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Dear Mr Zhang,

**SSD-9887 – West Nowra Resource Recovery Facility Stage 2 – Advice on EIS  
Bioelektra Australia Pty Ltd**

I am writing in reply to your invitation to the Environment Protection Authority (EPA) to provide advice on the Environmental Impact Statement (EIS) prepared by GHD for Bioelektra Australia Pty Ltd (Proponent) in relation to the new resource recovery facility at West Nowra (project).

Bioelektra Australia Pty Ltd is proposing to construct and operate a resource recovery facility (RRF) in West Nowra, approximately five kilometres to the west of the Nowra central business district. The RRF will receive 130,000 tonnes per year of mixed solid waste in a processing building under negative pressure. The wastes will be shredded, steam sterilised in an autoclave, then sorted into components for either secondary re-use or landfill disposal.

The EPA has reviewed the EIS and the accompanying attachments provided by the Department of Planning, Industry and Environment (DPIE) and provides comments in Attachment 1. The EPA comments relate to a range of odour, water and contaminated land issues.

The EPA acknowledges that DPIE have requested advice on recommended conditions to be included in any Development Consent. The EPA advises that recommended conditions at this stage would be premature, as more information is required from the Proponent (as outlined in Attachment 1). The EPA will be happy to suggest recommended conditions once the Response to Submissions has occurred.

If you have any questions about this matter, please contact James Crawford on 02 4224 4123.

Yours sincerely

A handwritten signature in blue ink that reads 'Charles Hajek'.

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## Attachment 1

### Odour

#### **1. Proposed pollution control for receival hall stack not adequately described or justified**

The proposal includes a carbon filter on the receival hall stack. However, detail about the proposed design of the control system has not been included. The Odour Unit Report in Appendix B of the Air Quality Assessment states that activated carbon for control of industrial odour is generally only appropriate for treating air streams with low flow rates. Often carbon filters can become blocked and lose effectiveness, in which case the Odour Unit considered that the stack design (being of sufficient height and flow rate) was more appropriate to manage odour. Thus, the proposed control and the Odour Unit Report appear to be inconsistent. Further, the Air Quality Assessment references odour emissions from a reference facility in Poland, but there is no discussion regarding the odour controls used at the reference facility. Justification for the proposed carbon filter system has not been provided. Furthermore, it is not known if alternative treatment technologies, such as wet scrubbing, have been considered.

***The EPA recommend the Proponent provides;***

- a) Justification for the proposed pollution control technology (carbon filters), including;***
  - i. an evaluation of alternative technologies, such as wet scrubbing or another odour treatment technology.***
  - ii. details of the odour management system, including flowrates, used in the reference facility in Poland.***
- b) A detailed description of all aspects of the air emission control system***

#### **2. Details regarding performance and maintenance procedures for the carbon filters**

The EIS states that the carbon filter will be regularly maintained. However, no details are provided as to how the carbon filter will be monitored to inform when the filter needs to be replaced, as well as odour management measures that will be employed during carbon filter changeout to minimise odour impacts. This is especially important considering 81% of odour emissions are from the receival hall stack.

***The Proponent should provide details regarding the proposed performance and management measures that will be used to ensure proper and efficient operation of all aspects of the odour control system. This should include:***

- a) A robust demonstration that the carbon filters can achieve 90% odour reduction when treating the proposed feedstock at the specified flowrates.***
- b) Details regarding how the carbon filter will be monitored to inform when the filter needs to be replaced (e.g. breakthrough monitoring of the carbon filters).***
- c) A discussion on how odour emissions from the receival hall will be managed during the carbon filter change out.***

### 3. Fugitive emissions from the doorway

The proposal assumes that there are fugitive emissions from the doorway at a velocity of 0.1 m/s. The velocity is unjustified, and the modelling should include a sensitivity analysis of the effect of this parameter on modelling results, specifically regarding impacts on R11.

The proposal assumes the fugitive emissions occur 25% of the time, and therefore the emissions are multiplied by 25%. This is an error. The fugitive emissions, when they occur, will be 100% of the doorway emissions, and thus modelled emissions in the current proposal are underestimated. Since it is unknown when roller doors are open or not between 6am and 6pm, modelling should assume doorway emissions occur at all delivery hours.

***The modelling should be revised to:***

- a) Include a sensitivity analysis of the velocity in the doorway on the impacts at R11.***
- b) demonstrate that predicted impacts meet the criterion, using the corrected emission rate. If an exceedance is predicted, additional controls should be nominated.***

***It is noted that the roller doors are along the wall closest to Receptor R11, at a distance of 55m, which is very close. The Proponent should comment on the appropriateness of having the roller door so close to R11, and whether the configuration can be redesigned to minimise impacts to R11.***

### 4. Contingency measures for odour mitigation

The *Technical framework: Assessment and management of odour from stationary sources in NSW* identifies that additional feasible odour mitigation measures that could be implemented should be considered at the assessment/planning stages of a proposal. The assessment does not identify or discuss additional feasible measures that could be adopted in the event odour impacts occur once the proposed facility is operational.

It is the Proponent's responsibility to comply with Section 129 of the *Protection of the Environment Operations Act 1997*. Should odour impacts be experienced once a facility is operational the Proponent will need to address these odour impacts and, if necessary, modify the facility based on actual operational outcomes. Addressing odour impacts retrospectively is likely to be more difficult and costly than incorporating such measures in the initial proposal.

***The Proponent should identify and nominate additional feasible odour mitigation measures or contingency measures that could be used to mitigate odour impacts, in the event they do occur once the facility is operational.***

## Water

### 1. Sediment basin sizing

Construction phase sediment basins have been sized to accommodate the 75th percentile 5-day rainfall events.

As construction duration is estimated to be 12 months, the minimum basin size for a standard receiving environment should accommodate the 80th percentile, 5 day rainfall event (*Managing Urban Stormwater Soils and Construction Volume 1* (the Blue Book)).

However, the Stage 2 EIS also indicates a low to moderate site contamination risk from the previous land use as an animal shelter including the presence of pesticides, herbicides, heavy metals and nutrients. Limited soil and water quality investigations have occurred on site to characterise this risk, with the EIS recommending 'targeted investigation be carried out to improve confidence of the contamination status'. It should be noted that standard erosion and sediment controls based on *Managing Urban Stormwater Soils and Construction Volume 1* (the Blue Book) are not appropriate for managing potential water pollution risks associated with contaminated sediments and runoff.

Further consideration of potential water pollution risks associated with contaminated soils is required, including potential mitigation measures to avoid or minimise water pollution. This would be informed by the targeted investigations.

For example, enhanced erosion and sediment controls, such as increasing the size of sediment basins during construction, bunding and flow diversions to avoid or minimise discharges containing contaminants, should be considered. Increasing sediment basin sizing and using enhanced erosion and sediment controls (compared to the Blue Book) could be appropriate as a precautionary approach in low contamination risk areas and a minimum requirement in moderate contamination risk areas. This could include, for example, use of an 85th percentile storm depth from the Blue Book and "water sensitive" stormwater treatment measures. Other options include pumping contaminated stormwater for offsite disposal.

***The EPA recommends the Response to Submissions consider the contamination status of the site in the development of appropriate management and mitigation measures, including, for example:***

- a) More conservatively sized sediment basins to offset water pollution risks to avoid or minimise discharges.***
- b) Enhanced erosion measures to minimise disturbance.***
- c) Development of a construction water quality monitoring program with a Trigger Action Response Protocol if contaminants are detected at non-trivial levels.***
- d) Further details on how the pre-existing ponds will be dewatered and where relevant identify appropriate measures to mitigate any identified impacts.***

***If the sediment basins are sized consistent with the Managing Urban Stormwater series for the appropriate duration of disturbance and the runoff only contains clean sediment (with no flocculants), a simple qualitative assessment could be appropriate.***

## **2. Water discharge during construction**

It is unclear how often and where each basin will discharge, whether it is via overland flow, directly to Cabbage Tree Creek (450m away) or for Basin 1, if runoff will enter the existing 'clean water' drain to the 'downstream creeks'.

The Secretary's Environmental Assessment Requirements (SEARs) requires 'characterisation of water quality at the point of discharge to surface and or groundwater against the relevant water quality criteria'. The Stage 2 EIS has not characterised the discharge quality from the sediment basins during construction, including the potential presence of flocculants. The predicted overflow frequency and volumes are also not provided.

The Stage 2 EIS contamination assessment indicates that there are three pre-existing ponds on the site, which may contain contaminated water (such as high pesticides or high nutrients). It is unclear if these ponds will have been removed as part of the previously approved 'Stage 1' works,

or if their removal is part of the 'Stage 2' approval process. If these dams are still present, the volume, water quality and how the Proponent intends to dewater these ponds is unclear.

Further details are required to inform licensing consistent with Section 45 of the *Protection of Environment Operations Act 1997* and a discharge impact assessment would be required if the Proponent proposes discharging stormwater to waterways.

***The EPA recommends the Response to Submissions:***

- a) Clearly identify where any discharges will occur, including directly to Cabbage Tree Creek, via the 'clean water drain', or as overland flow.***

***If discharges to waters are unavoidable the Proponent should prepare a surface water discharge characterisation assessment including (but not limited to):***

- a) Estimate the expected frequency and volume of discharges.***
- b) Characterise the expected quality of the discharge in terms of the typical and maximum concentrations of all pollutants likely to be present at non-trivial levels (including coagulants/flocculants).***
- c) Assess the potential impact of the proposed discharge with reference to the environmental values of the receiving waterway and consistent with the national Water Quality Guidelines (ANZG, 2018).***
- d) Where a risk to the receiving environment is identified, propose practical measures that could be taken to avoid or minimise pollution based on the surface water discharge characterisation assessment.***

## **Contaminated land**

### **1. The EIS provided high level contamination assessment only and has not satisfactorily addressed the SEAR for contamination**

In the SEARs dated February 2021, DPIE required the following from the Proponent regarding contamination:

- a) Characterisation of the nature and extent of contamination on the site and a description of proposed management measures.

The EIS included a preliminary site investigation (PSI) which identified potentially contaminating activities that have occurred at the site. Furthermore, migration of landfill gas into the site is identified as a potential risk given that the West Nowra landfill is located immediately west of the site.

The EIS provided a high-level contamination assessment only and has not satisfactorily addressed the SEAR for contamination since it was not supported by intrusive investigations that will confirm the findings. The nature and extent of contamination has not been adequately characterised. Due to inadequate site characterisation, it is considered that at this stage, the proposed management measures are not yet adequate.

To comply with the SEAR mentioned above and given that the consultant identified potential for widespread contamination and the potential for the migration of landfill gas from the adjoining landfill, the Proponent must conduct a Detailed Site Investigation to investigate the nature and extent of contamination within the project area and to adequately inform how contamination will be

remediated and managed. Furthermore, the Proponent must engage a NSW EPA accredited Site Auditor throughout the duration of works to ensure that any work required in relation to soil, groundwater and ground gas contamination is appropriately managed.

**2. A NSW EPA accredited site auditor must be engaged throughout the duration of works**

Given that the PSI identified potential for migration of landfill gas from the adjoining landfill, a NSW EPA accredited site auditor is recommended to be engaged throughout the duration of works for this project to ensure that any work required in relation to soil, groundwater and ground gas contamination is appropriately managed.

***The EPA advises that the Proponent must submit:***

- a) A detailed site investigation that determines the nature and extent of the contamination at the project area. The site investigation must be undertaken, and the subsequent report/s, must:***
  - i. Be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme.***
  - ii. Be prepared in accordance with the relevant guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997.***
- b) An interim audit advice from a NSW accredited site auditor commenting on whether the nature and extent of the contamination has been determined and what further works are required, to demonstrate they have engaged a site auditor.***

The EPA reminds the Proponent of the following:

1. The processes outlined in State Environmental Planning Policy 55 - Remediation of Land (SEPP55) are to be followed in order to assess the suitability of the land and any remediation required in relation to the proposed use.
2. The Proponent must ensure the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site so as to result in significant contamination [note that this would render the Proponent the 'person responsible' for the contamination under section 6(2) of Contaminated Land Management Act (CLM Act)].
3. The EPA should be notified under section 60 of the CLM Act for any contamination identified which meets the triggers in the Guidelines for the Duty to Report Contamination [www.epa.nsw.gov.au/resources/clm/150164-report-land-contamination-guidelines.pdf](http://www.epa.nsw.gov.au/resources/clm/150164-report-land-contamination-guidelines.pdf)
4. The EPA recommends use of "certified consultants". Please note that the EPA's Contaminated Land Consultant Certification Policy (<https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/clm/18520-contaminated-land-consultant-certification-policy.pdf?la=en&hash=D56233C4833022719BCE0F40F870C19DC273A1F7>) supports the development and implementation of nationally consistent certification schemes in Australia, and encourages the use of certified consultants by the community and industry. Note that the EPA requires all reports submitted to the EPA to comply with the requirements of the CLM Act to be prepared, or reviewed and approved, by a certified consultant.