



Our reference: : DOC14/130714-02
Contact: : Mr Lindsay Fulloon – 02 6773 7000 – armidale@epa.nsw.gov.au
Date : 18 August 2014

Mr Nicholas Hall
A/Team Leader – Industry
Industry, Key sites and Social Projects
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attn: Ms Pamela Morales

Dear Mr Hall

SSD-6093 – Bindaree Beef Rendering and Bio-digester Plants - Public Exhibition

The NSW Environment Protection Authority (EPA) refers to the Notice of Exhibition it has received from you in relation to the above matter dated 15 July 2014.

Further to this notification, the EPA has reviewed the Development Application (DA) and Environmental Impact Statement (EIS) that were made available for download and viewing on the Department of Planning and Environment's website. **Attachment 1** provides detailed comments and recommendations on the proposal.

It is noted that some of the key issues raised in the EPA's submission (22 May 2014) on the adequacy of the draft EIS for public exhibition have not been addressed by the proponent. Despite this, the revised Environmental Assessment has been allowed to progress to public exhibition and the EPA now finds itself in a position where it must raise many of the same issues.

It is noted that the project will require a variation to the existing environment protection licence under the Protection of the Environment and Operations (POEO) Act 1997. The proponent will need to make a separate application to the EPA to vary this licence if development project approval is granted.

Where relevant, the EPA would also appreciate receiving a copy of the submissions received by the Department of Planning and Environment (or a report summarising these submissions) in response to the exhibition of the Environmental Assessment as this will assist the EPA in regulating the site in future.

The EPA would also like to request an opportunity to comment on the draft project approval once the Department of Planning and Environment (DoP&E) has considered its recommendations and prepared draft conditions of consent.

In summary, from the information presented in the EA, the EPA is of the opinion that the most significant environmental issues are:

- **Air Quality** – Inadequacies identified in the draft Air Quality Assessment by EPA have not been adequately addressed by the proponent; and

Email: armidale@epa.nsw.gov.au
PO Box 494 Armidale NSW 2350
85 Faulkner Street, Armidale NSW 2350
Tel: (02) 6773 7000 Fax: (02) 6772 2336
ABN 30 841 387 271
www.epa.nsw.gov.au

- **Noise** – Inadequacies identified in the draft Noise Assessment by EPA have not been adequately addressed by the proponent.

Please contact Mr Lindsay Fulloon on (02) 6773 7000 or by email to armidale@epa.nsw.gov.au if you wish to discuss this matter.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Simon Smith', with a stylized flourish at the end.

SIMON SMITH
Manager Armidale Region
Environment Protection Authority

ATTACHMENT 1 – KEY ISSUES IDENTIFIED IN EPA REVIEW OF PUBLICLY EXHIBITED EIS FOR SSD-6093 – BINDAREE BEEF RENDERING AND BIO-DIGESTER PLANTS

A. AIR QUALITY ASSESSMENT (AQA)

ISSUE 1 – REVIEW OF FINAL EIS AGAINST THE ISSUES IDENTIFIED IN THE EPA'S ADEQUACY REVIEW

a) It has not been demonstrated that the meteorological data used in the assessment is site representative

Following its review of the draft EIS, EPA requested that the TAPM generated meteorological data used in the dispersion modelling be validated against observational data to demonstrate it is site representative. VIPAC's responses to the EPA's adequacy comments have not demonstrated that the data used in the assessment is site representative. Reference is made to the long distances from Inverell (greater than 100km) where wind roses are available at Bureau of Meteorology (BoM) sites (Moree, Tenterfield and Tamworth). Due to these long distances, these BoM stations are not considered to be representative of the site and as such a validation study has not been undertaken.

EPA has undertaken a preliminary review of the climatic data available on the BoM website. It appears there are some windroses and other data available for two stations located in Inverell. These windroses show that the TAPM generated meteorological data may underestimate the percentage of calm conditions occurring at the site.

Recommendation: EPA recommends that the proponent is further requested to demonstrate that the TAPM generated data is site representative and suitable for use in the assessment.

b) Emissions from the proposed rendering plant have been modelled as volume rather than point sources

EPA's review of the draft EIS identified that the rendering building appeared to have been modelled as a volume source when there will be point sources of odour from the new rendering building (odorous emissions will be captured by a forced ventilation system and exhausted through roof vents - Figure D-2, Appendix D). VIPAC's response to EPA's adequacy comments confirm that the rendering plant was modelled as three point sources to replicate three vents in the roof of the building. No information is provided regarding the assumed exit velocity or temperature of the roof vents.

Recommendation: EPA recommends that the proponent is requested to provide the assumed exhaust parameters for the roof vents. To further demonstrate this issue has been resolved, EPA requests that the proponent provides the CALPUFF input file.

c) It is unclear whether predicted odour impacts have been presented as peak nose response time concentrations rather than one hour averages

EPA's adequacy comments requested that predicted odour impacts be presented as peak (one second average) concentrations rather than one hour averaged. It was noted that no reference has been made as to whether the appropriate peak to mean ratios have been applied to ensure that odour impacts are presented as peak nose response time concentrations. Further, in Figure 8-2 in the final VIPAC AQA dated 11 June 2014 the odour contours for existing operations are reported as one hour average concentrations whereas proposed operations are reported as one second odour concentrations. This issue was also identified by EPA in its submission on the draft EIS and has not been addressed by VIPAC.

VIPAC's response to EPA's adequacy comments dated 11 June 2014 states that peak to mean ratios are mentioned in Section 3.2 of the report and that all odour concentrations are a peak nose response, not one hour. The results section in VIPAC's final AQA has been updated to refer to 'peak odour contours'.

VIPAC's response to EPA's adequacy comments and the minor amendments in the final AQA do not adequately address this issue. EPA remains unclear as to whether or not peak to mean ratios were appropriately applied in the dispersion modelling.

Recommendation: EPA recommends that the proponent is required provide the peak to mean ratios applied in the study and any electronic files to demonstrate they were appropriately applied to the dispersion modelling results.

d) Sensitive receptors

In its adequacy comments, the EPA requested the predicted odour impacts at nearest sensitive receptors be provided in tabular form. Table 8-1 in VIPAC final AQA includes the predicted odour concentration at each of the nearest sensitive receptors. However, receptors 43 and 44 appear to have been excluded from Table 8-1.

Recommendation: EPA recommends the proponent is requested to update Table 8-1 to include sensitive receptors 43 and 44.

e) The combustion emissions data used in the AQIA indicate that the proposed boiler and three generators may not comply with Group 6 requirements of the Protection of the Environment Operations (Clean Air) Regulation 2010

Following its adequacy review the EPA requested that the proponent demonstrate that the proposed boiler and generators can comply with the requirements for Group 6 plant and equipment in the *Protection of the Environment Operations (Clean Air) Regulation (2010)*. Preliminary calculations undertaken by ATASU (reproduced again below) indicate that the boiler may not comply with Group 6 requirements for NO_x and Carbon Monoxide (CO) emissions and that the generators may not comply with the requirements for CO emissions.

Recommendation: EPA recommends that the proponent is required to demonstrate that the proposed boiler and three generators will comply with the Group 6 emission standards in Part 5 of the Protection of the Environment Operations (Clean Air) Regulation (2010).

CALCULATIONS TO DETERMINE COMPLIANCE WITH GROUP 6 REQUIREMENTS OF THE PROTECTION OF THE ENVIRONMENT OPERATIONS (CLEAN AIR) REGULATION 2010

Table 1- Stack parameters

Equipment	Stack height (m)	Diameter (m)	Velocity (m/s)	Temperature (degrees C)	Volumetric flowrate (m ³ /s)*
Boiler	11.2	0.6	11.5	250	3.25
Generator	6	0.35	24	400	2.31

* Volumetric flowrate = velocity x area
= velocity x πr^2

Table 2- Emission rate (g/s) data used in modelling

Pollutant	Boiler	Generator
CO	2.329	0.97
NO _x	4.606	1.918
PM ₁₀	0.00385	0.0016

Table 3- Emission rate concentrations (mg/m3) and Group 6 CAR requirements for the boiler

Pollutant	Boiler	Group 6 CAR requirement for boilers operating on gas
CO	717	125
NO _x	1417	350
PM ₁₀	1.2	50 (Solid Particles)

Emission rate (g/s) = emission concentration (g/m³) x volumetric flowrate (m³/s)

Emission concentration (mg/m³) = Emission rate (g/s) / volumetric flowrate (m³/s) x 1000

Table 4- Emission rate concentrations (mg/m3) and Group 6 CAR requirements for the generators

Pollutant	Per generator	Group 6 CAR requirements for stationary reciprocating internal combustion engines
CO	140	125
NO _x	277	450
PM ₁₀	0.23	50 (Solid Particles)

Emission rate (g/s) = emission concentration (g/m³) x volumetric flowrate (m³/s)

Emission concentration (mg/m³) = (Emission rate (g/s) / volumetric flowrate (m³/s) x 1000)/3

Note: As emission rate data used in the assessment was based on combined power rather than per generating unit, the number of units has not yet been confirmed. As the assessment indicates three units are likely EPA has undertaken calculations assuming three units emitting at the same rate (ie dividing the total combined power rate by three)

ISSUE 2 – ADDITIONAL ISSUES IDENTIFIED IN EPA'S REVIEW OF THE FINAL AQA BY VIPAC

a) Unclear how TAPM data was used in CALPUFF

VIPAC's final AQA does not specify the methodology used to incorporate the TAPM generated meteorological data in CALPUFF. It would appear that CALPUFF has been run with 'single station meteorology.' That is a uniform field of meteorological variables is assumed for all grid points in the modelling domain. There is no spatial variation in the meteorological data as may occur due to changes in land use type, terrain channelled flow and mesoscale features such as a land-sea breeze circulation and convective complexes.

It should be noted that the guidance document 'Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, Australia' (<http://www.epa.nsw.gov.au/resources/air/CALPUFFModelGuidance.pdf>) only recommends CALPUFF is run 'with single station meteorology' when spatial variability of the meteorological fields (e.g. uniform terrain and land use) may not be significant. Otherwise, it is recommended to run CALPUFF with a full 3-Dimensional meteorological field. VIPAC have failed to justify their use of 'single station meteorology' and this approach may not be appropriate given the undulating nature of the terrain at the site.

Recommendation: EPA recommends that the proponent is requested to provide additional information regarding the methodology used to incorporate the meteorological data in CALPUFF and a detailed justification for the chosen methodology.

b) Existing Coal Fired Boiler does not comply with the Clean Air Regulation

The existing coal fired boiler will be used as a back-up boiler during servicing of the gas boiler. The stack testing by Airlabs Environmental, 2014 shows that the boiler does not comply with the Group 1 solid particle emission standard of 400mg/m³ in the Protection of the Environment Operations (Clean Air) Regulation, 2010. The existing coal fired boiler must comply with the relevant emission standards in the Clean Air Regulation despite only operating for a few days a year.

Recommendation: EPA recommends the proponent is requested to provide information detailing the approach it proposes to implement to ensure that the coal fired boiler complies with the Protection of the Environment Operations (Clean Air) Regulation, 2010.

B. NOISE ASSESSMENT (NA)

ISSUE 3 – BACKGROUND NOISE ASSESSMENT DOES NOT MEET THE REQUIREMENTS OF THE NSW INDUSTRIAL NOISE POLICY

Section 3.1 of the NSW Industrial Noise Policy (INP) clearly states that the “...background noise levels to be measured are those that are present at the time of the assessment and **without the subject development operating**. Hence for the assessment of modifications to an existing development, **the noise from the existing development should be excluded from the background noise measurements.**”

Following its review of the draft EIS, EPA recommended that the proponent either establish the Rating Background Level (RBL) for Locations 1 and 3 in the absence of noise from the premises, or alternatively choose to accept a default minimum RBL of 30 dBA for all surrounding receivers. VIPAC's responses to the EPA's adequacy comments have not addressed this issue and the noise assessment criteria they have therefore used are not considered valid. The EPA considers that the background noise levels, particularly at night time, would typically be lower than those presented in the EIS for isolated rural residences in a rural area.

Predicted noise impacts for the proposed future operations of the premises (after construction is complete) appear below the default minimum Project Specific Noise Levels (i.e. the default minimum RBL of 30 dBA + 5 dBA = 35 dBA) and night sleep disturbance criteria (i.e. LA1_(1 minute) = 45 dBA). EPA therefore recommends the application of these criteria as noise limits for the proposed future operations of the premises.

Recommendation: The EPA recommends that the default minimum PSNL (LAeq_(15 minute)) of 35 dBA and night sleep disturbance criteria (LA1_(1 minute)) of 45 dBA are applied as the noise limits for all receptor locations for the proposed future operations at the premises. Construction noise impacts should be managed in accordance with the EPA's Interim Construction Noise Guideline (ICNG) available at: <http://www.epa.nsw.gov.au/resources/noise/09265cng.pdf>. The preparation of Construction Noise Management Plan is recommended before construction works commence at the site to ensure compliance with the ICNG.

Recommended consent conditions relating to noise: The EPA Noise Assessment Unit is in the process of drafting recommended consent conditions for consideration in the process of determining this project. As soon as these are finalised, EPA will forward these as a separate addendum to this advice.

**ADDENDUM – EPA’s Recommended Noise Conditions for the Bindaree Beef
Proposed Bio-Digester Plant and Rendering Plant (SSD 6093)**

Limit Conditions

L3 Hours of operation

L3.1 Standard construction hours

Unless otherwise specified by any other condition of this licence, all construction activities are:

- a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday;
- b) restricted to between the hours of 8:00am and 1:00pm Saturday; and
- c) not to be undertaken on Sundays or Public Holidays.

L3.2 Exemptions to standard construction hours

The three categories of works that may be undertaken outside the standard hours of operation permitted by Condition L3.1 are:

- a) the delivery of oversized plant or structures that police or other authorised authorities determine require special arrangements to transport along public roads;
- b) emergency work to avoid the loss of lives or property, or to prevent environmental harm;
- c) works that are not more than 5 dB(A) over the rating background level at the nearest noise sensitive receiver as assessed by acoustic investigation.

The licensee must notify the EPA within 24 hours of undertaking any works referred to in Condition L3.2 as well as providing the EPA with a copy of the results of any acoustic investigation made in relation to Condition L3.2 c) within 24 hours.

L3.3 Works approved outside of standard construction hours are permitted provided it is agreed through negotiations between the licensee and all noise sensitive receivers likely to be affected or as otherwise agreed by the EPA. Any agreement(s) between the licensee and the residents must be recorded in writing and a copy of the agreement(s) kept on the premises by the licensee for the duration of the licence.

If approval from the EPA is sought for works outside of standard construction hours, the licensee must submit to the EPA in writing:

- a) a description of consultation with all noise sensitive receivers likely to be affected;
- b) a description of the works to be undertaken outside of standard construction hours;
- c) a description of the planned timeframes for the works;
- d) justification as to why the works must be undertaken outside of standard construction hours; and

e) the mitigation measures that will be applied to the works, having regard to the "Interim Construction Noise Guideline, DECC July 2009".

L6 Noise Limits

L6.1 Noise generated at the premises must not exceed the noise limits in the table below. The locations referred to in the table below are defined within Appendix H of the document titled "*Bindaree Beef Australia Environmental Impact Statement for the proposed Bio-Digester Plant and Rendering Plant, 7307 Gwydir Highway, Inverell*".

Locality	Location	NOISE LIMITS dB(A)			
		Day	Evening	Night	
		L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{A1} (1 minute)
Location 1	The residence on the property located at 77 McNeils Road, Inverell, Lot 138 DP1091620 marked as Receptor 8 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45
Location 2	The residence on the property located at 42 McNeils Road, Inverell, Lot 5 DP252411 marked as Receptor 4 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45
Location 3	The residence on the property located at 32 McNeils Road, Inverell, Lot 4 DP252411 marked as Receptor 3 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45

Location 4	The residence on the property located at 22 McNeils Road, Inverell, Lot 3 DP252411 marked as Receptor 44 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45
Location 5	The residence on the property located at 7360 Gwydir Highway, Inverell, Lot 5 DP831434 marked as Receptor 42 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45
Location 6	The residence on the property located at 581 Fernhill Road, Inverell, Lot 1 DP1086623 marked as Receptor 41 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45
Location 7	The residence on the property located at 7204 Gwydir Highway, Inverell, Lot 1 DP617431 marked as Receptor 34 on Figure 2-2 in the document titled " <i>Bindaree Beef EIS – Noise Assessment</i> " dated 11 June 2014 by Vipac Engineers and Scientists	35	35	35	45
	Any other affected residence not owned by the licensee or its related companies	35	35	35	45

L6.2 For the purpose of condition L6.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.

- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

L6.3 The noise limits set out in condition L6.1 apply under all meteorological conditions except for the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

L6.4 For the purposes of condition L6.3:

- a) Data recorded by the meteorological station identified as EPA Identification Point W1 must be used to determine meteorological conditions ; and
- b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

L6.5 To determine compliance:

- a) with the $L_{eq(15 \text{ minute})}$ noise limits in condition L6.1, the noise measurement equipment must be located:
 - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
 - within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
 - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
- b) with the $L_{A1(1 \text{ minute})}$ noise limits in condition L6.1, the noise measurement equipment must be located within 1 metre of a dwelling façade.
- c) with the noise limits in condition L6.1, the noise measurement equipment must be located:
 - at the most affected point at a location where there is no dwelling at the location; or
 - at the most affected point within an area at a location prescribed by conditions L6.5(a) or L6.5(b).

L6.6 A non-compliance of condition L6.1 will still occur where noise generated from the premises in excess of the appropriate limit is measured:

- at a location other than an area prescribed by conditions L6.5(a) and L6.5(b); and/or
- at a point other than the most affected point at a location.

L6.7 For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

Monitoring Conditions

M7.1 The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition M7.2.

M7.2 For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point W1

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Air temperature	°C	Continuous	1 hour	AM-4
Wind direction	°	Continuous	15 minute	AM-2 & AM-4
Wind speed	m/s	Continuous	15 minute	AM-2 & AM-4
Sigma theta	°	Continuous	15 minute	AM-2 & AM-4
Rainfall	mm	Continuous	15 minute	AM-4
Relative humidity	%	Continuous	1 hour	AM-4

M8 Requirement to Monitor Noise

M8.1 To assess compliance with Condition L6.1, attended noise monitoring must be undertaken in accordance with Conditions L6.5 and:

- at locations 1 to 7 listed in Condition L6.1;
- occur once every six months so it occurs twice in each reporting period;
- occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of:
 - 1.5 hours during the day;
 - 30 minutes during the evening; and
 - 1 hour during the night.
- occur for three consecutive operating days.

Reporting Conditions

R4 Noise Monitoring Report

A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the six-monthly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

- a) an assessment of compliance with noise limits presented in Condition L6.1; and
- b) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition L6.1.

Additions to Definition of Terms of the licence

- NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."
- Noise - sound pressure levels' for the purposes of conditions L6.1 to L6.7.

BINDAREE BEEF PROPOSED BIODIGESTER AND RENDERING PLANT
SECOND ADDENDUM TO EPA'S SUBMISSION ON EXHIBITED EIA
AIR QUALITY – RECOMMENDED CONDITIONS OF CONSENT

DOC14/130714-07

ISSUE

To provide the NSW Environment Protection Authority's (EPAs) comments on the assessment of air quality impacts from the proposed biodigester and new rendering plant at Bindaree Beef, Inverell.

BACKGROUND

Bindaree Beef is seeking development consent for plant upgrades at its exiting abattoir facility in Inverell. The facility undertakes a scheduled activity under the *Protection of the Environment Operations Act 1997* (Livestock Processing) and is regulated by the Environment Protection Authority (EPA) under Environment Protection Licence 809.

Key features of the proposed works include:

- The removal of the existing open lagoon wastewater treatment system with waste matter to be diverted to an anaerobic biodigester that will produce biogas, class A recycled water and solid fertilisers;
- A new single biogas boiler to generate steam for render cooking and heating with one coal fired boiler retained for back up and maintenance purposes; and
- The installation of a new fully enclosed rendering building under negative pressure with a point source extraction and exhaust of emissions via roof vents.

EPA reviewed the draft air quality impact assessment (AQIA)¹ prepared as part of the EIS for the proposal and identified issues that needed to be addressed in the final air quality impact assessment. EPA reviewed the final EIS² and noted that it did not adequately address all of the previously identified issues. Further, additional issues were identified in the final EIS that needed to be addressed to ensure the AQIA is robust for decision making purposes.

The proponent provided the following additional information to the EPA to resolve all outstanding issues with the final air quality impact assessment:

- Vipac, 2014d Bindaree Beef Pty Ltd, Bindaree Beef EIS, Air Quality Assessment, 15 Sept 2014;
- Vipac, 2014e Bindaree Beef EIS, Letter from Ms Michelle Clifton (Vipac) to Ms Jocelyn Ullman (Mitchel Hanlon Consulting Pty Ltd), 3 Sept 2014;
- CALMET and CALPUFF input files; and
- Mitchel Hanlon, 2014, Bindaree Beef – Boiler installation dates and approval, email from Ms Jocelyn Ullman (Mitchel Hanlon Consulting Pty Ltd), 2 September 2014.

EPA North West Region has requested that EPA review the additional information and advise if all outstanding issues have been addressed and terms of approval can be prepared for the project.

¹ Vipac, 2014a Bindaree Beef Pty Ltd, *Air Quality Impact Assessment*, Vipac Engineers and Consultants, 21 March 2014

² Airlabs Environmental, 2014 *Stack Emissions Monitoring Conducted on the Boiler Inlet Duct at Bindaree Beef in Inverell*; Vipac, 2014b Bindaree Beef Pty Ltd, *Bindaree Beef EIS, Air Quality Assessment*, 11 June 2014; and Vipac, 2014c Bindaree Beef Environmental Impact Statement, *Response to EPA Comments*, 11 June 2014

CURRENT POSITION

EPA has reviewed the additional information and considers that whilst all outstanding issues have not been thoroughly addressed, sufficient information has been provided to enable the recommendation of general terms of approval. An assessment of the additional information against all outstanding issues is provided in **Attachment 1**.

The project comprises infrastructure upgrades and control measures to reduce odour emissions. The air quality impact assessment indicates that the project should result in reduced odour impacts compared to the existing facility. To date the EPA has received few odour complaints in relation to the facility, and these have generally been as a result of system failures. The project is predicted to marginally comply with relevant odour assessment criteria.

EPA considers that it may be prudent for the proponent to consider at the outset any additional feasible mitigation measures that could be implemented if the facility emits offensive odour after it is operational. Whilst the AQIA demonstrates the project will reduce odour impacts, there is some uncertainty surrounding the predicted impacts. To enable the prompt resolution of any odour issues once operational, EPA considers the conditions of approval should include a process to assess the cost-effectiveness of any additional odour mitigation measures.

The installation of an on-site meteorological station is recommended as it would assist with the confirmation of any odour complaints and provide site specific meteorological data for any future dispersion modelling and impact assessments.

RECOMMENDATION

Should the Department of Planning and Environment support the proposed biodigester and new rendering plant at Bindaree Beef, EPA recommends the conditions of consent include the air quality conditions in **Attachment 2**.



LINDSAY FULLOON
Acting Head Regional Operations – Armidale
Environment Protection Authority

3 October 2014

Encl. Attachment 1 - *Assessment of additional information against outstanding issues with the final AQIA*
 Attachment 2 - *Air quality General Terms of Approval*

ATTACHMENT 1 –

ASSESSMENT OF ADDITIONAL INFORMATION AGAINST OUTSTANDING ISSUES WITH THE FINAL AIR QUALITY IMPACT ASSESSMENT

1. It has not been demonstrated that the meteorological data used in the assessment is site representative

EPA requested that the TAPM generated meteorological data used in the dispersion modelling be validated against observational data to demonstrate it is site representative. VIPAC (2014b) and Vipac (2014c) did not demonstrate that the data used in the assessment is site representative and suitable for use in the assessment.

The Bureau of Meteorology (BoM) operates a meteorological station at the Inverell Research Centre. The climatic data available for the station includes annual 9am windroses. Vipac (2014d) presents a comparison of the TAPM generated 9am annual windrose for the Inverell Research Centre and the BoM station windrose. It is demonstrated that the TAPM generated wind data is broadly comparable to the Inverell Research Centre BoM data.

EPA considers the proponent has adequately addressed this outstanding issue.

2. Emissions from the proposed rendering plant have been modelled as volume rather than point sources

During the review of the draft AQIA (Vipac, 2014a) EPA identified that the rendering building appeared to be modelled as a volume source when there will be point sources of odour from the new rendering building (odorous emissions will be captured by a forced ventilation system and exhausted through roof vents). VIPAC (2014b) and VIPAC (2014c) confirmed that the rendering plant was modelled as three point sources to replicate three vents in the roof of the building. No information was provided regarding the assumed exit velocity or temperature of the roof vents.

Table 6-3 in Vipac (2014d) provides the parameters that were modelled for each of the rendering building roof vents. The CALPUFF input file was also provided which confirms the roof vents were modelled as point sources. The CALPUFF input file, however, shows the actual roof vent exit velocity modelled was 13.75m/s and not 10m/s as stated in Table 6-3 of Vipac (2014e). This discrepancy in roof vent exit velocity is unlikely to have a significant impact on the results of the air quality impact assessment.

The odour emission rates assumed for the rendering building are also provided in Table 6-3 in Vipac (2014d) and these are consistent with the odour emission rates in the CALPUFF input file. EPA has reviewed the odour emission rates and it appears there has been a significant reduction in the assumed odour emissions compared to the final air quality impact assessment (Vipac, 2014b). EPA considers the scenario 'future operations – failure case' in Vipac (2014d) is a conservative assessment of normal operations and not failure of the fume extraction hoods:

- The final air quality impact assessment (Vipac, 2014b) assumed fugitive odour emissions in the rendering building would be 50% of the existing building. That is, the new fume extraction hoods located above the sources in the rendering building would capture 50% of emissions. The revised air quality impact assessment (Vipac, 2014d) has then applied a further 90% reduction for the normal operating scenario which results in the assumption that the new fume extraction hoods would capture 95% of fugitive emissions. The 'future operations - failure case' in the revised air quality impact assessment does not represent failure as the odour emissions were calculated assuming 50% capture of fugitive emissions.

EPA considers it would be prudent to base any decision making on the results of the 'future operations- failure case' scenario in Vipac (2014e) which assumes a 50% capture efficiency of the new fume extraction hoods instead of the 'future operations - normal conditions' scenario which assumes a 95% capture efficiency of the new fume extraction hoods.

Vipac (2014d) predicts the project will reduce odour impacts compared to the existing operation of the facility. The maximum 99th percentile odour concentration predicted at a residence for the 'future-operations- failure case' is 5.49 OU compared to the existing scenario of 11.27 OU.

Vipac (2014d) considers the relevant odour criteria for the project is 7 OU and therefore the 'future-operations- failure case' scenario complies at all surrounding sensitive receptors. EPA considers that an odour criterion of 5 OU or 6 OU may be more relevant given there are clusters of residents in close proximity to the facility. The 'future-operations- failure case' scenario can be considered to marginally comply with an odour criterion of 5 OU.

Whilst it is recognised the project will result in a reduction in odour impacts and should marginally comply with relevant odour assessment criteria, there is some uncertainty around the predicted odour impact of the project. EPA considers it may be prudent for the proponent to consider at the outset any additional feasible mitigation measures that could be implemented if the facility emits offensive odour after it is operational. To enable the prompt resolution of any odour issues once operational, EPA considers the conditions of approval should include the process to assess the cost-effectiveness of any additional odour mitigation measures

EPA recommends the conditions of approval include an odour mitigation study to identify, if necessary, any additional feasible odour mitigation measures.

3. It is unclear whether predicted odour impacts have been presented as peak nose response time concentrations rather than one hour averages

EPA requested clarification on whether peak to mean ratios were applied in the study. Vipac (2014d) confirms a peak to mean ratio of 2.3 has been applied to the dispersion modelling predictions.

The proponent has adequately addressed this outstanding issue.

4. Sensitive receptors

Table 8-1 in VIPAC (2014b) includes the predicted odour concentration at each of the nearest sensitive receptors. Receptors 43 and 44 were excluded from Table 8-1 and EPA requested Table 8-1 be updated to include sensitive receptors 43 and 44. Table 8-1 in Vipac (2014d) includes sensitive receptors 43 and 44.

The proponent has adequately addressed this outstanding issue.

5. The combustion emissions data used in the AQIA indicate that the proposed boiler and three generators may not comply with Group 6 requirements of the Protection of the Environment Operations (Clean Air) Regulation 2010

EPA requested that the proponent demonstrate that the proposed boiler and generators can comply with the requirements for Group 6 plant and equipment in the *Protection of the Environment Operations (Clean Air) Regulation (2010)*. Preliminary calculations undertaken by EPA indicated that the boiler may not comply with Group 6 requirements for NO_x and Carbon Monoxide (CO) emissions and that the generators may not comply with the requirements for CO emissions.

Section 7.2 of Vipac (2014d) confirms the estimated emissions from the boilers and three generators exceed the Group 6 requirements of the *Protection of the Environment Operations (Clean Air) Regulation (2010)*. The proponent is unable to confirm the expected performance of the boiler and generators until they are acquired. The air quality impact assessment for the combustion plant predicts compliance with the EPA's impact assessment criteria when the boilers and generators are exceeding the Group 6 emission standards.

As stated in Vipac (2014e), it was agreed at a meeting on 29th August 2014 that conditions of approval will be drafted to address this issue. These conditions will include emission concentration limits equivalent to the Group 6 standards of concentrations in the *Protection of the Environment Operations (Clean Air) Regulation (2010)* and post commissioning and annual emissions monitoring.

EPA recommends the conditions of approval include emission concentration limits for the boilers and generators equivalent to the Group 6 standards of concentrations in the Protection of the Environment Operations (Clean Air) Regulation (2010) and post commissioning and annual emissions monitoring. The recommended conditions of approval in Attachment 2 include such conditions.

6. Unclear how TAPM data was used in CALPUFF

VIPAC (2014b) did not specify the methodology used to incorporate the TAPM generated meteorological data in CALPUFF. It appeared that CALPUFF was run with 'single station meteorology.' That is a uniform field of meteorological variables is assumed for all grid points in the modelling domain. There is no spatial variation in the meteorological data as may occur due to changes in land use type, terrain channelled flow and mesoscale features such as a land-sea breeze circulation.

EPA recommended the proponent is requested to provide additional information regarding the methodology used to incorporate the meteorological data in CALPUFF and a detailed justification for the chosen methodology. The guidance document '*Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion into the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, Australia*' (<http://www.epa.nsw.gov.au/resources/air/CALPUFFModelGuidance.pdf>) only recommends CALPUFF is run 'with single station meteorology' when spatial variability of the meteorological fields (e.g. uniform terrain and land use) may not be significant. Otherwise, it is recommended to run CALPUFF with a full 3-Dimensional meteorological field.

Vipac (2014d) presents a revised air quality impact assessment using CALPUFF with a full 3-Dimensional meteorological field. CALMET was used to generate the 3-Dimensional meteorological field. CALMET was run in 'No-obs' mode using the gridded numerical output from TAPM as the input. The 'No-obs' mode is the most simple approach to running CALMET and requires minimal decision making by the user.

Vipac (2014d) has modified the assessment methodology through the use of CALPUFF with a full 3-Dimensional meteorological field compared to the approach presented in VIPAC (2014b), the final air quality impact assessment, where CALPUFF was run with single TAPM generated station meteorology. Whilst an evaluation of the site representativeness of the TAPM generated meteorological data was required to support the modelling in Vipac (2014b), the modified assessment methodology in Vipac (2014d) should be supported by further evaluation of the meteorological data used in CALPUFF. That is, as CALMET is now used in Vipac (2014d) to generate the meteorological data for use in CALPUFF, the CALMET generated meteorological data should now be evaluated to ensure it adequately captures the meteorological conditions at the site.

Vipac (2014d) does not present an evaluation of the CALMET generated meteorological data. This can be crucial when CALMET requires significant decision making by the user regarding the values of model parameters. Given the TAPM generated data was shown to be generally site representative and that CALMET was run in 'No-obs' mode which requires minimal decision making by the user, EPA considers that an evaluation of the CALMET generated meteorological data would have been ideal but not critical to the preparation of recommended consent conditions.

EPA recommends that the consent conditions require the installation of an on-site meteorological station to assist with the confirmation of any odour complaints and provide site specific meteorological data for any future dispersion modelling studies.

7. Existing Coal Fired Boiler does not comply with the Clean Air Regulation

An existing coal fired boiler will be used as a back-up boiler during servicing of the gas boiler. Airlabs Environmental, 2014 shows the boiler does not comply with the Group 1 solid particle emission standard of 400mg/m³ in the Protection of the Environment Operations (Clean Air) Regulation, 2010. The existing coal fired boiler must comply with the relevant emission standards in the Clean Air Regulation despite only operating for a few days a year.

Mitchel Hanlon (2014) confirms the boiler must meet the Group 3 emission standards in the *Protection of the Environment Operations (Clean Air) Regulation, 2010*. The proponent is currently undertaking works to ensure the boiler meets the Group 3 emission standards. It was agreed at the meeting on the 29 August 2014 that the approval would include conditions to confirm the boiler meets the relevant Group 3 emission standards.

EPA recommends the approval includes the emission concentration limits and monitoring requirements for the coal fired boiler as provided in Attachment 2.

ATTACHMENT 2 –
AIR QUALITY – RECOMMENDED CONDITIONS OF CONSENT

DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified for the purposes of monitoring and/or setting of limits for the emission of pollutants to the air from the point.

Air			
EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
31	Air emissions monitoring	Discharge to Air	Biogas Boiler Stack <description of location with reference to map>
32	Air emissions monitoring	Discharge to Air	Biogas Reciprocating Internal Combustion Engine Stack <description of location with reference to map>
33	Meteorological monitoring		<description of location with reference to map>

LIMIT CONDITIONS

L1 Concentration limits

L1.1 For each monitoring/discharge point or utilisation area specified in the table below (by a point number), the concentration of a pollutant must not exceed the concentration limits specified for that pollutant in the table.

Air				
POINT 3 (or 4) – Existing point on current EPA licence (Retained back-up coal fired boiler)				
Pollutant	Units of measure	100 percentile limit	Reference Conditions	Averaging Period
Solid Particles (Total)	mg/m ³	250	Dry, 273K, 101.3kPa, 12% CO ₂	1 hour, or the minimum sampling period specified in the relevant test method, whichever is the greater
Nitrogen dioxide (NO ₂) or Nitric Oxide (NO) or both, as NO ₂ equivalent	mg/m ³	2500	Dry, 273K, 101.3kPa	1 hour block
Sulfur dioxide	mg/m ³	TBD	Dry, 273K, 101.3kPa	1 hour block
Type 1 substances (in aggregate)	mg/m ³	20	Dry, 273K, 101.3kPa	1 hour, or the minimum sampling period specified in the relevant test method, whichever is the greater

POINT 31

Pollutant	Units of measure	100 percentile limit	Reference Conditions	Averaging Period
Solid Particles (Total)	mg/m ³	50	Dry, 273K, 101.3kPa, 3% O ₂	1 hour, or the minimum sampling period specified in the relevant test method, whichever is the greater
Nitrogen dioxide (NO ₂) or Nitric Oxide (NO) or both, as NO ₂ equivalent	mg/m ³	350	Dry, 273K, 101.3kPa, 3% O ₂	1 hour block
Sulfur dioxide (SO ₂)	mg/m ³	TBD	Dry, 273K, 101.3kPa, 3% O ₂	1 hour block
Volatile Organic Compounds (VOCs), as n-propane	mg/m ³	40	Dry, 273K, 101.3kPa, 3% O ₂	1 hour rolling
Carbon Monoxide	mg/m ³	125	Dry, 273K, 101.3kPa, 3% O ₂	1 hour rolling

POINT 32

Pollutant	Units of measure	100 percentile limit	Reference Conditions	Averaging Period
Solid Particles (Total)	mg/m ³	50	Dry, 273K, 101.3kPa, 3% O ₂	1 hour, or the minimum sampling period specified in the relevant test method, whichever is the greater
Nitrogen dioxide (NO ₂) or Nitric Oxide (NO) or both, as NO ₂ equivalent	mg/m ³	450	Dry, 273K, 101.3kPa, 3% O ₂	1 hour block
Sulfur dioxide (SO ₂)	mg/m ³	TBD	Dry, 273K, 101.3kPa, 3% O ₂	1 hour block
Volatile Organic Compounds (VOCs), as n-propane	mg/m ³	40	Dry, 273K, 101.3kPa, 3% O ₂	1 hour rolling
Carbon Monoxide	mg/m ³	125	Dry, 273K, 101.3kPa, 3% O ₂	1 hour rolling

TBD – To be determined in accordance with Condition UA

L2 Biogas Boiler Exhaust Stack

- L2.1 The Biogas Boiler Exhaust Stack (Discharge Point 31) must have the following parameters: minimum exit velocity of 11 metres per second; minimum stack height of 11 metres and maximum stack diameter of 0.6 metres.

L3 Biogas Reciprocating Internal Combustion Engine Exhaust Stack

- L3.1 The Biogas Reciprocating Internal Combustion Engine Exhaust Stack (Discharge Point 32) must have the following parameters: minimum exit velocity of 24 metres per second; minimum stack height of 6 metres and maximum stack diameter of 0.35 metres.

5 Monitoring and Recording Conditions**M2 Requirement to monitor concentration of pollutants discharged**

- M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

POINT 3 or 4 – Existing point on current EPA licence (Retained back-up coal fired boiler)

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles (Total)	mg/m ³	Special Frequency 1	TM-15
Nitrogen dioxide (NO ₂) or Nitric Oxide (NO) or both, as NO ₂ equivalent	mg/m ³	Special Frequency 1	TM-11
Sulfur dioxide	mg/m ³	Special Frequency 1	TM-4
Type 1 substances (in aggregate)	mg/m ³	Special Frequency 1	TM-12, TM-13 and TM-14
Velocity	m/s	Special Frequency 1	TM-2
Volumetric flow rate	m ³ /s	Special Frequency 1	TM-2
Temperature	°C	Special Frequency 1	TM-2
Moisture	%	Special Frequency 1	TM-22
Dry gas density	Kg/m ³	Special Frequency 1	TM-23
Molecular weight of stack gases	g/g.mol	Special Frequency 1	TM-23
Carbon dioxide	%	Special Frequency 1	TM-24
Selection of sampling positions	-	-	TM-1

POINT 31 and 32

Pollutant	Units of measure	Frequency	Sampling Method
Solid Particles (Total)	mg/m ³	Special Frequency 1	TM-15
Nitrogen dioxide (NO ₂) or Nitric Oxide (NO) or both, as NO ₂ equivalent	mg/m ³	Special Frequency 1	TM-11
Sulfur dioxide (SO ₂)	mg/m ³	Special Frequency 1	TM-4
Volatile Organic Compounds (VOCs), as n-propane	mg/m ³	Special Frequency 1	TM-34
Carbon Monoxide	mg/m ³	Special Frequency 1	TM-32
Velocity	m/s	Special Frequency 1	TM-2
Volumetric flow rate	m ³ /s	Special Frequency 1	TM-2
Temperature	°C	Special Frequency 1	TM-2
Moisture	%	Special Frequency 1	TM-22
Dry gas density	Kg/m ³	Special Frequency 1	TM-23
Molecular weight of stack gases	g/g.mol	Special Frequency 1	TM-23
Carbon dioxide	%	Special Frequency 1	TM-24
Selection of sampling positions	-	-	TM-1

Special Frequency 1 in the above tables means post commissioning and annually thereafter.

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The Clean Air (Plant & Equipment) Regulation 1997 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3. Requirement to monitor meteorological parameters

M3.1 For each monitoring point specified in the table below, the applicant must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The applicant must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

POINT 33

Parameter	Units of measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	Continuous	1 hour	AM-4
Wind speed @ 10 metres	m/s	Continuous	15 minute	AM-2 & AM-4
Wind direction @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4
Temperature @ 2 metres	°C	Continuous	15 minute	AM-4
Temperature @ 10 metres	°C	Continuous	15 minute	AM-4
Sigma theta @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4
Solar radiation	W/m2	Continuous	15 minute	AM-4
Additional requirements				
- Siting				AM-1 & AM-4
- Measurement				AM-2 & AM-4

Pollution Studies and Reduction Programs

U1 Sulfur dioxide emission concentration limits

- U1.1 By <insert date 6 months after commissioning>, the licensee must develop sulfur dioxide (SO₂) emission concentration limits for discharge points 3(or 4), 31 and 32.
- U1.2 The SO₂ emission concentration limits must be calculated from an air quality impact assessment study prepared in accordance with the following documents:
- (a) EPA, 2001, Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW.
 - (b) NSW EPA, 1999, Approved Methods for the Sampling and Analysis of Air Pollutants in NSW, July 2001.
- U1.3 The Licensee must submit a report on the findings of the air quality impact assessment study and the SO₂ concentration limits to the EPA's Armidale Office addressed to the Manager Armidale Region.

U2 Post Commissioning Air Emissions Report

- U2.1 By <insert date 3 months after commissioning> the licensee must submit a written report to the EPA's Armidale Office addressed to the Manager Armidale Region, detailing the results of post commissioning source emissions sampling and analysis for Points 3(or 4), 31 and 32 undertaken in accordance with the requirements specified in condition M2.1. The report must assess compliance with the limit conditions specified in condition L5.1.

U3 Biofilter Performance and Management Report

- U3.1 By <insert date 6 months after commissioning> the licensee must submit a Rendering Plant Biofilter Performance and Management Report to the EPA's Armidale Office addressed to the Manager Armidale Region. The report must:

- a) Present the results of odour sampling and analysis for the rendering plant biofilter to determine the odour control efficiency of the biofilter;
- b) Identify the values of the key biofilter design parameters to ensure the biofilter continually achieves the odour control efficiency in a) above; and
- c) Identify monitoring and management measures to ensure continual achievement of the key biofilter design parameters.

U4 Odour Impact Assessment and Mitigation Study

U4.1 If EPA authorised staff form the opinion that the facility is likely to be operating in breach of Section 129 of the *Protection of the Environment Operations Act, 1997* and notify the proponent in writing that it must complete the works required by this conditions, the proponent must submit an Odour Impact Assessment and Mitigation Report to the EPA's Armidale Office addressed to the Manager Armidale Region within 3 months of the date of the EPA's written notification.

U4.2 The odour impact assessment and mitigation report must be carried out strictly in accordance with the methodologies set out in the following documents:

- (a) EPA, 2001, Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW;
- (b) NSW EPA, 1999, Approved Methods for the Sampling and Analysis of Air Pollutants in NSW, July 2001;
- (c) DEC, 2006 Technical Framework, Assessment and management of odour from stationary sources in NSW, November 2006; and
- (d) DEC, 2006 Technical Notes, Assessment and management of odour from stationary sources in NSW, November 2006.

U4.3 The odour impact assessment study must address the following:

- (a) A summary of any odour complaints received and actions taken to reduce odour emissions where complaints are verified;
- (b) An odour audit to identify all significant sources of odour at the premises. As part of the odour audit, all significant odour sources that have been identified must be sampled for odour and their emissions concentrations/rates determined strictly in accordance with the methods detailed in U4.2(b), (c) and (d);
- (c) A dispersion modelling study to predict ground-level concentrations of odour. This must be conducted strictly in accordance with the methods detailed in UD.2 (a) and using the data collected in U4.3 (b);
- (d) The results of the odour impact assessment must be compared against the appropriate odour performance criterion detailed in U4.2 (a).

U4.4 The odour mitigation study must address the following:

- (a) A technical review of all practicable odour mitigation options must be carried out and the potential reduction in odour impacts associated with each odour mitigation option must be quantitatively evaluated. This is to include a benchmark of the design and management practices at the premises against industry best practice for minimising odour emissions;
- (b) A cost/benefit analysis of a range of odour mitigation options must be carried out;
- (c) Using the results of U4.3, U4.4 (a) and (b), emission concentration limits (point sources only) and management practices (point and diffuse sources) must be identified for the most cost-effective odour mitigation options; and
- (d) A timetable for the implementation of the most cost-effective odour mitigation options.

U4.5 The Licensee must submit the findings of U4.3 and U4.4 to the EPA in a formal report that has been prepared strictly in accordance with the requirements detailed in U4.2 (a).