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Attention: Katelyn Symington

EPA Advice on Environmental Impact Statement

Dear Ms Symington

Thank you for the request for advice from Public Authority Consultation (PAE-12302097), requesting the review by the NSW Environment Protection Authority (EPA) of the Environmental Impact Statement (EIS) for the proposed Gunnedah Waste Facility (Application SSD-8530563) at 16 Torrens Road and No. 17-21 Allgayer Drive, Gunnedah NSW 2380.

The EPA has reviewed the following documents:

- *Proposed Waste Facility Environmental Impact Statement* – Outline Planning Consultants Pty. Ltd – dated December 2020 and associated appendices.

The EPA understand the proposal is to construct and operate for a waste management facility, which will include the construction and operation of a resource recovery and waste transfer facility handing up to 250,000 tonnes per annum of waste; including

- re-purposing existing office buildings and shed; and
- constructing a hardstand area, upgrading the existing stormwater management, and construction of a first flush detention basin and water quality treatment devices.

The EPA also understands that the processed waste is to be transported from the facility for reuse or landfill disposal. The facility will annually handle up to:

- 125,000 tonnes of excavated material and resource recovered material;
- 25,000 tonnes of contaminated soils;
- 75,000 tonnes of co-mingled construction and demolition waste;
- 37,500 tonnes of commercial and industrial waste;
- 1,000 tonnes of special waste (asbestos); and
- 500 kg of hazardous waste (lithium batteries).

Based on the information provided, the proposal is subject to an environment protection licence under sections 43, 47, 55 and/or 122 of the *Protection of the Environment Operations Act 1997* (POEO Act) for waste processing (non-thermal treatment) clause 41 and waste storage clause 42 of Schedule 1 of the POEO Act.

The EPA has reviewed the EIS and notes that the EIS does not provide the information required by the Secretary's Environmental Assessment Requirements (SSD-8530563). The EPA requests additional information to enable it to assess the proposal.

The EPA has the following additional comments and recommendations:

1. Matters to be addressed prior to determination

a. Resource Recovery

Resource Recovery Framework

The EPA recommends that the proponent demonstrate that they meet all the requirements of a general resource recovery order ('order') and resource recovery exemption ('exemption'), or detail how they propose to meet the requirements to obtain an order and exemption specific to their proposal.

The financial viability of the proposal relies heavily on the proponent on-selling recovered resources for re-use rather than using the facility as a transfer station for landfilling. The EIS contains an inadequate level of detail regarding resource recovery and the application of the Resource Recovery Framework (RRF) as a whole.

The proponent should not assume that the EPA will grant the necessary exemptions without a clear demonstration that the waste streams to be supplied for resource recovery align with the RRF. Resource recovery by land application or thermal treatment is only appropriate where the re-use:

- is genuine, rather than a means of waste disposal;
- is beneficial or fit-for-purpose; and
- will not cause harm to human health or the environment.

This is established through compliance with an order and exemption. The EIS briefly considers this aspect of the RRF. However, the EPA considers that for a resource recovery facility these considerations should be addressed in detail given there are an estimated 40 general orders and exemptions approved by the EPA.

Excavated material waste streams

The EPA understands that there is an intention to receive virgin excavated natural material (VENM) and excavated natural material (ENM) at the proposed facility. Note that these are both highly specific terms with legal definitions, with no relation to the *Waste Classification Guidelines* (WCG). Any material brought into the facility as VENM or ENM must be characterised/certified prior to being removed from the source site. The EPA recommends that the:

- appropriate acceptance criteria be further clarified in the EIS; or
- the definition of the outputs (to be on-sold) is changed to match the lower standard of input material (e.g. recovered fines).

The EPA seek clarification on any proposed processing of ENM and/or VENM at the facility. The EPA notes that ENM cannot be processed in any way including crushing, grinding or screening and the proponent would need to seek a specific order or exemption to undertake this activity. Note also that any processing of VENM that introduces physical contaminants, manufactured chemicals or process residues would void its classification as VENM.

Section 3.2.2 of the EIS refers only to "excavated material that meets CT1 thresholds" and indicated that the material would be shredded, crushed and screened before being "blended for re-use". The EPA notes that any material processed in this way would need to meet the requirements of the *"Continuous process" recovered fines order and exemption 2014* or the *"Batch process" recovered fines order and exemption 2014* to be lawfully re-

used. Please be aware that the recovered fines orders and exemptions are currently under review and will likely be replaced.

Contaminated soils, acid sulphate soils (ASS) and potential acid sulphate soils (PASS)

The EIS did not provide any details on the receipt of contaminated soil at the facility. The EPA recommends that further information is provided on the volumes and management of any contaminated soil received at the facility. The EIS does state that approximately 10% of the waste received on site will be contaminated soil, however, only ASS and PASS is mentioned. Note that ASS and PASS do not meet the definition “contaminated soils” in Schedule 1 of the POEO Act.

The EPA recommends that the proponent prepare an Acid Sulphate Management Plan to address all proposed activities and potential impacts associated with the project.
Any proposal to treat ASS/PASS at the facility would require a detailed treatment and management plan. At a minimum this must cover material transport, storage, bunding, treatment methods, treatment validation and characterisation regarding other contaminants.

The EPA recommends the proponent provide further details on ASS/PASS processing and re-use options. Figure 3.6 of the EIS indicates an intention to test treated material in accordance with an order, from which the EPA infers that the intention is to supply at least some of the treated PASS/ASS for land application. The EPA notes that there is no general order and exemption for the land application of PASS/ASS, so the proponent would need to obtain a specific order and exemption. Please be aware there is no precedent for a treatment facility to obtain an ongoing specific order and exemption for their operation. Orders and exemptions for treated PASS/ASS have only been granted by the EPA for discrete projects rather than an off-site processing facility. The EPA also notes that treated ASS/PASS is not an acceptable input into recovered fines, and that the treated material must not be blended with other wastes for resource recovery without first obtaining a specific order and exemption.

Construction and demolition (C&D) and commercial and industrial (C&I) wastes

The EIS states that C&D and C&I wastes will together form up to 45% of the total waste received at the proposed facility. Following sorting and processing, the EPA requires that any outputs supplied for re-use meet the conditions a relevant general order and exemption, or else a specific order and exemption must be obtained. This requirement is in addition to any other standards or specification (e.g. RMS road base specifications).

Lithium batteries

The EPA recommends additional information is provided on the lithium battery waste stream and how the batteries will be handled and processed at the facility.

It is unclear how the lithium battery waste stream will be derived, considering the proposal is to take construction and demolition waste and waste soils. In any case, the information provided on how the batteries will be separated, stored, handled and processed at the facility is inadequate to demonstrate that the fire risks posed by lithium batteries will be mitigated

Asbestos

The EPA recommends further information be provided regarding the volume, storage and handling of asbestos waste at the facility.

The EPA requires that if waste has been identified as containing asbestos it should be redirected to a landfill facility for immediate disposal. The proposed acceptance of both friable and non-friable asbestos requires additional management measures, and also poses a risk of contaminating other waste streams proposed to be recovered at the facility. In addition, the facility would need to obtain a suitable licence for storing special waste.

The EPA also has concerns about the transport and handling of small loads of asbestos. The EIS states that for smaller loads of asbestos material the material will be bagged and stored in the restricted waste storage shed. All asbestos material must be transported to a facility that can lawfully accept it, and the material must be appropriately wrapped. Please also note that Tamworth Council operate a landfill (EPL 5921) that can lawfully accept asbestos waste and domestic generated asbestos waste. All asbestos waste should be directly disposed of at this facility rather than stored at a resource recovery facility, which adds an additional exposure point.

The volume of asbestos waste that is intended to be handled varies substantially and inconsistently throughout the EIS and the EPA requires clarification on the actual volume of asbestos to be handled by the facility.

Waste Levy

The EPA recommends the proponent provide further details on the management of the waste levy. The transportation of waste from within the levy regulated area to outside the regulated area does not absolve the proponent to pay the waste levy.

b. Air Quality Impact Assessment

The EPA has reviewed the Gunnedah Waste Facility Air Quality & Greenhouse Gas Assessment (AQIA) dated 22 October 2020 by Vipac Engineers and Scientists Ltd. The AQIA was undertaken in general accordance with the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW (EPA 2017).*

However, the EPA has identified several issues that need to be addressed. Since incremental impacts are large, it is important that emissions are accurately characterised so that appropriate controls can be identified.

Emissions inventory not transparent

The AQIA has modelled sources assuming emission factors from the National Pollution Inventory Manual for Mining. It is not clear how some of the emissions are derived. For example, the AQIA is unclear regarding:

- How the assumption for the HDV emission factor in Vkt/hour was derived;
- Why the emission factor for crushing assumes high moisture content ores has been used. If it is because the crusher has a water spray which increases the moisture content of the waste material, then the water spray cannot be then applied as a control factor; and
- Why emissions from stacking stockpiles outside is double the value used in the processing shed. TA-Air notes there are no control factors applied to stacking stockpiles inside.

The EPA recommends that the proponent should explain how the emission sources described above were derived and justified.

Unclear whether peak daily operations have been modelled

Emissions assume average daily operations based on annual throughput. However, peak daily operations can sometimes be much greater, resulting in higher emissions. For example, according to the EIS, material for crushing will be stockpiled, then crushed a few times a month. If crushing emissions have been averaged over the operating hours of the facility, the emissions could be one to two orders of magnitude less than their actual value.

So that there is flexibility regarding on what days peak daily operations are undertaken, modelling of 24-hour average pollutants should be undertaken for every day of the year (except Sundays when the plant is not operational).

It is recommended that the proponent model peak daily operations, including campaign crushing. Peak daily operations should be modelled for 24-hour average pollutants for every day of the year (except Sundays).

Unclear how the 260 days of operation per year were modelled

According to Table A-3 of the AQIA, the proposed facility will operate 260 days per year. It is understood that emissions were calculated based on 260 days of operation, though this should be confirmed. It is unclear whether the AQIA modelled for every day of the year, excluding Sundays, or modelled emissions for only 260 days.

If emissions were modelled for 260 days, then there is uncertainty in the model as to which days were modelled, and which days were not. So that there is flexibility regarding what days the facility operates, modelling of 24-hour average pollutants should be undertaken for every day of the year (except Sundays when the plant is not operational).

The EPA recommends that the proponent should confirm that emissions were calculated based on 260 days of operation and clarify how emissions were modelled. If modelling does not assume emissions for every day of the year except Sundays, then the modelling should be revised.

c. Water Management

The EPA notes that leachate will be collected in two leachate storage tanks, however, no details of the sizing of tanks or adjacent sumps have been provided. Only limited information has been provided on the leachate collection system and any leachate barrier systems. The EPA requires that any leachate barrier system is at least 1000 mm thick and meets an in situ hydraulic conductivity of 1×10^{-9} metres/second. The EPA recommends that the proponent provide the proposed capacity of the leachate tanks and sumps, as well as expected flow rates to the leachate tanks and sumps. Flow rates should be provided for normal conditions as well as wet weather events. The EPA also recommends that the proponent provide additional information on the design of the leachate barrier system.

The EPA understands that the site will contain two sediment basins and two on-site detention tanks. It is also understood the sediment basin will overflow to the on-site detention tanks which will then discharge into the council stormwater system. The sediment basins should be designed, constructed, operated and maintained in accordance with *Managing Urban Stormwater: Soils and Construction Volume 1, 4th Edition (LANDCOM, 2004)*.

2. Matters to be addressed with conditions

a. Noise

The EPA has reviewed the Gunnedah Waste Facility Environmental Noise Assessment (NIA) dated 21 October 2020 by Vipac Engineers and Scientists Ltd. The EPA has provided recommended conditions in Appendix A and has provided the following additional comments:

Construction

The NIA does not provide details of the expected duration and phases of construction works. There is also no explanation of the expected number of items of equipment for construction. The EPA notes that standard construction hours are proposed and that predicted noise levels are approximately 10-15 dBA above the criteria at the nearest two residential receivers.

The EPA recommends that the proponent be required to prepare a Construction Noise Management Plan (CNMP) including the noise management strategies in Section 8.6 of the NIA as well as early implementation of operational mitigation measures where possible (e.g. early erection of noise barrier along northern boundary) to help mitigate construction noise levels.

Operation

Whilst the facility is proposed to operate during the daytime hours only, there are predicted noise impacts up to 6 dBA above the Project Noise Trigger Levels during the crushing campaigns. These campaigns are proposed to occur approximately once per month for a duration of 1-2 days. Due to the level of exceedance of the criteria during crushing, the EPA recommends the following measures:

- Separate noise limits that apply during the crushing campaign.
- Respite periods for the crushing activity.
- A restriction to number of times per month/days per crushing campaign that crusher can operate.
- Notification to receivers prior to crushing activity commencing.

The EPA also recommends that the proponent be required to prepare an Operational Noise Management Plan (ONMP) including the noise management strategies in Section 8.6.

Road Traffic Noise

The EPA recommends that the proponent prepare a Traffic Noise Management Strategy (TNMS).

3. Minor matters

The EPA recommends that the proponent address the following minor matters:

a. Waste Classification Guidelines

There is a reliance on the Waste Classification Guidelines (WCG) and a CT1 classification throughout the EIS. The WCG are not relevant to resource recovery matters; rather, the conditions required for resource recovery wastes are given in the orders. Similarly, a load acceptance criteria of CT1 may also be inadequate without greater clarity between the resource recovery operations of the proposed facility and the landfill transfer function.

b. Resource Recovery Information

Information about resource recovery is spread throughout the EIS document and is at times contradictory, making it difficult to form a clear picture of the proposal in this regard. Given that resource recovery is the core function of the proposed facility, the EPA recommends that the proponent prepares a specific appendix or separate document where the topic is covered in a cohesive and comprehensive manner.

c. Disposal and Reuse Volumes

The EIS gives estimates of the anticipated volumes of waste that would be received at the proposed facility, but there is no indication of the proportion anticipated to be returned to the economy through each resource recovery stream or to be disposed of at landfill.

d. EIS Inconsistencies

There are several inconsistencies throughout the EIS, including but not limited to:

- Section 3.1.1 of the EIS mentions the potential to produce ‘mulched material’, but in the same section it is also stated that no garden waste, green waste or wood waste will be accepted. In any case, any material supplied as mulch must be assessed to meet the *Mulch order 2016* prior to receipt on site. If no assessment is made at the source site, then the ‘mulched material’ must be pasteurised as per the *Pasteurised garden organics order 2016*.
- In Table 2.7 there are inconsistencies with the information presented in the checklist. The proposed storage and handling of lithium batteries needs to be further detailed in this checklist. In addition, the hazard described as “*The possible existence of dusts in confined areas*” is outlined as “*No crushing of waste is to be carried out on site*….”. However, campaign crushing of waste is proposed as outlined in the Vipac noise report.
- In addition, table 2.7 states that *“No. Wastes delivered to site will be inspected and will not be accepted if they contain hazardous materials, other than lithium-ion batteries. [NOTE: Lithium batteries are also proposed to be processed at this facility- a hazardous waste. No other types of hazardous or special waste will be accepted at the site.* However, this is not correct as asbestos is a special waste. There is a need for consistency in the EIS to ensure that all the hazards are identified and appropriately managed.

If you have any questions about this request, please contact Daniel Stokes on 4908 6804 or via email at daniel.stokes@epa.nsw.gov.au.

Yours sincerely

LINDSAY FULLOON
Manager Regional Operations
Regulatory Operations Regional West

APPENDIX A: Recommended Noise Conditions for the Gunnedah Waste Facility

Noise Limit Conditions

L6.1 Noise generated at the premises must not exceed the noise limits at the times and locations in the table below. The locations referred to in the table below are indicated by Figure 3-3 in Gunnedah Waste Facility Environmental Noise Assessment (Vipac ref: 10550047-2, dated 21 October 2020).

Location	Noise Limits in dB(A)	
	Day (no crushing activity)	Day (during crushing activity)
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$
10193 Kamilaroi Highway, Gunnedah (Lot 638, DP 755503)	41	47
10221 Kamilaroi Highway, Gunnedah (Lot 450, DP 755503)	41	47
211 Mathias Road, Gunnedah (Lot 455, DP 755503)	41	45
Any other residence	41	41

L6.2 For the purposes of condition L6.1:

a) Day means the period from 7am to 6pm Monday to Saturday and the period from 8am to 6pm Sunday and public holidays.

L6.3 Noise-enhancing meteorological conditions

a) The noise limits set out in condition L6.1 apply under the following meteorological conditions:

Assessment Period	Meteorological Conditions
Day	Stability Categories A, B, C and D with wind speeds up to and including 3m/s at 10m above ground level.

b) For those meteorological conditions not referred to in condition L6.3(a), the noise limits that apply are the noise limits in condition L6.1 plus 5dB.

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

a) The meteorological conditions are to be determined from meteorological data obtained from the meteorological weather station identified as **Bureau of Meteorology AWS at Gunnedah Airport**

b) Stability category shall be determined using the following method from Fact Sheet D of the *Noise Policy for Industry* (NSW EPA, 2017):

i. Use of sigma-theta data (section D1.4).

L6.5 To assess compliance:

a) with the $L_{Aeq(15\ minutes)}$ or the L_{Amax} noise limits in condition L6.1 and L6.3, the noise measurement equipment must be located:

(i) approximately on the property boundary, where any residence is situated 30 metres or less from the property boundary closest to premises; or where applicable,

(ii) in an area within 30 metres of a residence façade, but not closer than 3 metres where any residence on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable,

(iii) in an area within 50 metres of the boundary of a National Park or Nature Reserve,

(iv) at any other location identified in condition L6.1

b) with the $L_{Aeq(15\ minutes)}$ or the L_{Amax} noise limits in condition L6.1 and L6.3, the noise measurement equipment must be located:

(i) at the reasonably most affected point at a location where there is no residence at the location; or,

(ii) at the reasonably most affected point within an area at a location prescribed by condition L6.5 (a).

L6.6 A non-compliance of conditions L6.1 and L6.3 will still occur where noise generated from the premises is measured in excess of the noise limit at a point other than the reasonably most affected point at the locations referred to in condition L6.5 (a) or L6.5 (b).

NOTE to L6.5 and L6.6: The reasonably most affected point is a point at a location or within an area at a location experiencing or expected to experience the highest sound pressure level from the premises.

L6.7 For the purpose of determining the noise generated from the premises, the modifying factor corrections in Table C1 in Fact Sheet C of the *Noise Policy for Industry* (NSW EPA, 2017) may be applied, if appropriate, to the noise measurements by the noise monitoring equipment.

L6.8 Noise measurements must not be undertaken where rain or wind speed at microphone level will affect the acquisition of valid measurements.

L6.9 Truck movements to and from the site be restricted to daytime hours only to minimise the impact on sleep during the night time period.

L6.10 All construction work at the premises must only be conducted between 7am and 6pm Monday to Friday and 8am and 1pm Saturday. No construction work may be carried out during Sundays and public holidays.

L6.11 Activities at the premises must only be conducted between 7am and 6pm Monday to Saturday. No activity at the premises may be carried out during Sundays and public holidays. Heavy machinery may only be operated between 7am and 5pm Monday to Friday. No heavy machinery may be operated on Saturdays.

L6.12 Crushing activities must only be undertaken:

(a) between the hours of 7am and 5pm Monday to Friday;
(b) in continuous blocks of no more than 3 hours, with at least a 1 hour respite between each block of work; and
(c) up to 1 time per calendar month for a maximum of 2 days in any calendar month, with at least 1 week respite between each occasion.

For the purposes of this condition ‘continuous’ includes any period during which there is less than a 1 hour respite between ceasing and recommencing any of the work the subject of this condition.

L6.13 Prior to commencing crushing activities, at least 5 days notification must be provided to residents identified in Condition L6.1 of the likely timing and duration of crushing activity.

Noise Management Plans

L6.14 The proponent must prepare and implement an Operational Noise Management Plan (ONMP) that covers all premises based activities and transport operations. The plan must include but need not be limited to:

a) all measures necessary to satisfy the limits in Table **L6.1** at all times,
b) a system that allows for periodic assessment of Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) that has the potential to minimise noise levels from the facility,

c) Effective implementation of identified BMP and BATEA measures, where considered feasible and reasonable,
d) Measures to monitor noise performance and respond to complaints,
e) Measures for community consultation including site contact details,
f) Noise monitoring and reporting procedures.

L6.15 The proponent must prepare and implement a detailed Construction Noise Management Plan (CNMP), prior to commencement of construction activities, that includes but is not necessarily limited to;

(a) identification of each work area, site compound and access route (both private and public)
(b) identification of the specific activities that will be carried out and associated noise sources at the premises and access routes,
(c) identification of all potentially affected sensitive receivers,
(d) the construction noise and vibration objectives identified in the Environmental Assessment,
(e) assessment of potential noise and vibration from the proposed construction methods (including noise from construction traffic) against the objectives identified in the Environmental Assessment,
(f) where the objectives are predicted to be exceeded an analysis of feasible and reasonable noise mitigation measures that can be implemented to reduce construction noise impacts,
(g) description of management methods and procedures and specific noise mitigation treatments that will be implemented to control noise and vibration during construction, including the early erection of any operational noise control barriers,
(h) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity,
(i) measures to monitor noise performance and respond to complaints.

Recommended inclusions in the Planning Approval

That a Traffic Noise Management Strategy (TNMS) be developed by the proponent, prior to commencement of construction and operation activities, to ensure that feasible and reasonable noise management strategies for vehicle movements associated with the facility are identified and applied, that include but are not necessarily limited to the following;

- driver training to ensure that noisy practices such as the use of compression engine brakes are not unnecessarily used near sensitive receivers,
- best noise practice in the selection and maintenance of vehicle fleets,
- movement scheduling where practicable to reduce impacts during sensitive times of the day,
- communication and management strategies for non licensee/proponent owned and operated vehicles to ensure the provision of the TNMS are implemented,
- a system of audited management practices that identifies non conformances, initiates and monitors corrective and preventative action (including disciplinary action for breaches of noise minimisation procedures) and assesses the implementation and improvement of the TNMS,
- specific procedures for drivers to minimise impacts at identified sensitive receivers,
- clauses in conditions of employment, or in contracts, of drivers that require adherence to the noise minimisation procedures and facilitate effective implementation of the disciplinary actions for breaches of the procedures.