendix C which shows 25,169 OU.m³/s.

Additionally, a sampling report is not provided for raw materials received at the PRP.

The AQR needs to be revised to provide more information on how the PRP facility will achieve the maximum processing capacity and the operating hours for the PRP. The odour emission modelling of odour impacts must be revised, if necessary, to include the maximum processing capacity and the correct odour emission rates for the loading bay and low temperature storage.

Odour criteria has not been determined properly

The AQR has not adequately demonstrated that it has used the correct odour assessment criteria for the potential affected population, including the childcare centre and Tamworth Regional Airport.

The AQR needs to be revised to include a 2 OU contour. The odour assessment criteria must then be based on the population within that 2 OU contour, including maximum capacity of the childcare centre. The maximum capacity of the Tamworth Regional Airport should be considered if it falls within the 2 OU contour.

Cumulative odour effects from poultry farm not included in odour assessment

The AQR has not considered or included the odour from the poultry farms located to the north-west of the proposed development (Figure 1.1). The cumulative effect of the odour resulting from the existing poultry farms and the proposed poultry processing facility may result in a cumulative odour impact over the IAC of 5 OU at a sensitive receptor located between the two sites.

The AQR needs to be revised to include a cumulative odour assessment of the proposal and all poultry facilities in the vicinity of sensitive receptors.

Childcare centre operational hours and odour exceedance

A child care centre on site for children of staff is included in the proposal. The AQR demonstrates the odour impact assessment criteria adopted for this proposal (5 OU) is predicted to be exceeded for a 24-hour operation (7.8 OU, 99 %, P/M60). The AQR considers a 12-hour operation (6am – 6pm) which eliminates odours resulting from poor dispersion during night-time condition and predicts the odour concentration at the childcare centre is below the odour impact assessment criteria (4.7 OU, 99 %, P/M60). Further mitigation strategies that could be considered are proposed to reduce odour at the childcare centre. These mitigation strategies include activated carbon filters, boundary landscaping and keeping the children indoors during adverse odour events.

The proponent needs to clarify the actual hours of operation of the childcare facility. If the childcare centre will be operational for 24 hours, as the proposed facility is seeking 24 hour/7 days a week operation, then the odour exceeds the criteria. The AQR must then be revised to incorporate mitigation strategies to reduce odour over the full operational hours of the childcare centre.

Clarification of time period for SBR filling

The AQR states “*The results show that the predicted odour impact for Stage Two upgraded WWTP is below the NSW EPA odour IAC under the assumption that SBR night-time filling would be avoided*” (page 35). While the EIS repeats this in section 4.7.4 (page 100), it also states in section 5 Management and Mitigation Measures Table 36 (page 122) “*Filling of the SBR is to be programmed to take place outside of daylight hours where practical.*”

The time period for the SBR filling should be clarified between the AQR and EIS as this would impact the odour assessment of the WWTP.