



Our ref: DOC19/234544

Your ref: SSD 8660

Department of Planning and Environment
Industry Assessment
320 Pitt Street
SYDNEY NSW 2000

Bruce.zhang@planning.nsw.gov.au

Attention: Bruce Zhang

Regular Post & Email
25 March 2019

Dear Sir

State Significant Development SSD 6880 – Construct and operate resource recovery facility – 90 Gindurra Road, Somersby

I refer to your email dated 31 January 2019 requesting general terms of approval (**GTA's**) from the Environment Protection Authority (**EPA**) in relation to SSD 6880 (**the Application**). The application seeks to construct and operate a resource recovery facility to process 200,000 tonnes per annum of soils and building and demolition waste at 90 Gindurra Road, Somersby (**the Premises**).

The EPA has conducted a review of the information provided and requires the following additional information prior to issuing GTA's. The additional information is outlined below.

Hours of Operation

The application proposes several different hours of operation for different activities at the premises. The proponent must clarify the intended hours of operation for the undertaking of scheduled activities for the environment protection licence.

Air Quality Impact Assessment

Review of the Air Quality Impact Assessment (**AQIA**) revealed inadequacies regarding the meteorological data and the modelling relied upon. The EPA requires the proponent to revise the AQIA to include:

- cumulative impact of emissions from facilities and sources nearby to the proposed development site in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (January, 2017).

- a scenario that reflects the maximum daily discharge of particle emissions calculated based on the maximum achievable production rates for receiving, processing and dispatching material.
- additional information regarding the assumed average operational characteristics for each source. Where possible, sufficient information should be provided for each source to enable the calculation of an emission rate in grams per second.
- additional meteorological data options such as those generated using CALMET run in various modes (no-observation, hybrid).

Waste Management and Processes

Table 2.3 of the EIS outlines that 40% or 79,200 tonnes per annum of the proposed product outputs for the facility as being manufactured soils produced under the provision of the Excavated Natural Material (ENM) Order 2014.

Any material that has been processed cannot be considered ENM. The EPA considers that processing ENM significantly increases the risk for contamination and encourages poor practices such as blending contaminated materials with cleaner waste streams. As such, the EPA has specifically excluded processing from the definition of ENM.

The ENM Order (section 1.1) and Exemption (section 1.2) clearly states that ENM does not include material:

- located in a hotspot;
- that has been processed; or
- that contains asbestos, Acid Sulfate Soils (ASS), Potential Acid Sulfate soils (PASS) or sulfidic ores.

In light of the above, the proponent must advise what product outputs are proposed for the facility.

The proposal details that mixed building waste comprises 5% or 10,000 tonnes per annum of the facilities incoming waste. The proponent must identify the source of the mixed building waste to give a better understanding of the potential contents of this waste.

The EIS lists a number of waste types proposed to be accepted at the facility including hazardous and special waste. The EPA does not intend to licence the facility to accept these waste types and the proponent must implement strict procedures to prevent the acceptance of these wastes at the Premises.

Stormwater


Provide the manufacturer, model and specifications for the proposed jellyfish filter in place prior to discharge of waters from the sediment pond to the spreader.

What next?

Upon receipt of the above information the EPA will be able to determine if GTA's can be issued for the application. Please send the information to Unit Head Waste Compliance, EPA, PO Box 488G Newcastle NSW 2300 or to waste.operations@epa.nsw.gov.au.

If you have any further queries regarding this matter, please contact Tristan Hinchcliffe on (02) 4908 6896.

Yours sincerely



28/3/2019

STEVEN JAMES
Unit Head Waste Compliance
Environment Protection Authority



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Department of Planning
Received
20 JUN 2019
Scanning Room

Our ref: DOC19/509616

Your ref: SSD 8660

Department of Planning and Environment
Industry Assessment
320 Pitt Street
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Attention: Bruce Zhang

Regular Post & Email
14 June 2019

Dear Sir

State Significant Development SSD 6880 – Construct and operate resource recovery facility – 90 Gindurra Road, Somersby

I refer to your email dated 31 January 2019 requesting general terms of approval (**GTA's**) from the Environment Protection Authority (**EPA**) for a State Significant Development Application (SSD 6880) (**the Application**) and the EPA's previous correspondence of 23 March 2019. The Application seeks approval to construct and operate a resource recovery facility to process 200,000 tonnes per annum of soils and building and demolition waste at 90 Gindurra Road, Somersby (**the Premises**).

The EPA has now finalised a review of the surface water information provided in the Environmental Impact Statement and requires the following additional information prior to issuing GTA's. The additional information is outlined below.

EIS Assessment

The EIS has not adequately assessed the potential surface water pollution impacts. Further information is needed to characterise discharges from the site and inform any additional mitigation measures. The relevant Secretary's Environmental Assessment Requirements that are not adequately addressed are:

- *an assessment of potential impacts to soil and water resources*
- *characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from the waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters).*

A summary of the key issues includes:

- the EPA cannot consider the relevant matters under section 45 of the *Protection of the Environment Operation Act 1997* (**the POEO Act**) regarding the assessment and management of wastewater discharges, including assessment of the potential impacts of discharges against the environmental values of the receiving waters
- There are potentially a wide range of dissolved and sediment attached pollutants in site discharges. These risks have not been assessed with regard to appropriate sizing of containment structures and potential pollution of downstream environments.
- There is no information on the specific or predicted water quality concentrations from the proposed treatment system under relevant water quality and flow conditions, including for the only pollutant considered (TSS).
- Council water quality targets related to urban stormwater have been used for assessment
- The performance of the proposed Jellyfish treatment system is not assessed (e.g. TSS concentrations, the percentage of flows that are treated through the device versus the percentage that may bypass the treatment device is not clear). The life span of the device is not considered in terms of performance over time in relation to maintenance schedules.
- The stated overflow frequency of about 35 overflows per year on average is not demonstrated to be consistent with best practice guidelines for even clean sediment containment.

Requirements under the POEO Act

Section 45 of the POEO Act requires the EPA to take into consideration a range of matters in relation to an activity or work that causes, is likely to cause or has caused water pollution, these include:

- the pollution caused or likely to be caused by the carrying out of the activity or work concerned and the likely impact of that pollution on the environment;
- the practical measures that could be taken:
 - to prevent, control, abate or mitigate that pollution, and
 - to protect the environment from harm as a result of that pollution;
- the environmental values of water affected by the activity or work, and
- the practical measures that could be taken to restore or maintain those environmental values.

The EIS does not allow the EPA to consider the relevant matters under section 45 of the POEO Act to inform its licensing decisions. Inadequacies of the assessment relate to:

- A lack of consideration of alternatives to discharge such as:
 - maximising the reuse of wastewater
 - preventing pollutants affecting runoff (e.g. covering higher risk parts of the site)
 - discharges to sewer of higher risk wastewaters
- characterisation and assessment of the potential impacts of discharges.

Pollution caused or likely to be caused

The EIS states that waste handled will include mixed building waste, asphalt, timber, metals and excavated natural material (ENM). The EIS then states that the primary contaminant expected in stormwater runoff from the site is sediment based. i.e. concrete dust from processing the recycled concrete, and sediment runoff from soils to be stored on site.

The EIS fails to assess potential levels of dissolved contaminants in stormwater runoff known to be associated with the types of material proposed to be handled. This assessment also fails to adequately consider potential risks associated with contaminants attached to sediment which require greater controls than clean sediment in stormwater.

Based on data from other building and construction waste recycling sites there can be a wide range of potential water pollutants in site runoff at levels requiring mitigation.

Assessment methods could include, for example:

- data from similar operations
- literature reviews of potential contaminants in wastewater
- provision and assessment of representative leachability test data from material that would be handled and stored on site
- a comparison of proposed discharge quality against national water quality guidelines for the full range of potential pollutants in runoff and consideration of all downstream environmental values
- considering all practical measures to mitigate the risk identified from the potential for a wide range of pollutants that may be in discharges.

As well as the potential impacts of individual contaminant concentrations, the potential additive, cumulative and loading impacts of contaminants should also be considered, including:

- antagonistic toxic effects from two or more pollutants
- bioaccumulation in downstream waters (e.g. metals or PAHs)
- loading of nutrients, metals and other pollutants in downstream waters, groundwater or soils
- concentration-effects of chemicals due to reuse of wastewater on site.

The EPA recommends that:

- Additional information be provided on the full range of potential pollutants in site discharges, including potential water discharge concentrations from any proposed treatment system under relevant water quality and flow conditions (i.e. both controlled discharges and managed overflows)
- the discharge assessment referenced above compare potential concentrations of pollutants in discharges with the national water quality guidelines or available international guidelines; and consider all relevant downstream environmental values
- additive, cumulative and bioaccumulative impacts of the proposal be assessed.

Practical measures that could be taken

The EIS has not adequately identified all practical measures that could be taken to prevent, control, abate or mitigate water pollution from the operation of the proposed facility.

The EPA recommends that:

- All practical measures to prevent, control, abate or mitigate water pollution be assessed. These measures could include, but are not be limited to:
 - Preventing and minimising generation of polluted runoff (roofing, covering, at source controls)
 - Considering alternatives to discharge such as collection and disposal to sewer or tankering to a facility licenced to receive the wastewater from higher risk parts of the site
 - Optimising alternatives to discharge such as reuse (e.g. onsite storage tanks for first flush runoff)
 - Installing appropriate treatment systems.

Stormwater capture and treatment system

The EIS proposes a sediment inlet pond to be used at the entry to the proposed pond storage to capture sediment from site runoff. The pond is proposed to consist of a permanent pool for re-use purposes and an on-site detention component designed to meet Council requirements. As noted

above, Council water quality targets for urban stormwater are not relevant to wastewater management at a licensed premises.

The stated overflow frequency of “about 35” overflows per year on average is not consistent with best practice guidelines for clean sediment containment e.g. 6–8 spills/year (Blue Book Volume 1 site, > 6 months, 80th percentile); or 2–4 spills/year (Blue Book Volume 2, > 6 months, 90th percentile for managing clean sediment at waste landfills and mines and quarries).

It is noted that the EIS states that overflows are directed to a Jellyfish sediment-treatment device and Appendix I states that overflows occur over the spillway from the pond. It is not clear what proportion of discharges occur via the proposed Jellyfish filter versus the overflow structure, or the height of the Jellyfish inflow and outflow levels compared to the overflow structure level.

Sediment basins are proposed to be cleaned out when 60% full of sediment. The overflow frequency when the ponds are up to 60% filled with sediment are also not adequately assessed.

Subject to a characterisation of site discharges, due to the nature of the material onsite and potential for contaminants to be associated with sediments, the 2-4 spill per year or equivalent environmental outcome is likely to be considered minimum best practice for clean sediment (i.e. no attached contaminants). A greater containment may be needed depending on the assessment of dissolved and sediment attached pollutants and the mix of other mitigation measures that may be proposed, e.g. at-source controls.

Managing Urban Stormwater – Soils and Construction Volume 2E Mines and quarries (Blue Book Volume 2E) has been used as a basis for assessing similar sites due to the known risks in stormwater runoff and therefore provides an initial basis for determining whether overflow frequency requirements are commensurate with risk.

The EPA recommends that the applicant:

- Revises the water balance assessment and, as a starting point, relate all references to the Blue Book Volume 2E.
- Provides an equivalent environmental outcome for sediment, Blue Book Volume 2E, at a minimum, and any additional risks of sediment attached pollutants and dissolved contaminants should be accounted for through either additional capture and treatment or other mitigation measures such as at-source controls.

Jellyfish treatment device

The EIS proposes to install a Stormwater 360 Jellyfish filter (or approved equivalent) on the outlet pipe from the pond to ensure that any discharges from the pond are appropriately filtered prior to discharge to the vegetated area to the south of the premises.

The EPA recommends that the applicant:

- provide the performance of the proposed “Jellyfish” treatment system, including:
 - TSS concentrations that can be achieved over the life of the maintenance schedule
 - the percentage of flows that are treated through the device verses the percentage that may bypass the treatment device
 - the storage levels at which discharges occur through the Jellyfish filter verses storage levels that may cause overflow.

Downstream receiving environment

The discharge is proposed to flow over a vegetated paddock for about 280 metres to the road drainage system. There may be some further filtering and attenuation of pollutants across the paddock, in terms of water pollution, however, this is not an appropriate treatment method for water quality and pollutants may also build up in soils on site. The potential for channelled flow is not

considered which could mean there is limited overland flow filtration effect and the site conditions may change over time.

Once flows reach the road drainage system they may be directly transported to downstream waterbodies with little change in pollutant levels. It is also noted that there may be recreational water bodies downstream.

The EPA recommends that the applicant:

Ensures the fate of any residual pollutants in discharges are adequately assessed and appropriate monitoring and mitigation measures implemented.

Monitoring downstream of the Jellyfish device and/or overflow structure

Licence analytes, limits or monitoring are not provided in the EIS.

The EPA recommends that the applicant:

Undertakes an appropriate characterisation and mitigation assessment of any water proposed to be discharged so that licence limits and licence monitoring (location, frequency methods) can be proposed for all non-trivial pollutants in wastewater.

Waste receipt and storage area

The EIS states that a 25 kilolitre collection and storage tank will be provided for the waste receipt and storage area which will also be bunded. Collected runoff is proposed to be disposed of-site. The rainfall conditions under which the bunded area or the tanks may be bypassed, or overflow is not assessed.

The EIS states that overflows from the waste receipt tank will be piped or flow as surface flow to the pond. The frequency of overflows has not been assessed and the full range of potential pollutant risks and mitigation measures should be assessed to avoid or manage potential water pollution impacts.

A wider suite of potential contaminants than discussed above may be present in wastewater from the receipt area including highly toxic chemicals.

The EPA recommends that the applicant:

Ensures all risk factors associated with overflows from the tanks or by-pass of the bunded area are adequately assessed and the potential impact on site discharge quality accounted for.

Grassed swale

The EIS states that a grassed swale along the western boundary will be used to pre-treat sediment runoff from the working areas of the site. It is not clear if this swale is lined to protect groundwater or, if it is not lined, what is the potential impact on groundwater or nearby surface water, e.g. subsurface lateral flow to a possible drainage line immediately to the west of the site.

The EPA recommends that the applicant:

Ensures potential water pollution impacts associated with the grassed swale are fully considered and where necessary assess what impact mitigation measures will be implemented.

Public and occupational health risks from wastewater reuse

The EPA recommends that the applicant:

Consider the potential human health and occupational health risks related to proposed wastewater reuse at the site.

Water management inside the warehouse

Misting dust suppression is proposed for processing inside the shed, using internal sprinklers, with water applied at a rate of 2.1kL/day. This water use and any other water use within the warehouse could result in leachate requiring management.

The EPA recommends that the applicant:


Identifies the fate and potential impacts of any leachate generated inside the warehouse and where applicable outline how the impacts will be appropriately managed.

What next?

Upon receipt of the above information the EPA will be able to determine if GTA's can be issued for the Application. Please send the information to Unit Head Waste Compliance, EPA, P.O. Box 488G Newcastle NSW 2300 or to waste.operations@epa.nsw.gov.au.

If you have any further queries regarding this matter, please contact Tristan Hinchcliffe on (02) 4908 6896.

Yours sincerely

 14/6/2019

STEVEN JAMES
Unit Head Waste Compliance
Environment Protection Authority