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ELECTRONIC MAIL
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EPA Additional Advice on Environmental Impact Statement – SSD-10450

Dear Ms Barnet

I refer to your request for advice requesting a review by the NSW Environment Protection Authority (EPA) of the Environmental Impact Statement (EIS) for the proposed Padstow Resource Recovery Facility (Application SSD-10450) (Proposal) at Lot A DP103140 also known as 81 Gow Street, Padstow NSW 2211 (Premises). I also refer to EPA correspondence (referenced DOC21/825860-10) dated 21 October 2021 related to EPA's partial response to your request for advice on this planning proposal (First Response).

The EPA understands that Gow Street Recycling Centre Pty. Ltd. (Applicant) is proposing an expansion of the existing resource recovery facility (which currently processes and stores up to 80,000 tonnes per annum (tpa) of construction and demolition waste to include a liquid waste treatment plant to process up to 250,000 tpa of drilling mud with a maximum storage capacity of 120,000 tonnes of liquid waste at any one time.

The EPA has conducted a review of the information provided for the Proposal, including the EIS referenced 191290_EIS_REV7 prepared by Benbow Environmental, dated August 2021, and associated documents, and has determined that insufficient information has been provided to adequately complete an assessment of the Proposal.

The EIS and associated documents do not provide all of the information required by the EPA within the EPA's Secretary's Environment Assessment Requirements in Notice no. 1594079 and dated 20 April 2020 (SEARs). Therefore, the EPA is unable to provide recommended conditions of approval for the Proposal at this stage.

As outlined in the First Response the EPA at that time was not in a position to provide advice on the air and waste sections of the EIS. The EPA has now completed its review of these sections of the EIS, and associated documents, and further additional comments are provided in Attachment A below.

If you have any questions about this matter, please contact William Marshall on (02) 9860 1455 or by email at RegOps.MetroRegulation@epa.nsw.gov.au (Attn: William Marshall).

Yours sincerely

RUTH OWLER
A/Unit Head
Regulatory Operations Metro
Environment Protection Authority

ATTACHMENT A

NSW Environment Protection Authority (EPA) Submission on Environmental Impact Statement (EIS) for proposed Padstow Resource Recovery Facility (Application SSD-10450) at 81 Gow Street, Padstow NSW 2211

The EPA has reviewed as part of providing this advice the following documents:

- *EIS Main Report* (Version 7) **(EIS)** – Benbow Environmental – 31st August 2021
- *EIS Appendix 1 – Air Quality Impact Assessment* (Version 4) **(AQIA)** – Benbow Environmental – 7th July 2021
- *EIS Appendix 3 – Waste Management Plan* (Version 3) **(WMP)** – Benbow Environmental – 24th August 2021
- *EIS Attachment 2 – SEARS* – (Version 1) – *EPA* – 20th April 2020 **(SEARS)**

The EPA is concerned that the Proposal in its current form is not meeting the objectives of the POEO Act or taking all practical measures to prevent, control, abate, or mitigate pollution.

The EPA requires the Applicant to provide additional information to enable the EPA to adequately assess the Proposal and the potential environmental impacts. The required additional information is detailed below.

The EPA has the following additional comments and questions for the diesel fuel tank:

The EPA has significant concerns around the safety of the 65,000L bunded diesel fuel tank as outlined in Sections 5.6 & 5.7.2 of the EIS. Given the petroleum product is classified as a dangerous goods, the EPA requests justification for the size and position of the tank as shown on the site plan, as part of the proponent's documentation, including:

- Detail about the reason that the Applicant is proposing to store 65,000 litres of diesel at the premises.
- Detail around mitigation procedures must be included as part of the justification for the design and volume of the bunded fuel tank as outlined in the proposal.

The EPA has the following additional comments and recommendations for Air:

a. **Mitigation measures are unclear**

   The EPA recommends that the AQIA be revised to include further detailed information on the proposed mitigation measures (plans, process flow diagrams, descriptions) that clearly identify and explain the mitigation measures proposed. This should include but is not limited to:

- Location and design of wet suppression system/s,
- Description of the hood extraction system, operating principals and how emission reductions are achieved (i.e. particle filters, multiclones, scrubbers), and
- Further details on enclosures for stockpile.

Incremental dust impacts from the development are predicted to be significant at a number of industrial receptors for modelled scenario 1. Lower ground level concentration, but still appreciable, impacts are predicted under scenario 2, with the incorporation of mitigation measures. Examples include;

- Incremental PM10 (24-hour) impacts at the industrial receptor (R14) are predicted to be 43.0 ug/m^3 (scenario 1) and 12.1 ug/m^3 (scenario 2).
- Incremental PM10 (24-hour) impacts at the industrial receptor (R11) are predicted to be 19.8 ug/m^3 (scenario 1) and 16.2 ug/m^3 (scenario 2).

To mitigate potential current and future dust emissions off-site, the Licensee proposes to construct a custom-built hood and vacuum enclosure to be applied to the crusher and screener. Results of air impact modelling for both scenario 1 and scenario 2 claim that incremental dust levels were reduced with the inclusion of a custom hood covering applied to the crusher/screener by ~12-46% at the most heavily impacted receptor (R11). No details regarding the hooded extraction system have been provided to support the applied control factors.

The EIS states that the development will include provision for additional dust suppression by implementing water sprayers on stockpiles. It is planned to use treated water from the proposed dewatering plant for this purpose however no details on the water spray system have been provided.

A control factor of 0.1 has been applied for use of enclosures for stockpile storage. However, the level of applied control has not been justified (refer to issue 2). The enclosure heights and stockpile heights, during operations, have not been provided.

b. Emission control efficiencies require justification

The EPA recommend that the AQIA be revised to;

1) Be based on appropriate control factors that are consistent with the mitigation measures proposed with robust justification.
2) Include detail regarding the calculation methods used for estimating emission rates for identified emission sources.

The EPA advises that there are significant issues with the quantitative assessment, including but not necessarily limited to:

- Multiple use of emission reduction factors being applied to emission estimates for a single control measure (i.e. wet suppression); without robust justification. For example, the AQIA has adopted a control efficiency for wet suppression of 50% in multiple instances for individual sources. TA-Air do not agree with the use of multiple control emission reductions, for the same source for a single control measure.
- The AQIA, in some instances, adopts a reduction factor of 0.1. The EPA interprets this to be a 90% emission reduction being applied to the emission estimation which is commensurate with reductions that may be achieved with complete enclosure, however complete enclosure is not proposed.
- The AQIA has made reference to the NPI *Emission Estimation Technique Manual for Concrete Batching and Concrete Product Manufacturing*, however the site operations

are associated with material handling and not concrete batching. No justification is provided for use of these factors.

The EPA considers the methodology applied in the preparation of the AQIA to be inconsistent with established methodologies for assessing impacts from this type of facility. Furthermore, The EPA has been unable to replicate the calculated emission rates presented in the AQIA (Tables 7-6 and 7-7).

c. Daily peak processing rate for estimating emissions is unclear

The EPA recommends the AQIA be revised to include further clarification on the peak daily throughput utilised for emission estimation.

The AQIA utilised a peak daily processing rate of 48,048 tonnes (see section 7.4.1), which is greater than 50% of the proposed annual tonnage. This is a significant quantity for a daily throughput, and it is not clear how this value is representative of actual operations proposed at the premises.

d. Additional exceedances of the impact assessment criteria

The EPA recommends the AQIA be revised to demonstrate:

- Emissions are minimised as far as practical.
- No additional exceedances of the impact assessment criteria are predicted. This may include the adoption of additional management measures, mitigation measures, and/or reduced throughputs to achieve compliance.

The AQIA predicts exceedances of the impact assessment criteria contained in the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* at neighbouring industrial receptors. As per section 5.1.3, it must be demonstrated that where exceedances are predicted at receptors, due to elevated background concentrations, the proponent must demonstrate that there are no additional exceedances of the impact assessment will occur as a result of the proposed activities and that best management practices will be implemented to minimise emissions of air pollutants as far as is practical. The AQIA has not demonstrated that there are no additional exceedances of the impact assessment criteria for identified sensitive receptors.

e. Nominating contingency measures for odour

The EPA recommends the AQIA be revised to include specific contingency measures for minimising odour emission, should unexpected odour emissions occur once operational.

The AQIA does not include a quantitative assessment of odour impacts. Justification provided in the AQIA includes;

- No odour is expected to be generated from the proposed development.
- The drilling mud to be received by the facility is non-destructive digging waste, which is a water-based drilling mud containing clay (usually bentonite) and various non-odorous chemicals.
- Odorous drilling mud types (including oil-based muds and synthetic based muds) would not be received by the facility.
- Drilling mud containing barium sulphate would not be accepted at the facility.

The Licensee has obligations under section 129 of the *Protection of the Environment Operations Act* (**Act**) to not cause or permit the emission of any offensive odour from the premises. Drilling mud has the potential to be odorous and appropriate management measures should be employed to minimise the risk of odour impacts occurring and ensure compliance with the Act.

The EPA has the following additional comments and questions for Waste:

a) Page i in the EIS states "The maximum quantity of liquid waste that can be processed through the dewatering plant in a 24-hour period is approximately 1,500 tonnes. Approximately 450 tonnes of clean water would be generated each day". The EIS, page vii, then states "Little waste requiring disposal is expected to be generated by the dewatering process". Clarification is required to:

- Explain what the remaining 1,050 tonnes of waste will comprise of and its end use if it is not to be disposed of.
- Section 5.1.5 of the EIS then states that approximately 60% of the 250,000 tonnes accepted per annum of liquid waste will be water. If this is correct, then the figures (ie 30% of the liquid waste will be water) outlined in page i of the EIS are inconsistent with section 5.1.5 of the EIS.

b) The EIS, page viii, states that the Proposal is for "on-site storage of an estimated additional 1,400 tonnes of waste at the site". Clarification is required as to what this waste will comprise of and how this additional storage requirement has been calculated as it doesn't align with the per day generation amount of water versus residual waste amounts once the dewatering has occurred as described in page i of the EIS.

c) The EIS, page viii, also states that "Materials recovered from the proposed dewatering plant would include treated water, recycled aggregates and biscuit (filter cake) resulting from the filter pressing of the sediments/silt in the liquid waste.", "Aggregates would be recycled under the relevant resource recovery exemption and order" and "Filter cake would be applied to land under a resource recovery exemption or sent to a licensed landfill". The EPA requires clarification on:

- The quantity of each waste type generated, as outlined by this statement, at the end of the processing.
- If aggregates are being recycled, i.e processed on site, it is unclear why reference is made to a resource recovery exemption? The purpose of the exemption is for the end use of the material off site. Is it the Applicants intention to land apply material produced under the relevant resource recovery order at the same premises?

d) Section 5.1 of the EIS refers to Appendix 8 having a site plan but there is just a heading at Appendix 8 and no site plan.

- Page 2 of the WMP, section 2 – Waste Management, point 7 comment states "see site plan". Section 4.7 and 4.7.2 of the WMP also refers to storage areas being shown on the site plan. Section 2.2 of the WMP states that a proposed site plan and equipment layout are provided in Appendix 8. There is no Appendix 8 in the WMP and there are no plans or diagrams in the WMP so it is unclear what plan the WMP refers to.
- The WMP should include a site plan that clearly shows the site layout and onsite transport flow paths for the existing and proposed operations.

e) Section 5.1.2.1 of the EIS and section 2.6.1.1.1 of the WMP states that “This site would not receive oil-based or synthetic-based muds” and “drilling mud containing barium sulphate will NOT be accepted”. What procedures will the Applicant be undertaking to ensure this occurs?

- Section 2.6.1.1.1 of the WMP also states that the “chemical additives listed above are all known to be odourless as stated in relevant safety data sheets”. It is not clear what chemical additives this statement is referring to and at what point the chemicals referred to enter the waste. Section 2.6.1.1.1 appears to relate to defining the drilling mud to be received but then outlines additives. Clarification is needed in this section regarding the reference to chemical additives.

- The EPA requires that the Proponent provide a detailed flow diagram of how different types of waste will be delineated on site. Currently, there is no clear description of how different wastes will not be accidentally combined and therefore this poses a serious risk of cross-contamination. This diagram should include how waste will be processed, kept segregated where appropriate and stored on site, and appropriate measures to prevent cross contamination, especially for the aggregate from the dewatering process that will be then processed alongside the construction and demolition processing operation at the premises.

- Section 5.1.3 of the EIS states that it is intended that aggregates from the dewatering process of the concrete washout waste would be processed through the existing recycling plant. The EPA is concerned that there is potential for the cross contamination of wastes if aggregates from the dewatering plant process are potentially going to be added to the aggregate processing and after processing storage that occurs as part of the construction and demolition existing operation.

- Section 2.6.1.1.2 of the WMP then states that concrete wash out water may contain traces of toxic metals such as Chromium VI and is caustic and corrosive, with a pH of around 12. It is also stated that there is a treatment option to reduce the pH levels but does not state if the Applicant intends to undertake that treatment. Are the aggregates to be tested prior to processing through the existing recycling plant to ensure there are not chemical levels of concern or other contamination? Is it intended that once aggregates are extracted from the concrete washout waste that this waste is processed and stored with aggregates from the existing operations?

- In addition, the construction and demolition waste that is currently permitted to be accepted, processed and stored on site must maintain compliance with the *Standards for managing construction waste in NSW* (**C&D Waste Standards**) with regards to initial inspection protocols and storage requirements. It is unclear from the Proposal how the liquid waste will remain segregated both before and after processing at the Premises from the existing activities on site given part of the dewatered liquid waste will be processed in the same area as the existing construction and demolition waste types.

f) Section 5.1.5 of the EIS states that less than 10% of the recycled aggregates and fines would require crushing. The EIS does not state that the liquid waste will only come from a specific source but just states the liquid waste will be sourced from construction sites in section 8.5.1 of the EIS. Section 2.6.11 of the WMP states that the drilling mud will be sourced from construction sites across NSW. How has this recycled aggregate and fines percentage been determined if the liquid waste is to be accepted on site from different sources?

g) Section 5.1.5 of the EIS also states that the recycled aggregates and fines produces from the dewatering plant would be processed through the site's existing C&D plant which is licensed to process 80,000 tonnes per annum. The existing licence states, "The amount of waste for processing, storage or resource recovery at the premises must not exceed 80,000 tonnes per year" and condition L2.2 states "The authorised amount of waste permitted on the premises cannot exceed 7,300 tonnes at any one time". The 80,000 tonnes per annum limit does not just relate to processing activities at the premises. Section 5.1.5 of the EIS should address not only reference to processing but how the additional activities will meet the processing, storage and resource recovery limit of 80,000 tonnes per annum and the authorised amount limit if this component of the proposal intends to incorporate the additional processing of aggregate from the proposed dewatering plant to the existing licensed operations on site.

h) Section 5.8.3 of the EIS states that any excess treated water that is generated and cannot be reused onsite will be sent to trade waste in accordance with a trade waste agreement. Does the premises currently hold a trade waste agreement? If not is it possible to obtain a trade waste agreement for the premises?

   Section 2.2 of the WMP also states "Connection to Sydney Water trade waste under an agreement". It is unclear if the Applicant has an existing trade waste agreement with Sydney Water. Section 2.2.1 of the WMP then states "the clean water pit would be pH adjusted and then used for cleaning aggregates and sand during the screening process, dust suppression and washdown onsite. Excess water would be sent to trade waste under a trade waste agreement." The WMP should outline disposal options that will be used until a trade waste agreement is approved for the facility if there is currently no agreement. Trade waste agreements usually stipulate the maximum amount of liquid that will be accepted under the agreement. The Applicant should outline contingency plans if the excess water cannot be disposed of through a trade waste agreement and/or the quantity of excess water exceeds the limits set by a trade waste agreement.

i) The Recovered Aggregate Resource Recovery Order 2014 defines that wastes that apply to the order are material comprising of concrete, brick, ceramics, natural rock and asphalt processed into an engineered material. Table 8-10 of the EIS has "Soils" as a waste type and relevant Resource Recovery Order as "The Recovered Aggregate Order 2014". Soils does not meet the definition of recovered aggregate. Table 8-10 of the EIS also lists Aggregate including sand generated from the dewatering process will be sold for reuse off site under the Recovered Aggregate Resource Recovery Order 2014. "Sand" does not meet the definition of recovered aggregate under the order. The Applicant should accurately document what the intended end use of the sand is.

j) Section 8.5.6.1 of the EIS refers to an incoming waste procedure that would be implemented and that liquid waste loads would be managed in similar manner to construction and demolition loads that need to be complied with. Liquid waste characteristics are different to construction and demolition waste i.e one is considered a liquid and the other a solid form of waste. If the liquid waste arrives at the site in a liquid waste tanker, for example, how is the load to be inspected? Further details regarding the incoming waste procedures for the liquid wastes should be documented in the EIS.

k) Section 10.5 of the EIS states that a number of safeguards and management measures would continue to be implemented at the site in order to prevent accidental release of any waste. It is unclear what these management measures are that would continue to be implemented.

l) Page 2 of the WMP, section 2 – Waste Management, dot point 5 comment states “Section Error! Reference source not found”. It is unclear from this table what section of the WMP is providing a description of waste processing procedures for each waste type.

m) Section 2 of the WMP states that additions will include construction of the dewatering facility, process 250,000 tonnes of liquid waste per year and storage of up to 900 tonnes of waste. It is unclear what time period the storage of 900 tonnes of waste is for.

- The EIS, page viii, states that the Proposal is for “on-site storage of an estimated additional 1,400 tonnes of waste at the site”.
- Section 4.7.2, Table 4-6, of the WMP outlines that the dewatering facility aggregate storage bay requirements are maximum capacity of 730m3 and that converts to 1095 tonnes. There is no justification on the conversion rate that was used to convert the m3 quantity to tonnes. Below table 4-6 it then states a total of approximately 1,393.4 tonnes of waste would require storage for the dewatering plant with a factor of safety it has been rounded up to 1,400 tonnes of waste would be stored on the site at any time in relation the dewatering facility. If the maximum storage capacity is 1095 tonnes how is the statement that 1393.4 tonnes would be required to be stored justified when the maximum storage capacity is stated to be 1095 tonnes and Section 2 of the WMP states a quantity of 900 tonnes will be stored?
- Clarification is needed as to why there is inconsistency in the quantity outlined in the EIS that is different to the quantity outlined in Section 2 and section 4.7.2 of the WMP.

n) Section 2 of the WMP states that the addition of the dewatering facility would result in the maximum total storage quantity of 8,700 tonnes of waste at any one time. The authorised amount limit that is currently a condition on the environment protection licence is for an authorised amount of 7,300. This authorised amount was based on what was deemed by the EPA, in consultation with the Licensee, to be appropriate for the size of the operational part of the site with consideration to height and size of waste stockpiles. The EIS, page viii, and Section 2.4 of the WMP, states that the Proposal is for “on-site storage of an estimated additional 1,400 tonnes of waste at the site”. As stated above it is unclear how this additional storage requirement has been calculated as it doesn’t align with per day generation amount of water versus residual once the dewatering has occurred. The authorised amount also relates to incoming waste that will be onsite during processing not just waste that has been through the dewatering process. The EIS, page i, states “The maximum quantity of liquid waste that can be processed through the dewatering plant in a 24-hour period is approximately 1,500 tonnes. This amount does not align with the estimated maximum total storage of 1,400 stated in section 2 of the WMP.

Section 2.1 of the WMP states that it is a fully developed industrial premises with a total area of approximately 10,115m2. The Applicant should add in a statement about how much of the 10,115m2 is used for the operational part of the facility i.e areas such as the site office are not considered part of the operational area of the facility for the purpose of calculating an appropriate authorised amount should the proposal be approved.

o) Section 2 of the WMP, and the unlabelled table at the end of Section 2, also refers to a term “residues of rejects”. The text in this section states, “residues of rejects” and the table states “residues or rejects”. Correct terminology should be used. Section 2.6 of the WMP then refers to waste streams and types as defined under the NSW Waste Levy Guidelines.

- Waste is required to be classified under the *Protection of the Environment Operations Act 1997* and the *Waste Classification Guidelines 2014* when it is removed from a site, transported and/or accepted at a site. The NSW Waste Levy Guideline outlines waste streams and types only for the purpose of meeting waste levy requirements.

Section 3.5 of the WMP states that only the existing construction and demolition waste storage and processing operation has waste levy requirements. It is unclear therefore why section 2 and 2.6 refers to NSW Waste Levy Guidelines definitions and types of waste. If the purpose is to define in the WMP what additional wastes are to be brought onto site under this proposal then a waste classification under the *Protection of the Environment Operations Act 1997* and/or the *Waste Classification Guidelines 2014* should be used.

p) Section 3.5 of the WMP refers to only the construction and demolition waste being required to be recorded using the weighbridge. The EPA requires that all waste be recorded that is imported to and/or exported from the premises. This is not just for waste levy purposes but for tracking types and quantities of waste moving through the facility at any time and for the purpose of ensuring the licensee is meeting the limits on their licence. It also provides a tracking mechanism should there be any issues with a load of waste that was accepted at the premises. The weighbridge data should be coded so that it is clear what waste types are arriving and leaving the premises and the associated quantities at all times. This will be particularly important as the Proposal outlines that the intention is that material will be moved from the premises under resource recovery orders and exemptions. The Applicant is responsible to ensure that any material leaving the premises ensures that it goes to a lawful place once it leaves the premises. Record keeping is important part of that.

- The EPA acknowledges that at Section 4.10.2 of the WMP it is stated that each vehicle entry and exit will be recorded at the weighbridge however from other sections throughout the WMP it is not clear that this is actually what will occur.

q) Section 4.9.1 of the WMP states that part of the quality control for incoming waste includes suppliers of waste would be from authorised reputable companies whose details would be recorded with all incoming loads. How will this be recorded if the Applicant does not consider it a requirement to record incoming loads using the weighbridge (as stated in Section 3.5 of the WMP)? Additionally, who will be authorising a company as reputable and approving waste loads? Will waste loads be booked in prior to arrival at the premises so the appropriate checks can be made as to the quality of the liquid waste? If not, what are the procedures that will occur to check documentation relating to the quality of the waste, such as sampling results, while the waste is waiting to be cleared to enter the premises?

r) Section 4.10.2 of the WMP then states that the site has a current system of tracking waste which includes a paper trail of waste dockets. The EPA requires clarification as to what paper waste dockets this would be for? Are they incoming loads or outgoing loads? The EIS and WMP indicate that the liquid waste will be coming from construction sites. Most construction sites do not have a weighbridge therefore if the paper waste dockets refer to the incoming waste then it is not clear who is generating the paper waste dockets.

s) Section 3.6 of the WMP states that the C & D Waste Standards is not applicable to this proposal. The EPA disagrees with this statement. The C & D Waste Standards require labelling of stockpiles and requirements of how the construction and demolition waste is to be stored on site. The proposal states that aggregate from the liquid waste will, once dewatered, be processed in the same area as the existing construction and demolition processing and storage operation. Therefore, the aggregate component of the proposal would need to meet the C & D Waste Standards once it is moved to the processing area of the existing operation.

t) Table 4.2 of the WMP shows that the Weekly Quantity of Liquid Waste incoming to the premises is 4808 tonnes per week. This equates to 686.86 tonnes per day. The EIS and earlier sections of the WMP state that the estimated daily quantity of liquid waste

incoming to the premises is 1,500 tonnes. EPA requires clarification as to the why the estimates are different through the EIS and WMP.

u) Section 4.6 of the WMP states “the C&D component of the facility is already licensed, and management is already established as described in Section 2.1. The process description provided in Section Error! Reference source not found, describes the receipt….”. The EPA recommends that this reference be amended.

v) Section 4.6 of the WMP states that “Appropriate documentation would be obtained at the receipt of liquid waste at the weighbridge and this would be source from known and reputable customers”. EPA requires clarification regarding what documentation this refers to and what is it meant by known and reputable customers? Who is making that determination? What is the expertise or qualification requirements of the person assessing the documentation?

w) The proposal means that there will be a large volume of liquid wastes from various sources being brought onto, processed, stored and combined on-site.

- Unless this is done under a comprehensive and rigorous management plan with strictly documented, implemented and audited processes and procedures there is a significant risk that the wrong wastes will be brought onto site, the management of the wastes will cause off-site impacts such as dust, odours, water pollution, and/or wastes will be sent off site for reuse that do not meet the requirements of a resource recovery order or exemption

- Therefore, the EIS should include that such a management plan will be developed to the EPA’s satisfaction by an independent expert in this field agreed in writing by the EPA, and that the implementation of the plan will be audited every 6 months by an independent auditor with expertise in this field agreed in writing by the EPA.