



DOC21/825860-10

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ELECTRONIC MAIL
21 October 2021

EPA Advice on Environmental Impact Statement

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).

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. The EPA's comments are provided in Attachment A below.

The EPA has not considered Aboriginal cultural heritage, biodiversity or built form and urban design requirements as these are the purview of Environment, Energy and Science Group and Heritage NSW in the Department of Planning, Industry and Environment.

Please note that the EPA is still in the process of reviewing the air and waste sections of the EIS and associated documents and further comments will be provided upon the completion of the EPA's review of those sections of the EIS.

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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

A handwritten signature in dark ink, appearing to read 'Ruth Oowler', written in a cursive style.

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 2 – Noise Impact Assessment* (Version 4) (**NIA**) – Benbow Environmental – 30th July 2021
- *EIS Appendix 4 – Stormwater, Erosion & Sediment Control Assessment* (Version 1) (**SESCA**) – Indesco – June 2021
- *EIS Appendix 6 – Soil & Water Assessment* (Version 4) (**SWA**) – Benbow Environmental – 24th August 2021
- *EIS Attachment 2 – SEARS* – (Version 1) – EPA – 20th April 2020 (**SEARS**)

The EPA understand the Proposal is for:

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.

Based on the information provided, the Proposal is subject to an Environment Protection Licence (Licence) under section 47 of the *Protection of the Environment Operations Act 1997* (POEO Act) for scheduled activity of Resource Recovery under clause 34 of Schedule 1 of the POEO Act. As the Premises already holds a Licence for other scheduled activities that are being conducted at the Premises if approved the Applicant will need to apply to vary the existing Licence to incorporate these new activities.

The POEO Act makes clear that environmental performance is to be continuously improving. The EPA therefore seeks best practice in all new facilities or activities. The need for best practice can be linked to the following elements of the POEO Act:

- Section 3 of the POEO Act sets out the objects of the act which includes:
 - (d) to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote the following –
 - (ii) the reduction to harmless levels of the discharge of substances likely to cause harm to the environment; and
 - (iv) the making of progressive environmental improvements, including the reduction of pollution at source.
- Section 45 of the POEO Act sets out the matters to be taken into consideration in licensing functions which includes:
 - (d) the practical measures that could be taken:

- (i) to prevent, control, abate, or mitigate that pollution; and
- (ii) to protect the environment from harm as a result of that pollution.

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 to 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 recommendations:

1. Matters to be addressed prior to determination

a. Assessment for annoying noise characteristics

The EPA recommends that the NIA assess the applicability of any modifying factor corrections for annoying noise characteristics such as low frequency noise or tonality.

The Proponent should assess whether any modifying factors are applicable to noise emissions from the proposed activities, in accordance with Fact Sheet C of the Noise Policy for Industry.

The EPA considers that there is the potential for appreciable low frequency and/or tonal noise emissions from some items of plant and equipment, such as the vibrating screen, crusher and pumps.

b. Assessment of road traffic noise impacts

The EPA recommends that the road traffic noise impacts in Section 7 of the NIA have not been carried out in accordance with the NSW Road Noise Policy (RNP) and should be revised by the Proponent.

Assessing the site-generated traffic noise only against the criteria in Table 7-1 is not satisfactory, and the assessment should follow the steps in Section 3.4.1 of the RNP, assessing both existing and site-related traffic against the criteria.

c. Assessment of vibration impacts

The EPA recommends that the Proponent should assess the potential for any operational vibration impacts from the use of items of equipment such as the crusher and screens, particularly at adjoining premises.

The Proponent should consider all feasible and reasonable mitigation measures to address the potential for any cumulative impacts given the combination of existing operations with the proposed de-watering facility.

d. Assessment of the suitability of dewatering effluent

The EPA recommends that the Proponent assesses the suitability of the effluent for the proposed end uses.

If reuse of the dewatering plant effluent outside the dewatering facility building is proposed, it is recommended the Proponent:

- Specify the volumes of effluent that would be reused for each end use including typical through to maximum rates (this should be consistent with the water balance assumptions discussed below).
- Characterise the effluent in terms of the concentrations of all pollutants expected to be present at non-trivial levels under typical through to worst case conditions (This should be informed by the expected qualities of the influents [liquid wastes to be received] and the expected treatment performance.).
- Compare the expected effluent pollutant levels to relevant benchmarks to screen for potential pollutants of concern (e.g. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality [ANZG, 2018]*).
- Propose mitigation measures to address any identified risks.

The EIS indicates that some of the effluent from the dewatering plant would be discharged to sewer, via a trade waste agreement, but proposes reusing some for dust suppression, materials processing and within the wheel wash outside the dewatering facility building.

The EPA is concerned regarding the use of dewatering plant effluent outside the dewatering facility as the EIS does not characterise the expected quality of the effluent or demonstrate that it would be suitable for the end use.

The effluent could potentially contain a range of pollutants. For example, pollutants in drilling mud could potentially include surfactants, polymers, 'proprietary' chemicals, and natural contaminants such as hydrocarbons, phenols and metals. Concrete washout waste is likely to have elevated salinity and could potentially contain sulfates/sulfides, metals, polycyclic aromatic hydrocarbons, and chemicals from admixtures such as surfactants, methylphenols, nitrates, cyanide, and supplementary cementitious materials. Residual flocculants or flocculant by-products (e.g. dissolved aluminium) from the dewatering process could also potentially be present in the effluent.

There is a risk that reuse of the dewatering plant effluent outside the dewatering facility building could result in contaminated discharges to waterways.

If the Applicant is not proposing to reuse the dewatering plant effluent outside the dewatering facility building, (i.e. the dewatering facility will be a closed system, only discharging to sewer) an assessment of the suitability of the effluent for reuse is not required.

e. Pollution impact assessment

The EPA recommends that the Proponent assesses the potential water pollution impacts of the proposed discharge to water.

It is recommended that the Proponent assesses the potential impact of the proposed discharges on the environmental values of the receiving waterways. The water pollution impact assessment should include:

- Details of the practical measures that would be implemented to avoid discharges (e.g. roofing; increased storage capacity and reuse) and minimise pollution (e.g. treatment of discharges).
- Specify the expected frequency and volume of the proposed discharge based on the revised water balance.
- Characterise the expected quality of the proposed discharge in terms of the concentrations of all pollutants expected to be present at non-trivial levels based on:

- Sampling of stormwater from representative sites at the existing facility under a range of conditions, with samples analysed for all pollutants potentially present at non-trivial levels.
- The characterisation of the dewatering plant effluent (if proposed for reuse outside the dewatering facility building).
- The predicted performance of any proposed treatment measures.
- Assess the potential impact of the discharges on the environmental values of the receiving waterways consistent with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)*.
- Where relevant, propose practical measures to address identified impacts.

The EIS states that there would be no water discharge points. However, the proposed water management system appears to be designed to discharge more than 12 times per year. Furthermore, the EIS does not identify the location of the proposed discharge point or the flow path to the receiving waterway and it is unclear whether discharges would bypass the silt arrestor.

The EIS does not characterise the proposed discharge but presents results of a single sample from a stormwater pit at the Premises. It is unclear:

- Where the sample was collected and whether this is representative of runoff from the entire existing site.
- What the weather and operational conditions were during sampling.
- Whether the analytical suite adopted for the stormwater sample reflects the range of pollutants potentially present.

As indicated in the EIS, the site stormwater is leachate as the catchment includes waste storage and processing areas.

Please note that additional sampling events and sites would be required to characterise the existing stormwater/leachate quality under a range of conditions and screen the sample for all pollutants potentially present at non-trivial levels. This information is needed to inform a characterisation of the proposed discharges (in combination with the characterisation of the dewatering plant effluent [if this is proposed to be reused in external areas of the site] and the expected performance of the proposed stormwater/leachate management system).

f. Appropriate water management system

The EPA recommends that the Proponent considers practical measures to avoid discharges to waters and minimise pollution.

It is recommended the Proponent:

- Installs roofing over pollutant source areas, such as waste storage and processing areas.
- Additional and/or alternative treatment measures targeting pollutants of concern potentially identified through the discharge characterisation and water pollution impact assessment.
- Increases the proposed design storm capacity of the stormwater/leachate tanks.
- Maximises reuse of captured stormwater/leachate to maintain capacity within the onsite storages (e.g. by not reusing the dewatering plant effluent outside the dewatering plant building).

Managing Urban Stormwater, Soils and Construction Vol. 1 (Landcom, 2004) and *Vol. 2E Waste Landfills* (DECC, 2008) provide relevant guidance on managing uncontaminated stormwater. DECC (2008) recommends that, for disturbance >3 years with standard receiving waterways, sediment basins should be designed to achieve the required water quality up to the 90th percentile five-day rainfall event. Landcom (2004) indicates that the 90th percentile five-day rainfall event at Bankstown is 42.6mm.

The EIS does not include the design storm duration for the underground tank, but states “The system is designed to only discharge rainwater after a heavy rain event (>25 mm) which according to the BoM Bankstown Airport automatic weather station (ID #: 066137), occurs on average 8.5 times per year (1968-2020).”

However, the Bureau of Meteorology Design Rainfall Data System indicates that the 24-hour rainfall total would exceed 25mm more than 12 times per year at the site¹. Consequently, the system is likely to overflow more than 12 times per year, several times more frequent than the 2-4 spills per year expected for the 90th percentile 5-day storm event according to DECC (2008).

Furthermore, given the uncovered waste processing and storage areas and the proposed reuse of dewatering plant effluent in external areas of the site, runoff could potentially contain a range of pollutants, including dissolved contaminants.

g. Appropriate water balance

The EPA recommends that the response to submissions (RtS) includes a daily time-step water balance.

It is recommended the daily time-step water balance be based on:

- rainfall data,
- temporally variable water reuse rates (seasonal and weather dependant), and
- seasonal evaporation rates.

The water balance assumptions should be reviewed with reference to the best available information (e.g. current site water usage; evaporation data) to ensure they accurately reflect the likely conditions under the Proposal.

The *Soil and Water Assessment* (Appendix 6 of the EIS) includes a steady state water balance, representing average conditions, that is based on flawed assumptions and does not reflect the likely range of conditions at the site.

The water balance assumptions do not reflect likely conditions under the Proposal:

- The EIS states, “The dust suppression requirements are based on an assumption of 1.5L per square meter per 20 minute period typically used for haul road dust suppression. Assuming this application is done 75% of the time for 60% of the site area this would result in an approximate maximum water usage quantity of 13,000kL/month for dust suppression.”
 - This equates to approximately 50mm of irrigation per day across the whole site or 80mm per day across the 60% where dust suppression is assumed to be applied. Over a year this would amount to 17,700mm of irrigation across the site, more than 20 times the average annual rainfall.

¹ <http://www.bom.gov.au/water/designRainfalls/revised-ifd/>

- Noting that Figure 3-1 indicates that the monthly site rainfall volume is 722kL, the proposed reuse rate (13,000kL/month) is not possible unless mostly comprised of effluent from the dewatering facility.
- Reuse at the assumed rate would result in substantial pooling and runoff.
- Figure 3-1 of the EIS appears to assume that up to 13.6ML of water would be lost to evaporation per month (dust suppression + site washdown + wheel wash).
 - This equates to approximately 44mm/day across the entire site and appears much higher than would be expected based on typical evaporation rates.
 - For comparison, at the nearest Bureau of Meteorology weather station with evaporation data (Prospect Reservoir), mean evaporation ranges from 1.6mm/day in June to 5.6mm/day in December.
- The EIS states, “Treated water from the dewatering process would be reused on site for dust suppression purposes on the existing external storage bunkers.”
 - This appears inconsistent with the water balance at Appendix 6 which assumes reuse over 60% of the site area.

Given the potential for frequent discharges, a daily time-step water balance would be more appropriate to demonstrate that capacity can be managed within the storages and predict the frequency and volume of discharges. This would reflect the variable water demand, rainfall and evaporation conditions. For example, dust suppression water requirements and evaporation rates would decrease during wetter than average conditions, potentially resulting in more frequent overflows.

h. Detail regarding diesel fuel tank

- The EPA is concerned there is a lack of available detail regarding the design of the bunded diesel fuel tank.
- This includes but is not limited to the dimensions of the fuel tank, the materials used for construction and a detailed schematic of the tank itself.
- The EPA also requests that detail regarding mitigation measures to protect the fuel tank (such as a concrete barricade) be provided, including dimensions and materials used for the barricade.
- The EPA is concerned about the position of the diesel fuel tank as it appears to be situated in a high traffic area and would therefore be more prone to accidental rupture or there is higher likelihood of damage to the bund that is required to contain any discharge should the tank become compromised for any reason. Given this risk, the EPA suggests consideration be put into moving the tank to another location on site and/or splitting the tank into several smaller tanks to reduce risk of spill, fire or any other event that cause environmental harm.