Memorandum

24 July 2015

To	Michael Robinson		
Copy to			
From	PRELIMINARY DRAFT	Tel	
Subject	Eastern Creek Energy from Waste EIS review	Job no.	21/24681

1 Introduction

The Next Generation (NSW) Pty Ltd is seeking planning approval for the development of an energy from waste facility (the 'Project') at Eastern Creek.

The Project would be located on the Lots 2 and 3, in DP 1145808 within the Eastern Creek Industrial Estate, Eastern Creek. The Site forms part of a larger area of land which comprises the Genesis Xero Waste Facility and landfill ('broader site'). The broader site is described as lots 1, 2, 3 and 4 in DP 1145808.

The application (Phase 1) is seeking approval to process up to 552,500 tonne per annum of waste sourced solely from the adjoining existing Genesis Xero Waste Facility and landfill. The existing Genesis Xero Waste Facility has approval to receive up to 2 million tonnes per annum of waste.

The Project documentation states that another approval (assumed to be facilitated via a condition of consent) would be sought to permit the receipt and processing of additional waste to bring the approved tonnage to 1.35 million tonnes per annum. The trigger for this modification is understood to be the NSW Energy from Waste Policy. The EIS document states in this regard:

- *'TNG proposes to delay the construction of the lines 3 and 4 until eligible material inputs for these lines can be confirmed to the satisfaction of the Department of Planning and Environment and the EPA.'*

Despite this, the EIS documentation is based on assessing the Project assuming the Project receives and process up to 1.35 million tonnes per annum. Further details on the identified potential limitations of these studies are provided below.

This Project is considered to be State Significant Development (SSD) and an Environmental Impact Statement (EIS) has been prepared by Urbis under the provisions of Part 4 of the *Environmental Planning and Assessment Act* (1979) (EP&A Act) in support of an application for planning approval.

GHD has been engaged to undertake a technical review of the EIS on behalf of Australand. Australand is in the process of acquiring an adjoining property (the Hanson property) (refer to Figure 1). The objective of the engagement is to provide a review of the key technical findings of the assessment in terms of potential impacts on the Hanson property, particularly in relation to air quality and odour, noise and traffic and transport. A general review has also been included to identify any other potential impacts on the Hanson property or potential emissions from the EIS.

GHD
Level 15, 133 Castlereagh Street Sydney NSW 2000 Australia
T 61 2 9239 7100 **F** 61 2 9239 7199 **E** sydmail@ghd.com **W** www.ghd.com

Paper Size A4

0 45 90 180 270 360

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 56

N

LEGEND

- Australand purchase area
- Energy from Waste project
- Lots

Australand
Eastern Creek Energy from Waste EIS review

Job Number	21-24681
Revision	A
Date	02 Jul 2015

Location of energy to waste facility and Hanson property

Figure 1

G:\21\24681\GIS\Maps\Deliverables\21_24681_Z001_Location.mxd

Level 15, 133 Castlereagh Street Sydney NSW 2000 **T** 61 2 9239 7100 **F** 61 2 9239 7199 **E** sydmail@ghd.com.au **W** www.ghd.com.au

Data source: Aerial: ESRI, 2014. Topo: NSW LPI DTDB, 2012 Created by:afoddy

2 Technical review

Table 1 Review of EIS

EIS Section	Comment
1. Introduction	No comment
2. Site Context Analysis	No comment
3. The Proposed Development	There is very little description of how the facility will be constructed. For example, there is no schedule for construction, quantities of materials, construction workforce and vehicle movements.
Figure 16	Does not show the location of all the elements listed in Table 3, in particular the location of the stacks.
4. Analysis of Feasible Alternatives	No comment
5. Environmental Risk Analysis	No comment
6. Consultation	No comment
7. Strategic Planning Framework	No comment
8. Statutory Planning Framework	No comment
9 Identification of Potential Impacts	No comment
10. Waste Management	No comment
11. Air Quality and Ozone	Detailed review findings are contained in Appendix A. In summary issues which should be addressed are: • The assumption that there will be no dioxins/furans leaving the primary secondary combustion chamber • Absence of reference to, and compliance with, the Stockholm Convention • Lack of assessment of one-hour ground level concentrations for particulate

	matter (PM10 and PM2.5) • Lack of detail regarding conversion of meteorology data for use in AERMOD required format • AERMOD does not use existing upper air sounding data despite the data being available • The choice of Bankstown Airport for cloud cover and cloud height
12. Human Health	Not reviewed because of deficiencies identified in the Air Quality modelling supporting this chapter.
13. Odour	Detailed review findings are contained in Appendix B. In summary: • There is insufficient odour emission data, uncertainty with the influence of the void on odour dispersion and no cumulative assessment taking into account the approved composting on the Genesis site
14. Noise Assessment	• No comment
15. Soils and Water	There is little discussion of potential changes to flooding in Ropes Creek tributary as a result of the development. The EIS simply states that the development will not flood. It appears that the site is going to be raised adjacent to Ropes Creek tributary. As there is no scale on Figure 16 it is difficult to determine the distance from the creek and if the works fall within the 100 year flood area. Appendix AA is about the design of a retention basin to ensure there is no increase in run-off, it doesn't actually assess potential interaction between the Ropes Creek tributary and the site beyond this. While the assessment is lacking, it is unlikely that any changes to flooding would impact the Australand purchase area due to the distance between the property and the tributary and the fact that the Australand site is upstream of the Project.
16. Traffic and transport	Detailed review findings are contained in Appendix C. In summary: • The traffic impact assessment does not appear to satisfy the Roads and Maritime Services requirements nor the DGRs. There is no cumulative impact assessment for the Eastern Creek precinct. It is not possible to determine the extent of potential traffic impacts from the Project on the proposed Australand site due to the lack of assessment.
17. Hazards and Risks	No comment.
18. Flora and Fauna	No comment.
19. Visual	No comment.
20. Greenhouse	No comment.

Gas	
21. Aboriginal and Non-Aboriginal Heritage	No comment.
22. Assessment and Additional Issues	No comment.
23. Mitigation Measures	No comment.
24. Justification	No comment.
25. Summary and Concluding Comments	No comment.

Appendix A – Air quality and ozone detailed review

The air quality assessment undertaken by Pacific Environment predicted ground level concentrations of emissions from the Project during normal and upset conditions.

The assessment found that air quality impacts would comply with the criteria at the site boundary (i.e. including the proposed Australand property) for all assessed emissions under normal operating conditions.

The assessment also found that there is a low probability of a noncompliance occurring for 4 air toxics during an upset scenario.

The NSW Energy from Waste Policy Statement (EfW Policy) concerning any energy recovery from thermal treatment of waste states: "*ensuring that any energy recovery proposals represent the most efficient use of the resource and are achieved with no increase in the risk of harm to human health or the environment*." (State of NSW and Environment Protection Authority, 2015, p.1). Further, there is the "*need to meet current international best practice techniques, particularly with respect to:*

• *process design and control*

• *emission control equipment design and control*"

The feedstock for this facility is not in the category of "Eligible waste fuels" (ibid, p.5). Further, the high percentage of plastics (Urbis EIS, 2015, p.115-116) would likely result in dioxins/furans and HCl leaving the primary secondary combustion chamber into the secondary combustion chamber. While PVC is not classified as a hazardous waste in either the EU or NSW jurisdictions, the flue gases would generally contain dioxins and furans. Therefore, for there to be "no increase in the risk of harm to the environment" (intent of EfW Policy), best available technology via design is to have the secondary chamber at greater than 1100^{o}C for the 2-second residence time. This prevents (avoids) the formation of dioxins/furans. Moreover, the secondary chamber exhaust gases (including chlorine atoms and dioxins/furans already formed) needs best practice to be cooled rapidly through the De Novo temperature range to minimise the creation of additional dioxins and furans. ("*In incineration, dioxins can also reform or form de novo in the atmosphere above the stack as the exhaust gases cool through a temperature window of 600 to 200 °C. The most common method of reducing the quantity of dioxins reforming or forming de novo is through rapid (30 millisecond) quenching of the exhaust gases through that 400 °C window. Incinerator emissions of dioxins have been reduced by over 90% as a result of new emissions control requirements*." https://en.wikipedia.org/wiki/Polychlorinated_dibenzodioxins). See also - Environment Australia (1999), Incineration and Dioxins: Review of Formation Processes, consultancy report prepared by Environmental and Safety Services for Environment Australia, Commonwealth Department of the Environment and Heritage, Canberra.

The EIS document is over 200 pages and references volumes of Technical Appendices. Despite a Table on EPBC Matters Of National Environmental Significance (Urbis, 2015, p.90), it is noted that the Stockholm Convention to which Australia is a signatory, is NOT mentioned.

"*The Stockholm Convention on Persistent Organic Pollutants came into force on 17 May 2004, with Australia ratifying the Convention on 20 May 2004 and becoming a Party on 18 August 2004.*

The Convention is a global treaty that aims to protect human health and the environment from the effects of persistent organic pollutants (POPs). The Convention has a range of control measures to reduce and,

where feasible, eliminate the release of POPs, including emissions of unintentionally produced POPs such as dioxins. The Convention also aims to ensure the sound management of stockpiles and wastes that contain POPs." http://www.environment.gov.au/protection/chemicals-management/pops.

Australia has set out to meet its obligations under Article 5 using the National Action Plan for Addressing Dioxins (NAP) which was adopted by the Environment Protection and Heritage Council on 29 October 2005. This includes:

"*To minimize their releases of POPs from unintentional production, Parties shall promote in some cases and require in others the use of best available techniques, and promote the application of best environmental practices*."
(http://chm.pops.int/Implementation/BATBEP/Guidelines/tabid/187/Default.aspx)

The proposal does not demonstrate Best Environmental Practice which is to not create dioxin/furans from a waste stream where they did not exist before, as the technology proposed is not appropriate.

Much is made in the EIS concerning "Reference Facilities". This is in response to the EfW Policy for "*reference to fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions*." (EPA, 2015, p.6).

The reference facilities (all in Europe) utilise grate technology and treat similar feedstock and ratios of Residual Waste Fuels as is proposed. While the facilities utilise a grate system and use Residual Waste Fuel that contains only (or mostly) C&I waste (of pre-treated waste) only one of the reference sites is NOT C&I – this is STADTWERKE ERFURT, Erfurt, Germany which is "100% pre-treated MSW and C&I waste (fraction not known)."

Given the higher percentage of plastic in the feedstock (provides the only calorific value material in the Glass feedstock for example), this facility will likely have dioxin/furan generating capability greater than a Medical Waste Incinerator. Therefore, there is little confidence that the emissions, given feedstock and (lack of) proposed emission controls and dioxin/furan minimisation, will achieve the stated maximum limits of the reference facilities. This then raises questions about meeting the in-stack concentration limits as modelled.

It is noted that the actual modelling of emissions within POEO (Clean Air) Regulations and EU specifications is acceptable for the stack height selected.

The Technical criteria for Energy recovery facilities includes that "*If a waste has a content of more than 1% of halogenated organic substances, expressed as chlorine, the temperature should be raised to 1100°C for at least 2 seconds after the last injection of air*." (EPA, 2015, p. 6). Dioxin and Furans are halogenated organic substances (US Federal Government, 40 CFR Part 268, Appendix III to Part 268 - List of Halogenated Organic Compounds Regulated Under S 268.32; Federal Register / Vol. 65, No. 248 / Tuesday, December 26, 2000 / Rules and Regulations).

The EIS for this facility claims that there is a technical anomaly between the NSW EfW Policy and the EU Directive on incineration. Hence it is claimed that only 850^{o}C is needed for the 2-second residence time in the secondary chamber. The EIS implies that the EPA is in the process of amending this claimed anomaly.

It could be argued that the 'waste' coming from the primary chamber into the secondary chamber (being a combusted mixture of an initial feedstock very high in plastic content "after the last injection of air") will be high in Dioxin and Furans (hence the need for the lime injection and activated carbon scrubbing).

Since the air modelling report states that "*Residual fractions from recycling, C&D and C&I can also reportedly reach up to nearly 10%"* (PEL Job ID 08526, 2015, p.9) then this facility (which will also include 'flock waste' and even the MSW separated "glass residuals" being high percentages of hard plastic and plastic film) will require the higher temperature secondary chamber to be Best Available Technology.

The high plastic content, lack of secondary chamber post-combustion (at >1,100^{o}C) and no rapid temperature reduction will potentially produce excessive amounts of dioxin/furans that did not exist in the waste beforehand. These will mostly end up in the bottom ash, fly ash and therefore be mostly contained (as discussed in the documentation) in the Air Pollution Control residues.

It is claimed that bottom ash is non-hazardous "Bottom ash, a non-hazardous waste. This will be ejected and cooled, and can be further processed off-site and potentially used as road aggregate (as done in Europe)". However, bottom ash may NOT be free of Dioxins/Furans. It is produced in the primary combustion chamber and 'attaches' to ash. Therefore it may be classified as hazardous waste.

It also says that flue gas treatment residues which have also been known as APC residue which is a hazardous waste, will require special handling and disposal arrangements. This suggests that dioxin / furans may be involved due to plastic in the feedstock.

Boiler Ash is stated to be potentially hazardous and if so is treated the same as APC residue ash. Why is this different to bottom ash? Ash either falls out at bottom (boiler grate) or is fly ash through the APC (Air Pollution Control – fabric filter).

The PEL Air Quality report addresses Ambient air quality criteria as per the Approved Methods. A $PM_{2.5}$ (advisory) standard has been added as this substance is not in the Approved Methods. Another short-coming with particulate matter in the Approved Methods is a one-hour ground level concentration for particulate matter (PM_{10} and $PM_{2.5}$). These could be adopted from the Victorian SEPP(AQM) and modelled from the stack sources – Tables 7.2a and 7.2b of the Approved Methods do indeed use substances from this source (but not for particulate matter). At a minimum, this should be included in the human health risk assessment (as short-term impacts are concerned with acute exposure standards and not the chronic impacts modelled for this project).

The meteorological modelling used by PEL consisted of OEH data from St Marys and used in the dispersion model AERMOD. This dispersion model is NOT in the Approved Methods but is the latest generation of a Gaussian-type model (AERMOD effectively replacing ISC on which the Approved Methods AUSPLUME is based).

For a 100 m tall stack this is likely to be acceptable – and there are suggestions that PEL/Urbis were communicating with EPA on this issue.

However, this is contingent on the meteorology data being converted into AERMOD required format (for both surface and upper air) which includes derived parameters (surface friction velocity, Monin-Obukhov Length, surface roughness, Bowen ratio, albedo, convective and mechanical mixing heights etc). Apart

from declaring that "*cloud cover and cloud height as input and the closest meteorological station recording these parameters is Bureau of Meteorology (BoM) Bankstown Airport*" (PEL, 2015, p.14) there are little or no details on how this was done or the QA/QC procedures.

PEL Section 8.1 on the modelling system state "In the absence of upper air sounding data for the area, upper air parameters were calculated using the upper air estimator within the Lakes Environment AERMODview software package." (PEL, 2015,p.36).

The upper air 'profile.dat' data are very important for a tall stack (>100m) plume.

It is NOT true that no upper air sounding data exist for the area. The BoM does a pre-dawn balloon release from Sydney Airport daily. These data would be more accurate than the Lakes Environmental system (http://www.weblakes.com/support/resources/WorldQualityADM3.pdf):

Upper Air Estimator: **This is a non-US EPA AERMET option**. This option allows for pre-process of met data in AERMET without the use of actual upper air data. This option estimates upper air data from your hourly surface data.

The Upper Air Estimator tool was developed by Lakes Environmental and is designed to allow those without access to upper air data to run the US EPA AERMET program. **Whenever possible, actual upper air data should be used**.

The EIS states that "Cloud cover and cloud height were sourced from the BoM Bankstown Airport AWS." (PEL, 2015, p.36) Richmond RAAF base is generally considered a more representative distance inland for cloud in the Western Sydney Basin (less coastal influences as experienced at Bankstown).

Appendix B – Odour

The main issue is with fugitive odour as the high temperatures of the incinerator otherwise destroy odorous material. The facility will be under negative pressure (except when trucks accessing a 'fast-response' roller door).

Odour modelling has been undertaken to predict the 99th percentile odour levels from the proposal to check compliance with the impact assessment criteria for complex mixtures of odourous air pollutant as required by the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (NSW DEC 2005) ('the Approved Methods').

It is proposed that the facility would accept predominantly non putrescible waste. AWT residuals may also be later received and their waste classification is unknown as new unknown facilities will be approved and operate in the future. The AWT residues may be classified as putrescible waste and be odorous.

The waste would be received into a building which has high speed roller doors, and is kept under constant negative pressure. This means that minimal 'odorous' air will be able to escape outside without being directed through the ventilation system and into the boiler.

All of this air will then undergo combustion whereby odorous gases will breakdown to non-odorous compounds and ultimately released through a series of other filters and into the atmosphere via a stack.

The tipping hall is the only source of odour from the Project included in the odour assessment. Other sources of odour may include fugitive emissions from trucks and transfer points along the waste conveyor into the site.

The odour emission rates in the assessment are based on three odour samples undertaken by The Odour Unit at the Genesis Facility located adjacent to the site. No details are provided how the odour samples were taken. Odour samples in NSW need to be undertaken with reference to AS4323.4:2009 Stationary source emissions Method 4: Area source sampling – Flux Chamber technique unless otherwise justified.

Odour sampling also needs to take into account variability in the odour emission rate from the landfilled waste. This is particularly important when the emitting odour surface is highly heterogeneous and uneven, making the placement and sealing of hoods or chambers difficult. Taking one odour sample on such a surface does not consider the potential for variation in odour that does occur on an active tipping face.

Taking one flux chamber odour sample also does not consider that the activity of delivering waste loads and tipping, moving waste by bulldozer and compacting is a significant source of odour. GHD have successfully undertaken indirect methods of odour measurement on landfill tipping faces by concurrently measuring odour up and down wind during operation. Odour levels were found to be up to 10 – 30 times higher than corresponding IFC odour measurements (for MSW landfills) and elevated levels are similarly expected even for a non-putrescible landfills. A more substantial odour dataset is recommended to adequately assess the odour impact of the Genesis and Next Generation sites.

One odour sample was taken from both the leachate tank and the leachate riser. Odour levels from these sources would not be expected to vary much on a daily timeframe however may fluctuate depending on recent rainfall and leachate volumes, weather experienced and other operational factors.

The EIS mentioned that the leachate sump is also a significant source of odour, however odour from this source was not included in the model for the Genesis site.

The modelling does however show that the Genesis site is not a significant source of odour, predominantly due to the topography of the large pit. Due to the complex terrain of the Genesis site, it is recommended that a perimeter odour survey is undertaken (i.e. at the top of the void) to 'ground truth' the results of the odour modelling. This will resolve any uncertainty with the influence of the void on odour dispersion.

The Genesis site is approved to undertake green waste storage and composting for up to 20,000 t at any one time. This was assessed as a potential odour source in the 2008 Air Quality – odour and dust assessment of the site (Holmes Air Sciences, 4 April 2008). This odour source has not been included in the PEL cumulative Air Quality Assessment which would be a significant odour source and would potentially increase the predicted 2OU odour contours further north and into the suburb of Minchinbury and the proposed Australand site.

The modelling for the Next Generation site has also been undertaken by conservatively modelling the facility doors open at all times. This would result in higher odour concentrations than if the doors were intermittently open.

The odour contour plots (Figure 8-1 and 8-1 of the Odour Impact Assessment) show worst case odour dispersion to the north and south of the Next Generation site. This would generally be during cooler stable atmospheric conditions often found occurring during the night time or early morning periods. The plots show that most odour is from the Next Generation facility rather than the Genesis site, which is due to the topography. The plot also shows that using the assumed odour emission rates that odour will meet the 2 OU criterion on most, if not all of the Australand site. However as stated above these predictions may be underestimated due to non-representative odour emission data for the landfill, uncertainty with the terrain (ie a deep void) on odour dispersion and no consideration provided for the approved composting activities at the site.

The Approved Methods state that a sensitive receptor in NSW includes "a location where people are likely to work". Depending on the purpose of the site this may or may not be the relevant criterion to apply. This criterion may not apply to an industrial site and depending on the number of staff/and type of occupancy a higher impact assessment criteria may potentially be more relevant.

Appendix C – Traffic and transport

In our review of the Traffic Impact Assessment report we have identified a number of issues which we consider require addressing and may have a significant impact on the findings of any subsequent analysis. These issues are identified in .

Table 2 TIA report issues.

Page Number	Report	Comments
14	Last paragraph in section 5.1 states “Therefore all future parking demands associated with the proposed development can be readily accommodated on-site”.	At no locations within the report are the future parking demands identified.
14	Section titled, Parking Requirements	The TIA does not consider bicycle parking which may be required under the Blacktown City Council DCP.
16	Table 4 Heading states “Modelled”	The report does not clearly identify what was modelled, how it was calibrated or the outcomes.
17	Table 5: Traffic Generation on External Road Network	To meet the assessment requirements, the table should show the type of heavy vehicles and materials that they are conveying.
18	First paragraph of page 18 states “Figure 6 below have been adopted for the purpose of peak hour intersection analysis for both peak periods”	Figure 6 only shows one (1) peak. Typical traffic assessments are of the AM and PM peak periods.
18	Figure 6, states “Peak hour intersection volume change”	It is unclear which peak period (AM or PM is being described).
20	“Construction Traffic Impacts”	The type and size of construction trucks should be shown and explained in this section.
22	Section 8.2, first dot point, mentions “…the general layout of the site lends itself to a one way clockwise circulation”.	There are no detailed plans in the report showing such a layout supporting the statement.
24	Conclusion section, third dot point “Management of staff shift changeovers may spread the peak car parking demands such that a reduced on-site car parking provision may be appropriate.”	This assumption is uncertain and should be further justified.

Traffic modelling assessment

The intersection of Wallgrove Road and Wonderland Dr is predicted to have improved performance with the additional development traffic. This does not seem possible as the project has assumed an increase in traffic and therefore it is unlikely that the intersection performance would be improved by the Project. This is shown in .

The modelled Heavy Vehicle percentage of 6% appears to be low for the industrial, warehouse precinct.

Even though the modelling shows that the "Level of Service" remains the same, (no changes) with the added forecasted development generated volumes in AM and PM peaks "C" and "B". The "Intersection Delay" shows an improvement with the added volumes.

Additionally no intersection layouts or phasing arrangements have been provided to support the results.

Table 3 Intersection modelling results

Period	Intersection Delay		Level of Service	
	Existing	Existing plus Development	Existing	Existing plus Development
AM	29.5	28.8	C	C
PM	24.1	23.8	B	B

RMS development comments

The RMS's and The Director General's Environmental Assessment Requirements for Traffic and Transport have not been fully addressed in the traffic report.

A proposed vehicle movement plan (VMP) is not included in the traffic report. The report should include a vehicle movement plan (VMP), showing the heavy vehicle routes to and from the site, including state highways.

Additionally the heavy vehicle turning path along the route from Wallgrove Rd to the proposed development site has not been addressed.

Traffic Impact Report Appendix A – RMS's correspondence

The following issues raised by Roads and Maritime Services have not been addressed within the report. These are shown in .

Table 4 RMS correspondence

RMS's correspondence	Is the requirement addressed in the report?
Point 2 – "Details of the proposed access and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle width, etc)"	Partly This issue has not been fully covered in the traffic report. Car park layout does not show the parking space dimension, isle width or the pedestrian pathway connectivity.

RMS's correspondence	Is the requirement addressed in the report?
Point 4 - *"Details of service vehicle movements (including vehicle type and likely arrival and departure times)"*	No This issue has not been covered in the traffic report.
Point 5 - *"RMS requires an assessment of the likely toxicity levels of loads transported on arterial and local roads to / from the site and, consequently, the preparation of an incident management strategy for crashes involving such loads, if relevant."*	No This issue has not been covered in the traffic report.

Traffic Impact Report Appendix D – Swept Paths

The following issues with the swept path movements have not been addressed:

- Turning path diagram's showing road locations should be appropriately labelled and named.
- Swept path TX 03 shows 12.5 m rigid truck movements, where all other paths are checked for 26 m B-Doubles and 19 m semi-trailers – No explanation has been given for this disparity.
- The heavy vehicle swept path along the trip route, from Wallgrove Road to the subject site, including the 26 m B-Double should have been examined and turning path diagram shown in the report to show whether the site is suitable to be accessed by B-Doubles.

Environmental Impact Assessment main report – section 9.4,

The following issues that have not been addressed within the report:

- Traffic was not assessed on a cumulative impact aspect, but rather just as a standalone. It only examined the impact of the subject proposed Energy from Waste Facility development and existing approved Genesis Xero Facility (assuming no transfer between the facilities).
- Furthermore, the statement in section 9.5 states *"The proposed will result in an increase of 53 vehicle trips per hour".* This statement should be clarified as "vehicle trips per peak (am/pm) hour"

The Director General's Environmental Assessment Requirements for Traffic and Transport

Aspects of the Director General's Environmental Assessment Requirements for Traffic and Transport have not been adequately addressed. These are shown in .

Table 5 DGR requirements not addressed

The Director General's Environmental Assessment Requirements for Traffic and Transport	Is the requirement addressed in the report?
Details of traffic types and volumes likely to be generated during construction and operation	No The traffic types should be indicated in the report,

The Director General's Environmental Assessment Requirements for Traffic and Transport	Is the requirement addressed in the report?
	type of trucks, semis, B-doubles, truck and dog etc.
An assessment of the predicted impacts of this traffic on the safety and capacity of the surrounding road network and a description of the measures that would be implemented to upgrade and / or maintain this network over time	Partly Safety is not mentioned in the traffic report.
Details of key transport routes, site access, internal roadways infrastructure works and parking	Partly The transport route is mentioned but insufficient information is provided. This should include bus route maps, timetables etc. Nearest railway station, any future approved developed and proposals etc.
Detailed plans of the proposed layout of the internal road network and parking on site in accordance with relevant Australian standards	No There are no detailed plans of the proposed layout showing the car park layout and pedestrian connectivity etc.

The Director General's Environmental Assessment Requirements refers to "Road Design Guide (RTA)" and "Guide to traffic generation development (RTA). However, this is now superseded by the Austroads Guide to Road Design and Roads and Maritime support supplements.

Comments

In general, the traffic impact for the Eastern Creek precinct should be modelled combined with all other approved and proposed developments and not just in isolation the proposed and existing waste development. It seems unrealistic that the proposed would result in an improved performance at the intersection of Wallgrove Road and Wonderland Dr, based on the existing road network.The report does not address how the M4 access points would be addressed and provide a good connectivity into the precinct, including to the Energy Transfer Station proposed site as well as a safer alternative for accessing the site off Wallgrove Rd at Wonderland Dr.

The report does not address how traffic would circulate and through the internal road system to reach the site.

It is recommended that the traffic impact statement should include a master traffic modelling plan for the Eastern Creek precinct, modelling and assessing the cumulative traffic impact with all future proposed developments. This work could also consider the M4 Motorway / Archbold Rd possible interchange ramps and Archbold Rd link also as an option, based on advice from RMS on the possible timing for these works.

Conclusion

The traffic analyses have been assessed on the proposed Energy from Waste Facility development and adjoining Genesis Xero waste facility and not the surrounding existing and proposed development. Cumulative assessment for Eastern Creek precinct has not been assessed.

In GHDs opinion, the Traffic Impact Assessment Report for the Energy from Waste Facility does not appear to satisfy either the Roads and Maritime Services Requirements or the Director General's requirements for Environmental Assessment.