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- **OEH**
- **BLACKTOWN COUNCIL**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	Blacktown Council considers there has been insufficient consultation with the OEH to provide confidence to Blacktown Council and objects to the proposed impacts on an area of high Aboriginal significance.	The OEH has reviewed the application and submitted a separate submission. The OEH did not object to the application and confirms in their submission (dated 21/7/2015)): ▪ The assessments have demonstrated an appropriate level of Aboriginal community consultation, as recommended by OEH, which conform to the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 ▪ The assessment of Aboriginal cultural and archaeological heritage values has been undertaken in accordance with other current OEH guidance material including the Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW 2010. ▪ OEH is satisfied the Test Excavation carried out on EFW South has been adequate to appropriately investigate and document the likely archaeological resource at this location where harm is proposed by this development. ▪ The preservation and conservation of the E2 Conservation area containing AHIMS site 'Archbold Road 1' is supported by OEH without further test excavation to confirm its archaeological values. A response to the items raised by the OEH is provided in the rows below.	N/A
2.	OEH states the proposed harm to high cultural heritage values to the Darug community has not been adequately addressed.	Twelve Aboriginal stakeholders registered for consultation throughout the project, including: ▪ Darug Land Observations (DLO) ▪ Darug Aboriginal Cultural Heritage Assessments (DACHA) ▪ Darug Aboriginal Landcare (DALC) ▪ Darug Tribal Aboriginal Corporation (DTAC) ▪ Darug Custodian Aboriginal Corporation (DCAC) All of these parties were invited to comment on the Aboriginal Cultural Heritage Assessment (ACHA). A consultation log was maintained detailing correspondence with the Aboriginal stakeholder groups. Comments on the ACHA from the two Darug groups are provided in the consultation log in the ACHAR submitted with	Consultation log provided in **Appendix D** of the 'ACHAR'

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		the amended EIS. The Darug Custodian Aboriginal Corporation (DCAC) said that the Darug community has a strong connection with the Eastern Creek area. The surrounding Aboriginal sites in the area are highly significant. DCAC indicated that the draft ACHA is *'inclusive and the assessment is thorough with a good documentation of findings. We support the findings and recommendation within this report.'* Darug Aboriginal Landcare group have no objections to the proposed area of development and agree with the recommendations and methodology. The consultation process followed was adequate to address cultural heritage values.	
3.	OEH requests the proponent clarify whether additional conservation measures are proposed for Archbold Road 2 and what they may entail, to clarify this matter for both the Aboriginal community involved in this project and DPE/OEH.	The Light Horse Business Park Aboriginal Heritage Management Plan (AHMP)(JMcDCHM) discussed management of two conservation areas (not including Archbold Rd 2). In respect to the current proposal and quantum of impact, the development will have partial and indirect impact on the Archbold Road 1 and 2 sites arising from the visual modification of the landscape. There will be no direct impact on either of these sites and the proponent can implement site management practices, including the erection of fencing to prevent access to and damage on these sites through site preparation and construction works. In relation to the anticipated indirect impacts associated with alteration of the landscape, these matters would have been taken into account at the time of rezoning the land for industrial purposes, as a consequence of likely future improvements necessary to implement and achieve industrial development of the land. In this regard the modification in the appearance of the landscape is considered both reasonable and foreseeable	Refer to Cultural Impact Statement, **Appendix S** and the amended EIS, section 22.3.

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- **HANSON**
- **AUSTRALAND (VIA GHD)**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
	NB: *As part of responding to the issues raised by Blacktown City Council (BCC), a meeting was held between AT&L, TNG and BCC on the 26th of August 2015 to discuss BCC concerns and comments on the proposed development. At the conclusion of this meeting it was agreed that AT&L would provide BCC relevant engineering documentation in response to BCC's comments. AT&L provided a revised civil infrastructure report, DRAINs and MUSIC model for BCC for review on the 4th of September 2015 in response to this meeting.* *In response to this submission of information, BCC provided a summary of responses on 29th September 2015. This is provided as an attachment to AT&L's letter at* **Error! Reference source not found.***. This Memo confirms BCC has reviewed the stormwater drainage information, however still have issues with a number of items. As part of this correspondence, BCC confirmed if the proposed bio-retention basin was to be dedicated to BCC, a Works in Kind (WIK) agreement would be required. The basin is proposed to be retained in private ownership.*		
1.	The stormwater drainage concept does not comply with the Eastern Creek Precinct Plan for Stage 3	The exhibited civil drawings and design report highlight all stormwater has been designed to meet the requirements of the SEPP 59 Eastern Creek Precinct 3 Development Control Plans. There is no reference to the Upper Parramatta River Catchment Trust (UPRCT) within the Civil Infrastructure Report.	
2.	Overland flow from the catchment above the site needs to be managed through the site	As agreed with BCC, a catchment plan was provided to BCC in September 2015 indicating all overland flow within the site is managed within the site. A separate plan has been provided for the overall catchment (including all upstream catchments) indicating all overland flows are compensated for.	Catchment Plan appended to the Civil Response, **Appendix A.**
3.	Flow from the proposed precinct road and residue land is to be directed to the precinct basin, not to the proposed basin on Hanson's property adjoining the site	The overall catchment plan provided to BCC indicates the proposed precinct road north of the development and residue land all drains into the proposed EFW bio-retention basin and not onto adjoining land.	Catchment Plan appended to the Civil Response, **Appendix A.**
4.	The precinct basin is required to provide suitable public access for	The detention basin will no longer be the subject of a WIK agreement and is to be retained in private ownership. Public access to private asset is generally not required. However, to ensure access will be provided to the basin and berm at the top of the basin can be utilised for maintenance purposes. This will be incorporated into the design prior to the	N/A

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
	maintenance	Construction Certificate application.	
5.	A flood impact study is to be undertaken, as the information provided is not current. The impact study is to model the 2 year and 100 year ARI, and the Probable Maximum Flood.	An additional flood modelling report is proposed to be undertaken by Brown Consulting to include current land forms and include the PMF extents as confirmed by BCC. This additional modelling will be undertaken prior to Construction Certificate application as part of the Works in Kind agreement with BCC.	N/A
6.	Previous drainage advice provided by Council has not been followed Council provided advice on this application on 24 October 2014 as follows: • The first issue is that there is no reference to the stormwater management controls in Council's adopted precinct plan for this area (SEPP59 Eastern Creek Precinct 3). This appears to be the result of incorrect advice provided to the proponent's consultant by Council's DSU engineer. See section 3.2 of Appendix E. The	The exhibited Civil Stormwater Management Report references the SEPP59 Eastern Creek Precinct 3 plan.	

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
	OSD controls in Council Engineering guide requiring compliance with the UPRCT policy do not apply for development in this precinct as the controls in the adopted precinct plan are to be complied with. • The second issue is the flood information used for assessing flooding impacts. The information used is likely to be out of date as there were creek restoration orders issued to restore the creek and therefore the modelling relied on may not be current. It is also not clear whether permission was obtained from Brown or Council as the information used was provided in the context of legal proceedings and general information for review of draft S94 contributions plans for this area. The flood assessment should also	An additional flood modelling report is proposed to be undertaken by Brown Consulting to include current land forms and include the PMF extents. This will be undertaken prior to Construction Certificate application, as agreed with BCC.	

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
	include modelling of the PMF as the proposed project can be classed as critical and sensitive infrastructure in relation to flooding impacts. • This advice is still current as the Civil Infrastructure Report, prepared by AT&L refers to managing the on-site detention using the Upper Parramatta River Catchment Trust (UPRCT) parameters. As stated in the previous advice this is incorrect and then detention basin is to be designed to meet the Precinct Plan (SEPP59 Eastern Creek Precinct 3, 2005) requirements	The exhibited Civil Infrastructure Report includes design parameters to SEPP59 requirements. There is no reference to the Upper Parramatta River Catchment Trust (UPRCT) within the Civil Infrastructure Report.	
7.	A brief summary of the Precinct Plan requirements require the stormwater detention system to: • Match peak developed flow rates to existing to manage storms from the 2 year to 100 year	• Peak post developed flows for these entire storm events are less than peak pre development rates and hence meet and exceed this condition. A DRAINS file has been provided to Blacktown City Council for verification. • The DRAINs model issued to Blacktown City Council indicates the basin weir only overtops in the 100 yr storm event and only a depth of approx. 80mm overtops the weir. The berm of the basin is below the 100	

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
	events • The frequency of bank full flows would not increase and waterway stability shall conform to Council's current water quality control policy (see BCC DCP 2006 Part R) • Investigate the impact of the PMF on the stability of the detention basin • Stormwater runoff quality management is to be undertaking on-site.	year water level and therefore complies with BCC's SEPP 59 Plan and the BCC DCP 2006 Part R guideline. • Brown Consulting will be engaged to undertake this as part of the revised flood modelling prior to Construction Certificate Application, as agreed with BCC Council. • Stormwater runoff quality management is proposed through the inclusion of a bio-retention basin. A MUSIC file has been provided to Blacktown City Council to verify this.	
8.	Managing the stormwater runoff using the UPRCTY parameters will not meet all the Precinct Plan requirements for detention and waterway stability. This has not been demonstrated by the Report and drawings, as insufficient detail has been provided.	The exhibited Civil Infrastructure Report states all design is as per the SEPP59 Plan. Low and high flow orifice control pits will be incorporated into the basin to detain all storm events from the 2yr to 100yr events. This meets the requirements of the SEPP59 Precinct Plan.	
9.	Under the Precinct Plan and the draft Section 94 Contributions Plan (CP18)	The detention basin and outlet flow rates have been designed to comply with the SEPP59 Eastern Creek Precinct Plan. The required basin capacity and PSD within the CP18 plan will be adopted in the civil design of the OSD basin	

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	for the area, it is planned to provide a precinct stormwater control basin at this location (Basin RC1.1) to manage the peak flows off the catchment and to treat the flows of the roads only. This basin has a capacity of 14,500m3 and a PSD of 1.10 m3/s in the 100 year ARI and 0.32m3/s in the 2 year ARI	prior to Construction Certificate application. It should be noted it was initially proposed to dedicate the basin to Council once constructed. Confirmation was received from Georg Erbel from BCC on 30th of September 2015 with the following advice: *"For a public precinct basin would then need a Works in Kind agreement and Council would review the basin design as the Construction Certificate drawings would be part of the WIK agreement. Would encourage early discussion with Council on the basin design criteria"* However, following exhibition and the agreement of the above, Council has introduced a new contributions plan that alters the previously agreed design requirements. Owning to this change that has occurred after extensive design and layout of the site it has been resolved to retain the basin in private ownership.	
10.	It should be noted that from the recent LEC decision and major project approvals on the adjacent sites (Lighthorse Park and Hansen) have required the proponent provide their own stormwater management. These outcomes need to be considered in design of the project stormwater management system	An on-site bio-retention basin is proposed to detain and treat all stormwater generated from the site. This will be in line with the Precinct Plan.	
11.	The EFW plant stormwater management system will need to comply with the precinct plan stormwater management controls. The layout of the proposal will need	All runoff from the proposed road to the north of the EFW plant drains into the proposed basin. A separate access road will be constructed to the basin to ensure maintenance vehicles can access.	

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	to make provision for the precinct basin. The runoff from the proposed precinct road and residue land will need to be directed to a precinct basin, with suitable public access, so that it can be maintained		
12.	As stated in our previous advice, flood information is now out of date. There has been works undertaken to relocate the creek channel onto its original alignment and this needs to be taken into account in the flood impact. The flood impact needs to be assessed for the 100 year and 2 year ARI and PMF storm events. This information is required to inform the design of the outlet from the basin.	Brown Consulting will be engaged to undertake this additional modelling prior to Construction Certificate Application.	
13.	The design of the stormwater management system is to be designed in accordance with the Precinct Plan and to Council's requirements	The stormwater management system will be designed to comply with the Precinct Plan and Section 94 contributions plan (CP18). All details will be updated prior to Construction Certificate application.	

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
14.	The on-site detention details are incomplete The report notes the use of UPRCT V3 parameters in Section 3.2 however the report use the UPRCT V4 parameters.	The detention basin has been designed in accordance with the SEPP59 Eastern Creek Precinct Plan and not the UPRCT as required by BCC.	N/A
15.	The drawings refer to a bioretention basin only. It is assumed that the basin also provides detention for the development.	Yes this is correct	N/A. This is stated within the amended EIS.
16.	Details are required on the basin showing plan, sections, outlet structures and creek flood levels.	All basin details have been shown the exhibited civil drawings. These plans include sections and details for the outlet structure for both low and high outflows will be provided prior to Construction Certificate application. This will also include all revised flood levels based on the flood modelling which will be undertaken.	Refer to **Appendix E**
17.	For a precinct basin the design ponding depth is 1.2m	Currently the maximum depth of ponding allowable is 1.7m before the water overtops the weir. To ensure a maximum depth of 1.2m is maintained the basin will need to extend it length whilst still providing the same amount of storage volume. This will be confirmed prior to Construction Certificate application.	
18.	Hydrological and hydraulic models are to be submitted for review	A full DRAINs file has been provided to Blacktown City Council.	Provided direct to council.
19.	Draining of the Precinct Road to the proposed Hansen basin is not suitable and needs to be drained to a	The drainage has been amended to ensure the Precinct Road to the north of the EFW site drains to a precinct basin and not into the Hanson basin. The exhibited civil drawings indicate this.	Refer to **Appendix E.**

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
	precinct basin		
20.	The water quality details are incomplete Water quality treatment is to meet the precinct plan requirements	This has been discussed in the exhibited civil report – water quality treatment is to comply with the SEPP59 Precinct Plan.	Refer to **Appendix E.**
21.	The treatment of the stormwater runoff from the site needs to be separate from the treatment of the runoff from the public roads. Currently the design is mixing the flows	All stormwater runoff is proposed to be treated in the precinct bio-retention basin. This includes the entire catchment area as indicated in our Site Catchment plan SKC35 plan issued to BCC on 04/09/2015.	Refer to **Appendix E**
22.	A water quality model is to be submitted for review	A MUSIC file has been provided to Blacktown City Council.	Issued direct to Council.
23.	The overland flow details are incomplete The report states that overland flows through the site have been designed to safely convey the flows. However, there is not enough information provided to assess the adequacy of	A DRAINs file has been provided to Blacktown City Council which models all overland flows from verification.	Issued direct to Council.

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	this statement		
24.	As part of the Lighthorse approval a portion of the finished quarry landform has been nominated to drain to the precinct basin on this site. This needs to be taken into account in the design of the overland flow through the site to the precinct basin	AT&L have produced a revised overall stormwater management plan which indicates the finished quarry catchment areas. The design of all overland flow paths will comply with the Lighthorse approval. This will be confirmed prior to Construction Certificate application.	
25.	In addition an overland flow from the precinct road needs to be directed around the site, to the precinct basin	This overland flow path has been indicated in the civil drawings issued to BCC. This drawing has been appended to AT&L's civil response.	Catchment Plan appended to the Civil Response, Refer to response to submissions package, **Appendix HHH 6.**
26.	The public roads are to be consistent with the Precinct Plan Access to the facility is via Honeycombe Drive. The road will need to be extended as part of the proposal to provide direct access to the facility. We raise no objection to the proposal subject to the public roads being consistent with the road	The road will be designed to meet these relevant standards.	N/A

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	pattern approved as part of the Eastern Creek Precinct Plan Stage 3. All road constructions are to occur In accordance with RMS Road Design Standards and Council's Engineering Guide for Development 2005.		
27.	An appropriate easement for the road underpass tunnel and conveyor belt between the subject site and the neighbouring Genesis MPC will also need to be created prior to any dedication of the road to Council.	This easement will be created.	N/A
28.	No retaining works are to be provided on the property boundaries The applicant has advised that, as part of the EFW facility, no retaining work is required on the property boundaries. However, further cut and fill plans, together with all retaining wall details, should be obtained to confirm this is the case.	Civil Drawings issued to Blacktown City Council indicate there are no retaining walls required on the property boundaries. The bulk earthworks plan confirms this.	N/A

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29.	In the event that any retaining walls or works are located on the boundary, an appropriate easement for maintenance or support must be provided on the adjoining lots.	This point is noted and will be adopted if retaining walls are required.	N/A
30.	Any retaining wall over 3 metres is to be of masonry construction and is required to be stepped with a 1.5m wide terrace (as per the Precinct Plan), to reduce the bulk and scale of these walls. All details are to be provided for approval.	This is noted and will be incorporated into the detailed design of the retaining walls.	N/A
31.	The use of proposed Lots 1 and 3 following completion of the bulk earthworks must be subject to a separate DA The EFW facility will be located on proposed Lot 2 only. This allotment will require significant bulk earthworks in readiness for the building. The material cut from the site will therefore be placed on the	It is noted the proposed plan of subdivision has been amended. Noted. Lots 1 and 3 will be used for cut storage, however the overall site requires a large volume of imported fill so this cut material will be used for cut to fill.	Updated draft Plan of Subdivision, **Appendix F**.

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	adjoining lots (proposed Lot 1 and 3) to avoid any significant change in levels and to effectively drain the site		
32.	During construction of the EFW facility, proposed Lots 1 and 3 will be used for the storage of building materials and heavy machinery. Once the development has been completed, the allotments will be left vacant. It is recommended that the use of these lots be subject to a separate DA, as no end user of these lots has been nominated in this proposal	Noted. The stormwater drainage network and bio-retention basin for OSD and water treatment has been sized assuming these lots have been fully developed. Use of vacant lots following completion of construction will be subject to a separate DA.	Refer to Civil Infrastructure Report **Appendix E.**
33.	The EIS provides no information on how the Genesis Xero Waste Facility will access the Precinct Road once the Precinct Road is connected to Honeycomb Drive over the existing DADI driveway. It is recommended that a round-a-bout intersection be constructed at the Hanson Estate Road to allow vehicles to access both	Hanson and TNG are currently in negotiations on the layout, location and extent of the proposed entrance road. This includes discussions on the proposed intersection. DADI held a preliminary discussion with BCC officers about the possibility of a new entrance being constructed for Genesis onto Kangaroo avenue. It is unlikely that Council would agree to this. In the alternative It is proposed to create a slip road allowing vehicles to move to and from the newly constructed precinct road to DADI drive. Discussions with Hanson have not recently progressed and DADI have kept Council and the Department informed.	N/A

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	the Genesis Xero Waste Facility and the Hanson lands and also control the flow of heavy vehicle traffic (336 movements per day) generated by the proposed Eastern Creek Energy from Waste Facility		
34.	Construction of Honeycomb Drive was completed in 2012. To date the section of the Precinct Road across Lot 8 DP1200048 referred to above has not been constructed by the applicant. This matter should be readdressed by the Department as a priority taking into consideration the benefits of a round-a-bout intersection at this location.	Hanson and DADI are currently in negotiations on the layout, location and extent of the proposed entrance road. The proposed position of the precinct Road has been discussed at intervals by Hanson and DADI representatives since 2008. The Parties had previously agreed that an alignment of the public road too close to the quarry edge was unacceptable to Council. Alignment of the road to a further position south would disrupt the Fulton Hogan Facility and leave orphan Hanson land north of the road. The Parties have held recent intensive discussions about the preferred position of the Road and Hanson has indicated its general agreement with the proposal. A draft Heads of Agreement has been submitted to Hanson (4th August 2015) and all stakeholders have been informed. A copy of this agreement was sent to and Australand on the same date, and copy was given to Blacktown Council and emailed to the Department of Planning mid-September 2015. Hanson has indicated it believes an amendment by the NSW Department of Planning to its approval for the road may be necessary.	N/A
35.	The EIS contains no information on the purpose and use of the laydown pads. The applicant proposed to	During construction stages of the proposed development these pads will be used for storage of construction materials. Once construction is completed these lots will not be used for storage purposes and remain vacant awaiting future	Refer to section 3 of the amended EIS.

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	construct laydown pad No. 3 immediately west of the Hanson land. No information has been provided on what materials will be placed and stored on these pads and whether the materials will be hazardous to people or the environment	development. During construction building materials comprising modular or pre-fabrication steelwork sections will be stored including general storage of bulk building materials and supplies. These areas may also be utilised for Contractors amenities and site sheds. The laydown pads will be planted with native cooch after construction. The laydown areas will be planted with native cooch grass once construction is complete (confirmed by Site Image the Landscape Architects). No DA has been prepared or approved for the use of these areas after construction.	
36	The MUSIC modelling carried out by AT&L does not take into account the unsealed laydown pad areas. Therefore the pollutant loadings generated from the laydown pads areas (7.7Ha) are likely to have significant greater detrimental impacts to receiving waters taking into consideration that the re-use of bio-retention basin water has been ruled out based on modelling carried out using run-off from hardstand areas	The laydown areas will be planted with native cooch grass once construction is complete (confirmed by Site Image the Landscape Architects). As a basis for modelling the bio-retention basin, these surfaces are assuming to be a hard standing area in the future which is a conservative design approach. If these laydown areas remain unsealed after construction catch drains and sediment basins will be constructed to ensure polluted runoff is conveyed and captured prior to release into the main stormwater network to drain into the precinct basin. This will be confirmed during detailed design as part of the CC application.	N/A

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37.	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 of Figure 16 it is difficult to determine the distance from the creek and if the works fall within the 100 year flood area. Appendix A 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	The basin located to the north of the tributary has been designed to capture overland flow and therefore prevent excess run off from being diverted to the creek contributing to flood impacts. A further flood modelling report will be undertaking by Brown Consulting prior to the application for a construction certificate.	

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	tributary and the fact that the Australand site is upstream of the Project		
38.	The layout of the proposed car parking areas associated with the subject development (including driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1-2004, AS2890.6-2009 and AS2890.2-2002 for heavy vehicles usage	We can confirm the relevant Australian Standards have been used for all road, access and car parking areas within the development.	Refer to the amended Traffic Report at **Appendix Q.**

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CONSTRUCTION

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- **EPA / ENRISK / ARUP**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	Little description of how the facility will be constructed. E.g. no schedule for construction, quantities of materials, construction workforce and vehicle movements	The Brookfield Multiplex Construction Management Plan outlines this information in relation to scope (volume and quantum) in sections 1.2.5, 1.3, 3.2. A more detailed CMP would normally be developed for the construction certificate. Requirements as per the DGR's have been satisfied. Adequate information has been provided in the CMP for Australand to assess the impact of the construction phase on their business. Construction workforce numbers are estimated to be 500 constructions related jobs during the construction phase. 25 labour demand categories are listed in this document. The Traffix traffic report details construction vehicle movements. A general maximum of up to 56 trucks per day is anticipated during construction and an average of approximately 37 trucks per day across the total construction period of 3 years. An absolute maximum of up to 77 trucks per day could occur at the end of Civil and Structural Works (month 9) due to the overlap between phases; however any delay to Plant Installation Works would negate this isolated peak. The Pacific Environmental report outlines construction noise. The report concluded the most significant vibration generating activities would comply with the most stringent criteria at the closest receivers. As design is only at concept stage, with no project contracts yet in place, construction materials schedules and quantities are of a commercially sensitive nature. Further details are not able to be released at this stage.	**Appendix BB** of amended EIS, 'Construction Environmental Management Plan' amended EIS **Appendix Q** of the amended EIS, 'Traffic Report' Refer to Noise (which includes Vibration) report at **Appendix O**)
2.	Inconsistencies in stated construction period in EIS - Section 14.4.1 (Construction Noise) states construction period of 36 months. Section 3.16 (Water Demand) states that construction	The EIS has been amended to align with the key technical reports and it confirmed construction program will last for an approximate 36 months.	Refer to section 3.4 of the amended EIS.

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	will take place over 43 months.		
3.	Power supply and connection - The EIS omits any proper description, map or assessment of these proposed works. Request for additional information regarding the description, location and assessment of proposed works relating to power connection.	DADI has had discussions with Transgrid for the 132kV Scope of Works based on the design and construction of the cable connection according to the route as follows: The proposed underground cable connection route will be within TransGrid's existing easement for 330kV transmission Line 20, heading in the north-west direction from the Sydney West Substation to the Customer's facility (refer Figure 1 below which has been prepared for the purpose of this response).	

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CONSTRUCTION

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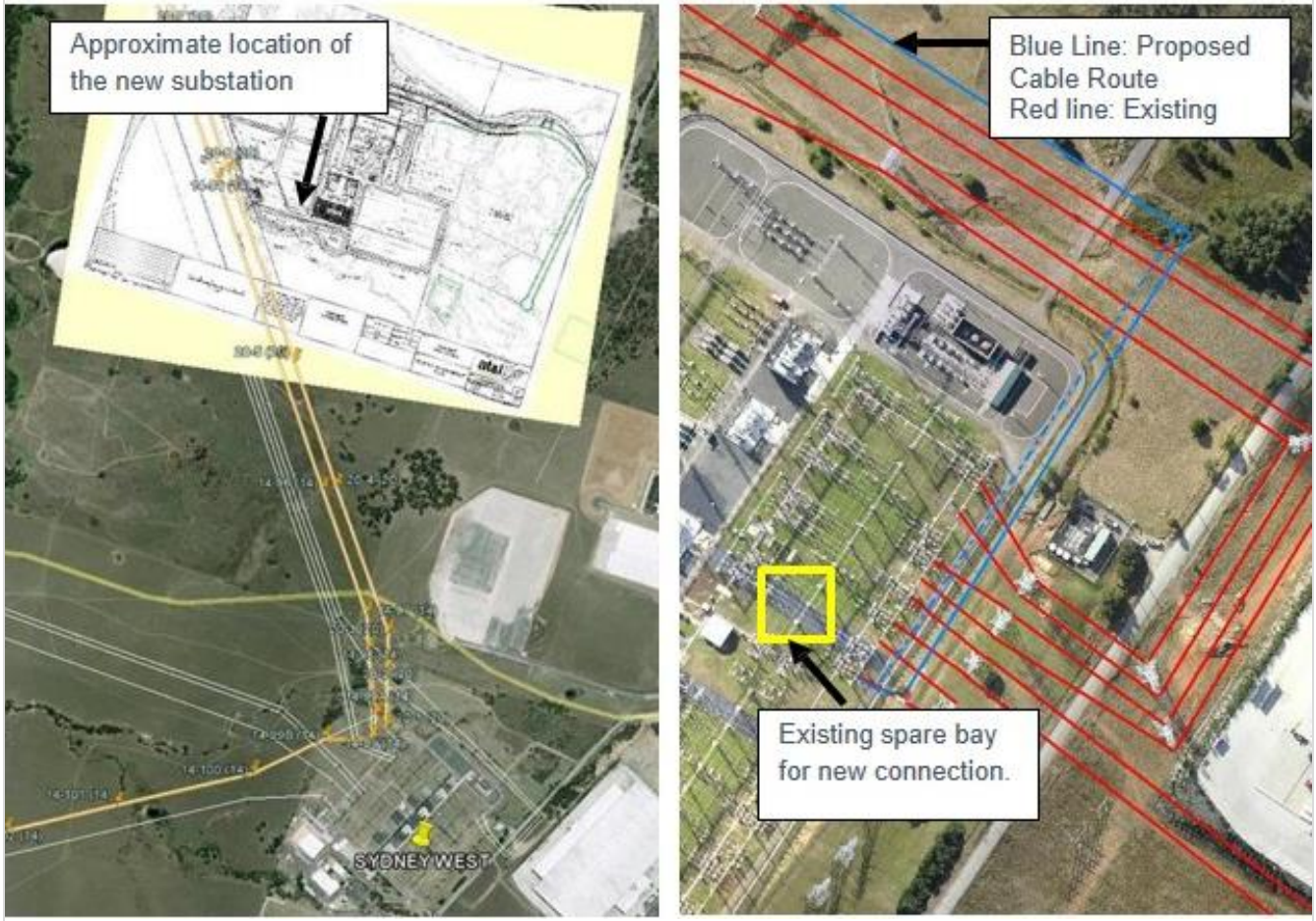
- **EPA / ENRISK / ARUP**

Figure 1 - 132kV Route Overview and Cable Entry to Sydney West Substation



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		This will be reviewed by Transgrid as the project develops a separate assessment and approval for works will be subject to a Review of Environmental Factors (REF). At this stage in the project and following consultation with Transgrid there have been no significant issues identified that would jeopardise the commencement of the project. Transgrid have confirmed the use of the existing easement adjacent to the TNG site for the underground cable is possible. This option would require the use of a segment of the easement approximately 1.3km along the current easement and approximately 670m in the buffer land surrounding Sydney West substation. A 20m length of easement for Transmission Line 20 adjacent to the buffer zone surrounding Sydney West substation is currently not in TransGrid's name as highlighted in Figure 2 below. As part of this project a 20m length of new 6m wide easement is required within this section. **Figure 2 - 132kV Cable Route within existing buffer land of Sydney West Substation**	

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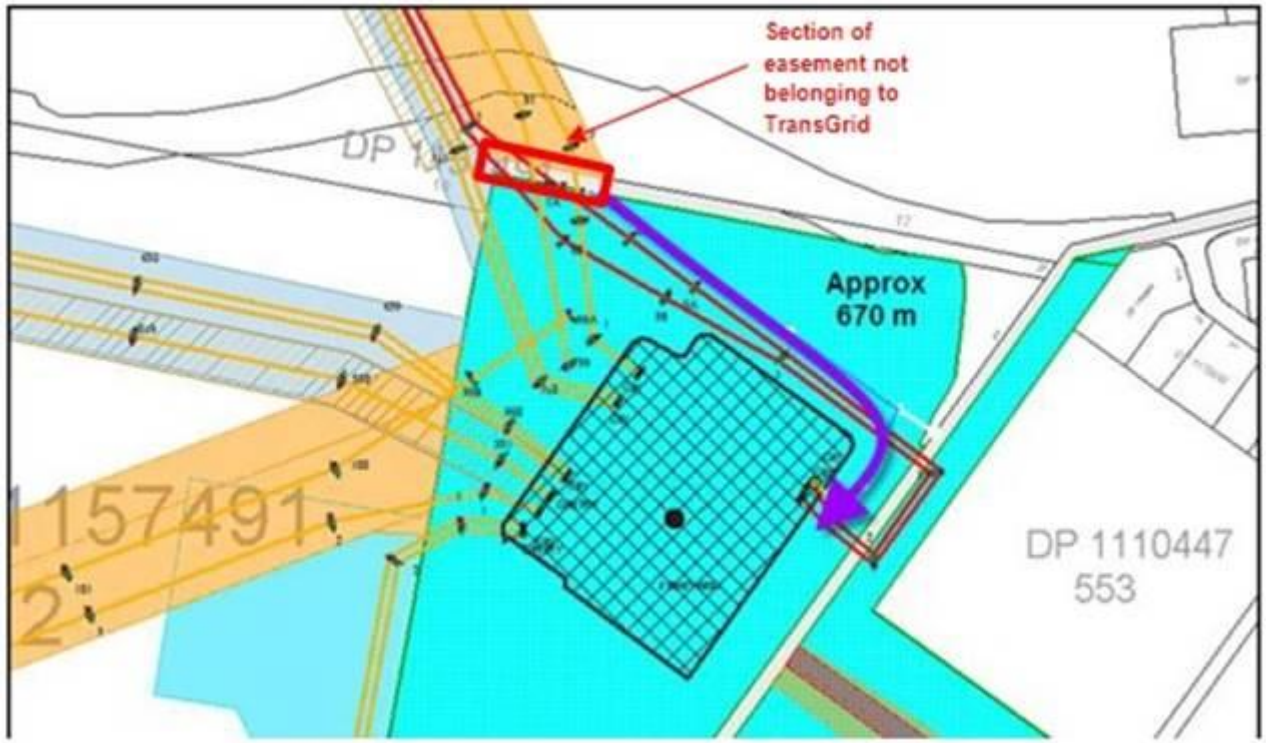

Access will be facilitated by existing easements and access tracks. Should additional access requirements be necessary for construction of the cable, this would be negotiated as required.

No agreements are yet in place for Transgrid for the design and construction of this scope of work.

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4.	Construction Mgmt. section provides estimation of truck movements. There is no assessment on the impacts that these increased movements will have on the surrounding road network. Although the management measures construction traffic will be detailed in the CTMP, management measures and commitments could be outlined in the EIS	Construction traffic movements are detailed in the Traffix traffic report along with details of peak construction traffic. As these impacts are anticipated to be less than operational traffic impacts (i.e. less vehicle movements) it can be extrapolated that the operation of key intersection will be the same if not better. In this instance the operational traffic impacts maintain intersection operation at a Level of Service B. There are no anticipated traffic impacts as a result of construction or operation. Notwithstanding the above, it is standard practice for a construction traffic management plant to be developed post approval and prior to CC. We note that this has been requested by RMS. Accordingly, Brookfield Multiplex as the appointed construction manager will preparing a more detailed construction traffic management plan prior to the issue of a CC. This plan will interface with the current Genesis Waste facility as DADI drive will be utilised during construction.	**Appendix Q** of the amended EIS, 'Traffic Report'

CONSULTATION

ISSUE RAISED BY:

- **BOOMERANG ALLIANCE**
- **HANSON**
- **EPA**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	Consultation more of a sales pitch avoiding factual information. E.g. FAQ on DADI's website answers the question 'will there be extra traffic with "Probably not as all of the fuel waste is already delivered to the adjacent Genesis Facility via Wonderland Drive and away from residential areas" when traffic report states as many as 336 additional truck movements per day are anticipated.	The consultation undertaken to date has been designed to inform and build awareness of the proposed Energy from Waste Facility, as well as identify key issues and opportunities and establish a framework for ongoing dialogue. This has included a program of engagement with the relevant Government agencies to facilitate input and feedback into the various technical studies. To date this project was supported by a dedicated program of communication including information on the TNG NSW's website, including a video, correspondence with government agencies, project fact sheets and briefings with key stakeholders. A dedicated 1800 information line was also established to allow the community to speak directly with members of the project team. The information provided in early community consultation (prior to lodgement of the application) was the information available at that point in time. This information was comprehensive regarding all aspects of energy from waste facilities. The dedicated project website provides all updated information which was also publicly exhibited by the Department of Planning online and at various locations in Sydney. The consultation that took place satisfies the relevant DGR. Additionally, an Ongoing Consultation Strategy has been prepared, and has been provided as an appendix to this document.	Ongoing Community Consultation Strategy, **Appendix II**.
2.	Meeting between proponents and Boomerang Alliance's Convenor Jeff Angel was more of an initial briefing rather than the standards of consultation they experience with	The proponent sent several emails to Jeff Angel inviting him to visit the site for further conversations. No response was received.	N/A

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	most of the industry.		
3.	No acknowledgements that Waste to Energy plants have had any pollution issues, nor any description of risk scenarios and how they would manage them.	The amended EIS details potential risk scenarios and how these would be mitigated or managed. In particular Appendix Y 'Preliminary Hazard and Fire Risk Assessment' identifies potential hazards and risks including diesel bund, waste bunker, silo, and transformer bund fires, and diesel tank leaks and spills. A hazard analysis, consequence analysis, frequency analysis, and risk assessment and reduction study was conducted. The consequence analysis showed that none of the scenarios would impact over the site boundary. In addition to the preliminary hazard analysis (PHA) a fire risk assessment (FRA) was conducted to ensure adequate fire services would be available to combat the identified scenarios. Reference to other plants which have had pollution issues are not relevant in this case given the difference in technology proposed. Pollution and risk relevant to the proposed plant and technology are addressed.	**Appendix Y** of the amended EIS 'Preliminary Hazard Analysis and Fire Risk Assessment.
4.	Proponent has not disclosed its own regulatory record.	TNG has no regulatory record. The regulatory record of DADI is not relevant as it will not be operating the EfW Facility. DADI's future involvement will be limited to supplying residual waste fuel. Should DADI's record be considered relevant, it can be accessed from the EPA website.	N/A
5.	Although Hanson is acknowledged as a stakeholder in the Community Consultation Report (CCR), there was no contact or consultation received prior to the exhibition period. The CCR makes unverifiable statements about letter box drops	*DADI has an existing relationship with Mr Phil Schacht [CEO of Hanson]. Ian Malouf briefed Mr Schacht on the project in November 2013 and it was communicated that Hanson was supportive of the project.* In relation to the letterbox drops, please refer to map in Community Consultation Report indicating the area for letter box drops and project flyer distribution.	Refer to **Appendix W** 'Community Communication and Consultation Report'.

CONSULTATION **ISSUE RAISED BY:** • **BOOMERANG ALLIANCE** • **HANSON** • **EPA**			
	and door knocks. The applicant is aware of who the key contact people are within Hanson and should have made an attempt to discuss the proposal well in advance of the exhibition period.		
6.	Hanson has noted that no consultation occurred relating to the proposed realignment of the road across Hanson land.	The proposed position of the precinct Road has been discussed at intervals by Hanson and DADI representatives since 2008. The Parties previously agreed an alignment of the public road too close to the quarry edge was unacceptable to Council. Alignment of the road to a further position south would disrupt the Fulton Hogan Facility and leave orphan Hanson land north of the road. The Parties have held recent intensive discussions about the preferred position of the Road and Hanson has indicated its general agreement with the proposal. The proposed position of the precinct Road has been discussed at intervals by Hanson and DADI representatives since 2008. The Parties had previously agreed that an alignment of the public road too close to the quarry edge was unacceptable to Council. Alignment of the road to a further position south would disrupt the Fulton Hogan Facility and leave orphan Hanson land north of the road. The Parties have held recent intensive discussions about the preferred position of the Road and Hanson has indicated its general agreement with the proposal. A draft Heads of Agreement has been submitted to Hanson on the 4th August 2015 and all stakeholders have been informed. Hanson has indicated that it believes that an amendment by the NSW Department of Planning to its approval for the	

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- **EPA**

		road may be necessary	
7.	NTN believes the community is at a distinct disadvantage in its capacity to adequately assess such a complex and technical proposal in order to arrive at a considered position to provide a social license for this proposal.	The proposal is inherently technical and complex in nature. The documentation exhibited has been prepared in accordance with the relevant guidelines and satisfies the DGRs. The amended EIS and it's technical; appendices are therefore technical to the degree required for a thorough and detailed assessment by the relevant authorities. An amended EIS has been prepared that has sought to provide clear and accessible discussion of the project, the potential impacts and the mitigation and management measures either inherent to the technology and operation of the facility or measures proposed to be implemented at particular phases of the development life to ensure appropriate environmental benchmarks are achieve. Due to the highly technical nature of the proposal, a certain level of detail and technical discussion is required, particularly in relation to the technology. The amended EIS provides a holistic overview of the project to facilitate a 'bottom-line' understanding the likely impacts of the proposal and how they relate to the community.	Refer to amended EIS.
8.	The Proponent should submit for approval an ongoing community engagement programme through the design, construction and commissioning stage. Information used to inform this engagement program should be consistent with the actual 'basis of design' of the facility.	It is the proponent's intention to maintain the existing project website throughout construction and commissioning stages. The website contains a phone number which the public can use to contact an individual qualified to answer any questions. Additionally, an Ongoing Consultation Strategy has been prepared, and is appended to this document.	Ongoing Community Consultation Strategy, **Appendix II**.

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CONTAMINATION

ISSUE RAISED BY:

- **BLACKTOWN COUNCIL AND JACOBS**
- **EPA (ENRISK AND ARUP)**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	The sampling densities imposed for the Phase 2 sampling and analytical event are not considered to be in accordance with the NSW EPA Sampling Design Guidelines (1995). The relatively shallow depth of assessment (0.5 meters below ground surface) does not allow for an opinion on the potential depth of contamination. Based on the relatively low sampling density compared to the size of the site, and the limits for access across many areas of the site, there remains the potential for unexpected occurrences of contamination to be encountered during the construction phase.	Based on the site history, results of the investigation and ADE's professional judgement, the above investigation and sampling design was deemed appropriate. During the contamination investigation, ADE assessed any potential existing contamination within the site, including the assessment of potential impacts to the site from adjacent land uses such as the asphalt plant. The investigation concluded there was no contamination identified and the site is suitable for the proposed land use. The sampling density of 50% of the NSW EPA Sampling Design Guidelines (1995) was considered appropriate considering the site's history and low likelihood of contamination within the site. If any indicators of contamination were identified during the investigation the sampling density would have been increased to 100%. Evidently this was not the case. The depth of sampling was selected based on the opinion of ADE that contamination deeper than 0.5 m bgl was deemed unlikely and therefore sampling beneath this depth was not warranted. This was evident from the acceptable results from the samples collected from the top 0.5 m bgl of the soil profile, the most likely depth of contamination.	**Appendix V** of the amended EIS.
2.	Vegetation appears to have prohibited access and for inspection and assessment at many areas on site.	During the investigation, some areas were inaccessible including areas of dense vegetation which prohibited access to some areas of the site. The likelihood of contamination within these areas are considered low and as result further investigations were not warranted, however, to ensure any potential contamination on site is identified and handled appropriately during development, an 'unexpected fines protocol' is to be prepared prior to development of the site and	**Appendix V** of the amended EIS.

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CONTAMINATION

ISSUE RAISED BY:

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- **EPA (ENRISK AND ARUP)**

		included within the site's Environmental Management Plan.	
3.	Ecological investigation levels have not been applied to soil samples for all of the soils assessed.	It was noted within the comments from Blacktown council and Jacobs those Ecological screening levels were not applied to all samples accessed. Further review of the results revealed no exceedances of ecological screening levels within any of the soil samples collected during the investigation.	
4.	Site contamination investigations have not been undertaken in accordance with the EPA guidelines.	The investigation concluded there was no contamination identified and the site is suitable for the proposed land use. The depth of sampling was selected based on the opinion of ADE that contamination deeper than 0.5 m bgl (below ground level) was highly unlikely and therefore sampling beneath this depth was deemed not warranted. In regards to sampling within stockpiles, the samples were collected to determine potential contamination within the stockpile for preliminary waste classification purposes only. Further sampling and testing will be required prior to a full waste classification being prepared and disposal of materials off site.	**Appendix V** of the amended EIS.
5.	Samples were field screened for BTEX using PID reader during the Phase 2 investigation, however, no PID reading methods and results are provided	During the field works, a PID reader was used to screen the samples collected for BTEX contamination. The samples were screened to determine if BTEX contamination could be identified within the field warranting further investigation (collection of additional samples). During the field works, the PID reader did not detect any presence of BTEX within any of the samples collected. This information was not intentionally omitted from the report and should have been included. The site investigation did not identify any contamination with the potential of contaminating groundwater and therefore groundwater monitoring was not undertaken or recommended.	N/A
6.	Site contamination investigations have only been undertaken over proposed Lots 1 to 4. A subdivision approval over the remainder of the site should therefore not be given until site contamination investigations are undertaken over proposed Lots 5 to 10 and over the area of the new	Given the proposed changes to the subdivision plan required by Blacktown Council, it has been confirmed by Judy Portelli of Blacktown Council via email (9th September 2015) that the now 'residual' lots (those which are not proposed for development in this application) do not require a contamination assessment as part of this DA. Since this time, further revision has been undertaken and subdivision is now limited to facilitating the TNG and future substation sites only.	**Appendix V** of the amended EIS.

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CONTAMINATION **ISSUE RAISED BY:** • **BLACKTOWN COUNCIL AND JACOBS** • **EPA (ENRISK AND ARUP)**			
	roads. Where relevant, a Section 88B restriction should be imposed informing any purchaser that site contamination validation is yet to be undertaken over the lots.		
7.	No groundwater investigation carried out during Phase 2 investigation	During the environmental investigations undertaken within the site, no potential groundwater contaminating materials were identified; therefore no groundwater investigations were undertaken.	N/A

FLORA AND FAUNA

ISSUE RAISED BY:

- **OEH**
- **BLACKTOWN COUNCIL**
- **JACFINS (VIA ALLENS)**
- **DPI**
- **DIRD**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	OEH's previous comments raised the issue that the proposal did not adequately 'describe how the principles of "avoid, mitigate, offset" have been used to minimise the impacts of the proposal on biodiversity', as required by the Director General's requirements. More information has been provided in section 8.1 of the Flora and Fauna Assessment Report in relation to mitigate and offset impacts. However, the report states that clearing areas of biodiversity 'has not been avoided'. This is not adequate. The report should include a discussion of how the design of the proposal has considered alternatives that would have a lesser impact were not feasible.	The following provides a summary of the considerations related to biodiversity avoidance in this project. The attached Flora and Fauna response provides a detailed breakdown and expands on each of these points. The principle of "avoid" is considered with reference to two areas of biodiversity, namely 1. Cumberland Plain Woodland (CPW) in the north-east corner of the proposal area and 2. River Flat Eucalypt Forest (RFEF) in the south-east corner of the proposal area. **1. Cumberland Plain Woodland (CPW)** Two different components of the proposal overlap the CPW. The proposed Estate Road overlaps the northern portion of the CPW, while the Energy from Waste (EfW) facility overlaps the southern portion of the CPW. The approximate location of the road is prescribed by SEPP 59 Eastern Creek Precinct Plan Stage 3 and it is presumed a road would be required to provide access to the area. The Estate Road would be required to move either north or south to avoid the CPW. Note: the location of the Estate Road east of the site has already been approved. Discussions of avoiding the CPW by changing the proposed alignment of the Estate Road appear redundant given the existing approval, however, for completeness comment is provided. ***Consideration of moving the proposed Estate Road to the north*** – This is addressed on Page 2 of the attached Flora and Fauna response. Considerations include the existing road to the north, and the indication the Estate Road will eventually be linked to Archbold Road in Figure 30 of the SEPP 59 document. ***Consideration of moving the proposed Estate Road to the south*** – this is addressed on Page 3 of the attached Flora and Fauna response. Considerations include the requirement for the Estate Road to be moved approximately 90 m to the south to avoid the Cumberland Woodland, which would result in the road being partly built on Hanson's land and a variation of an existing approval. ***Approved Estate Road to the east*** – this is addressed on Page 3 of the attached Flora and Fauna response. Considerations include the necessity for government agencies to negotiate with Hanson to realign this section of the	Flora and Fauna response, **Appendix G**

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		road, or the creation of two right angle bends (which would be inconsistent with the general concept of the road as displayed in SEPP59). ***Consideration of moving the EfW facility to the west*** – this is addressed on Page 4 of the attached Flora and Fauna response. Considerations for this point surround the interrelationship of components of the proposal and the necessity of their current location, and disadvantages of component relocation. ***Consideration of moving the EfW facility approximately 60m to the south*** - this is addressed on Page 6 of the attached Flora and Fauna response. The primary difficulty in moving the EfW facility to the south is there is inadequate space for the approximately linear arrangement of the EfW facility and Turbine Hall and Air Cooler Condenser and the bio-retention basin. Additionally, the overall height of the building pad will be lower, potentially significantly increasing the volume of required earthworks. **Consideration of the substation location** - this is addressed on Page 6 of the attached Flora and Fauna response. While the substation location itself does not require the removal on indigenous vegetation, the current location of the substation in some ways constrains the location of the facility. The currently proposed substation location is driven by proximity to the existing transmission line to the west, access for electricity authorities, limiting workplace safety obligations, adjacency to the transmission easement or the Estate Road, and proximity to the turbine generator. Relocation could also result in high voltage cabling works cross laydown areas, reducing laydown availability. **Considerations on placing of turbine hall, air cooled condenser (ACC) and substation** -this is addressed on Page 6 of the attached Flora and Fauna response. Considerations include footprint minimisation and minimisation of transmission losses and high voltage cabling within the plant. **2. Eucalypt River Flat Forest** Lay-down Pad No. 5 overlaps a portion of the Eucalypt River Flat Forest. Considerations of the locations of the lay-down pads are detailed on Page 6 and 7 of the attached Flora and Fauna response. Considerations include degree of earthworks required, location of laydown pad 2 and 4 and topography.	

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2.	Quadrat data has now been provided and figures in the FFAR display the location of the quadrats, however the quadrats should be numbered in these figures so that the data can be related back to its location.	The figures displaying the locations of the quadrats have been amended and are attached to the Flora and Fauna response.	Attachment A of the Flora and Fauna response, **Appendix G**.
3.	OEH considers the proposed offsets inadequate for the following reasons: ▪ Most of the areas to be replanted / regenerated are within the State Environmental Planning Policy 59 riparian boundary, which was already required to be protected. Therefore it is considered that the proposal is likely to result in a net loss of biodiversity over the site. ▪ A large proportion of the River Flat Eucalypt Forest offset area will be on batters around the building platform and bio-retention basin. The likelihood of recreating River Flat Eucalypt Forest on well drained batters, and maintaining them in the long term is very low, given this	The previously proposed rate of offsets is being maintained. Supporting information for offset ratio is provided in DADI's attached response. *The current proposal including offsets is being maintained.* Given the varied assessments of the ecological value of the vegetation, the connectivity with the Hanson site, the lack of water supply and the decision taken in respect of the Hanson site, the proponent proposes it be permitted to remove the requisite trees to allow the project to proceed and proposes that, the area of Eucalypt River Flat Forest proposed to be removed will be offset through revegetation works using local indigenous species along Ropes Creek Tributary. The attached DADI response letter details proposed habitat, water, tree, fencing, erosion, stormwater, weed, salinity, and contamination related undertakings as part of a VMP to be incorporated as part of the approval conditions in response to this matter. Planting on the batters can be a mix of CPW species and RFEF species. Many species are common to both ecological communities. NSW DPI have commented that the SEPP 59 Eastern Creek Precinct Plan (Stage 3) states: *5.6.1(e) Development adjoining riparian corridors and trunk drainage channels (including detention basins and wetlands) must include a 10m buffer zone consisting of a landscaped open space area that can tolerate occasional flooding.* The site is not identified as flood prone in any formally adopted flood planning maps.	DADI Response Document, **Appendix HH5.**

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	community naturally occurs on flat, damp or waterlogged floodplains. ▪ The offsets proposed in the FFAR calculate out as ratios of 1.7:1 for the River Flat Eucalypt Forest and 2:1 for Cumberland Plain Woodland. Adequate offsetting ratios for replanting should be much greater, in the order of 10:1 – 20:1, given the time required to recreate ecosystems and the risk of failure. ▪ The areas proposed for regeneration and revegetation have no long term protection, such as appropriate zoning or covenants.	Thus while the adjoining 10m buffer zone (sloped batter) will regularly be dry, it will possibly be flooded on occasions so an indigenous species mix that will tolerate occasional flooding will assist in meeting the requirement of OEH and the SEPP 59 requirement the area can tolerate occasional flooding.	
4.	The FFAR recommends the preparation of a Vegetation Management Plan (VMP).There is no commitment in the EIS to prepare a Vegetation Management Plan. Any conditions of consent should require the preparation of a VMP and	A mitigation measure has been included in the amended EIS to require the preparation of a VMP. Such a condition would be supported by the proponent.	Refer to section 19.5 of the amended EIS.

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	implementation in perpetuity		
5.	OEH supports the recommendations listed in section 11 of the FFAR, including the recommendation to undertake further surveys for the Cumberland Land Snail prior to vegetation clearing	A mitigation measure has been included in the amended EIS.	Refer to section 19.5 of the amended EIS.
6.	Section 11 of the Flora and Fauna Report includes species recommended to be used in revegetation. OEH recommends any plants used in replanting should be of local provenance	A condition of consent such as the following would be supported by the proponent: *"Any revegetation works must use planting material of local provenance."* A mitigation measure has been included in the amended EIS.	Refer to section 19.5 of the amended EIS.
7.	Additional planting along the southern boundary of the Premises (to the south of the bio-retention basin) be included as a requirement of a Landscaping Plan. This should be consistent with maintaining the vegetation visual catchment indicated under the Eastern Creek Stage 3 Precinct Plan.	NSW Department of Primary Industry have recommended a VMP be prepared for revegetation works along the Rope's Creek Tributary south of the proposed development. Planting of locally indigenous species will take place along the watercourse, close to the southern boundary of the premises. Locally indigenous species including *Eucalyptus tereticornis, Eucalyptus amplifolia, Casuarina glauca* and *Eucalyptus moluccana* can *grow* 20m – 30m in height in this location. Additionally local indigenous smaller trees, shrubs and groundcovers will be included in the planting. The planted vegetation, using local indigenous species along the Rope's Creek Tributary will eventually provide a generally appealing visual impact when viewed from Lots 1, 2, 3 and 4 in DP 1145808.	Refer to section 19.5 of the amended EIS.
8.	The EIS does not contain any detailed information about the bio-retention pond located on proposed Lot 4.	Bio-retention ponds typically function to reduce pollution through the biological activities of the plants, micro-organisms and other life-forms. The bio-retention pond/s rather than being a source of pollution are likely to improve water quality. The use of bio-retention ponds is generally promoted by various government agencies as part of Water Sensitive Urban Design (WSUD). SEPP59 Eastern Creek Precinct Plan Stage 3 states: *"5.6.1(c) Applicants are required to demonstrate that water sensitive urban design principles have been*	Refer to section 16.4.5 of the amended EIS.

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	Further information is required about the construction and proposed operation of the bio- retention pond to ensure it does not become a source of odour or pollution; and Further information is required on the establishment and management of the area within the riparian setback and the land between the southern boundary and the riparian area.	*considered through the inclusion of water retention and reuse, minimisation of impervious areas, the use of grass swales, bio-retention systems, revegetation and regeneration of waterway areas and multiple use of drainage systems. "* NSW Department of Primary Industry have recommended that a VMP be prepared for revegetation works along the Rope's Creek Tributary south of the proposed development. This document will provide additional details on the establishment and management of the area within the riparian setback. Planting material will include local indigenous species suitable for bio-retention ponds, such as *Baumea articulata, Carex appressa, Eleocharis sphacelata, Juncus usitatus, Lomandra longifolia, Phragmites australis* and possibly *Typha orientalis.* The bio-retention basin will function similarly to a temporary wetland. It will assist in the management of improving the quality of stormwater on the site prior to its movement into the Rope's Creek Tributary. The bio-retention basin will be designed to comply with BCC engineering guidelines. This construction issue will be provided as part of the CC approval process whereby BCC will be consulted. Establishment and management of the area within the riparian setback can be described once proposed works and other commitments within this area are determined.	
9.	The proposed site activity may attract birds and other wildlife through the accumulation of waste. Mitigation strategies may be required as the development may result in increased hazards for aviation operations at a future airport development, especially in relation to bird strike during the take-off and landing phases of flights. Guideline C of the National Airports Safeguarding Framework (NASF)	The amended EIS includes a section dedicated to the assessment of airspace operations including consideration of the potential for bird strike and the attraction of wildlife. An assessment of the proposal has been undertaken against the guideline document Managing Bird Strike Risk at Australian Airports (2015) published by Australian Transport Safety Bureau.	Refer to section 21.4.2 of the amended EIS.

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	provides guidance on managing the risk of Wildlife Strikes in the vicinity of airports		
10.	The southern riparian area should be included as part of the abutting lots (i.e. proposed Lots 1 and 2). This will ensure that the owners of Lots 1 and 2 will share responsibility for the riparian area	The revised draft Plan of Subdivision prepared by Land Partners and attached to this document indicates the riparian area will be included in the two abutting lots.	Refer to Appendix A.
11.	The conservation area (located on the corner of Archbold Road and the M4 Motorway) is to be incorporated into proposed Lot 6. This will ensure that the owner of proposed lot 6 is also responsible for maintaining the conservation area	The revised draft Plan of Subdivision prepared by Land Partners and attached to this document indicates the conservation area will be included within the larger lot.	Refer to Appendix A.
12.	The EIS is silent on whether the development is 'Integrated Development'. It is unclear whether the development constitutes 'Integrated Development' under Section 91 of the Environmental Planning and Assessment (EP&A) Act 1979,	The application, by virtue of being a State Significant Development Application, is not 'Integrated Development. Planning Circular 'Assessment of State Significant Development and Infrastructure' dated 30 September 2011 clarifies this point: *"SSD proposals are not integrated development and do not require the concurrence of other state agencies – consultation with relevant public authorities occurs before the Director-General issues DGRs for the preparation of the EIS."* Abel Ecology has previously discussed the proposal with Gina Potter of the NSW Office of Water during the	Flora and Fauna response, **Appendix G.** Details of related acts (although not requiring integrated approval are outlined in the amended EIS.

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	requiring the concurrence of the Office of Environment and Heritage (OEH) under Part 3 of the Water Management Act 2000. The proposed development is located within 40 m of the bank of a watercourse (i.e. the Ropes Creek tributary) which would typically constitute 'Integrated Development' under the EP&A Act. The applicant has indicated, however, that under the Water Management Act 2000 the proposed development only requires a total riparian zone of 40 m (i.e. measured 20 m either side from the top of the bank). A 20 m setback from the bank of the creek to the development has therefore been shown on the submitted stormwater drainage plan. It is recommended that the Department review this matter and ensure that any necessary concurrence from the NSW Office of Environment and Heritage is	preparation of the most recent FFAR. In particular the removal of the northern drainage line was discussed and approved in email discussions. These discussions and email correspondence are attached to the Flora and Flora response.	

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	obtained, including any general terms of approval (GTA) which are to be included as part of any consent granted"		
13.	Glennys James commented that: A larger area of native vegetation should be retained. The offsets proposed for the endangered ecological communities (River-flat Eucalypt Forest and Cumberland Plain Woodland) are located within an area already identified as "riparian habitat" in the Precinct Plan. While there is no requirement under SEPP (WSEA) 2009 to protect and rehabilitate this area, the Stage 3 Eastern Creek Precinct Plan does include an objective to "preserve and improve the ecological integrity of the watercourses and riparian corridors" and this must be considered	The previously proposed rate of offsets is being maintained. Supporting information for offset ratio is provided in DADI's attached response. *The current proposal including offsets is being maintained.* NSW DPI have recommended a VMP be prepared as part of their conditions of approval. Such a condition would be supported by the applicant. The proponent's response is to observe as Ms James has noted: *"Whilst there is an objective to preserve and improve the etc. ……. is no requirement under SEPP (WSEA) 2009 to protect and rehabilitate this area"* Council could have resumed the riparian area and could have undertaken management and care of it. It elected not to do so. There is presently no undertaking by Council to spend any money or do any act or thing to meet its stated objective of protecting and rehabilitating the area. There is currently no Vegetation Management Plan [VMP] for the Riparian corridor. Development within the riparian area is prohibited under SEPP 59. This prohibition constrains absolutely the southern boundary of any development.	DADI Response document, **Appendix HH**
14.	Biodiversity offsets should be in addition to the existing protection and	The previously proposed rate of offsets is being maintained. Supporting information for offset ratio is provided in	DADI Response Document,.

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	management requirements. Total area used within the offset calculations therefore does not satisfy this basic principle. This is highlighted by the fact that some of the proposed offset area (Figure 11) is within an area of waterfront land, includes vegetation previously mapped as River-flat Eucalypt Forest and includes the proposed bio-retention basin and batters located in the riparian habitat. It is therefore recommended that additional existing endangered ecological communities be retained within the development footprint and/or additional offsets be provided	DADI's attached responses. The current proposal including offsets is being maintained. There is no existing protection and management requirement either for the riparian corridor or the River Flat eucalypts beyond the stated objective in the Precinct Plan – refer response to Glennys James at page 29 of DADI's attached response document. The changed environmental conditions since the cessation of quarrying and the pumping out of stormwater in 2012 has substantially altered the likelihood of viability of the River Flat Eucalypts in the south eastern Corner of the site. The general absence of trees from the area immediately adjacent to the Hanson boundary to the western boundary is testament to the current marginality of the riparian corridor. NSW DPI have recommended a VMP be prepared as part of their conditions of approval. Such a condition would be supported by the applicant.	**Appendix HH**
15.	It is recommended that your Department confirm with NSW Office of Water that they agreed to the removal of the small section of the first order stream located to the east of the bio-retention basin (i.e. that runs in a north-south direction)."	Abel Ecology has previously discussed the proposal with Gina Potter of the NSW Office of Water during the preparation of the exhibited Flora and Fauna report. In particular the removal of the northern drainage line was discussed and approved in email discussions dated 4 March 2015. These emails are provided as an attachment to the Flora and Fauna response.	Attachment to the Flora and Fauna Response, **Appendix G.**

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16	The north-south main collector road should be designed to eliminate any potential impact on the riparian habitat corridor	The north-south main collector road is Archbold Road. This road is beyond the boundaries the site. Archbold Road is the responsibility of the NSW Roads and Maritime Services.	
17	Clarification is required on the riparian corridor width required to be established along either side of the Ropes Creek Tributary at the site and whether the riparian corridor is meant to be consistent with SEPP59 – Eastern Creek Precinct Plan (Stage 3). The project as presented in the EIS is not consistent with the riparian corridor width outlined in the precinct plan. The project layout may need to be amended depending on the minimum width that is required to be established along the creek	The proposal is consistent with the requirements of SEPP59 on the western side of the proposal. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary. The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m2. The batter overlaps approximately 1600 m2 (approx. 3.3%) of the riparian corridor. Parts of the works are proposed on the eastern side over the 10 m buffer and also occur within 40 m of the top of bank of the Ropes Creek Tributary. Justification for the variation is addressed in DADI's attached response. The proposal is consistent with the SEPP 59. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary. The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m2. The batter overlaps approximately1600 m2 (approx. 3.3%) of the riparian corridor. Part of the works are proposed on the eastern side over the 10 m buffer and also occur within 40 m of the top of bank of the Ropes Creek Tributary. The overlap is justified by the provision of a substantial bioremediation stormwater detention basin as shown on page 16 of the attached DADI response document in lieu of the regional detention basin as had been proposed by Council (refer to figure on page 19 of DADI response document).	DADI Response Document, **Appendix HH.**
18	In its submission on the draft EIS, the Office of Water queried why the proposed riparian corridor either side of the Ropes Creek Tributary is not consistent with the State Environmental Planning Policy	The proposal is consistent with the requirements of SEPP59 on the western side of the proposal. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary. The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m2. The batter overlaps approximately 1600 m2 (approx. 3.3%) of the riparian	DADI Response Document, **Appendix HH**

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	(Western Sydney Employment Area) 2009 and SEPP 59 – Eastern Creek Precinct Plan (Stage 3) and recommended: ▪ the EIS and relevant appendices are amended so the riparian corridor width is consistent with the Precinct Plan (Stage 3), or alternatively, ▪ the EIS justify why it is inconsistent with the adopted precinct plan."	corridor. Part of the works are proposed on the eastern side over the 10 m buffer and also occur within 40 m of the top of bank of the Ropes Creek Tributary. Justification for the variation is addressed in DADI's attached response.	
19	The DGRs require an assessment of the development against State Environmental Planning Policy (Western Sydney Employment Area) 2009. Clause 19 (2) of this SEPP states "in determining a development application that relates to any land to which an existing precinct plan applies, the consent authority is to take the existing precinct plan into consideration". Clause 19(3)(b) of the SEPP lists the Eastern Creek Precinct Plan (stage	It is assumed the riparian corridor is defined as the polygon displayed in Figure 17 of SEPP59 (dated 14 December 2005). No buildings or laydown pad is proposed within this riparian corridor. Parts of the batters for Laydown Area No.5 and parts of the basin edge for the bio-retention basin overlap the riparian corridor. Figure 17 indicates that basin edges are acceptable along riparian corridor boundaries. Vegetation is proposed along the batters which will function as landscaped open space and the vegetation will be tolerant of occasional flooding. It is noted part of the batter for Laydown Pad No.5 overlaps the eastern portion of the riparian corridor boundary and that it is a variation to the control (page 11-17 SEPP 59 –Eastern Creek Precinct Plan (Stage 3) Dated: 14 December 2005) that states: *(b) No cut, fill, or batters are permitted within the 10m setback of the boundary of a:* – *conservation area;* – *riparian corridor* – *open space area; or*	

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	3) as an existing precinct plan. SEPP 59 – Eastern Creek Precinct Plan (Stage 3) includes the following controls 5.6.1 (e), 8.3.5 (b), 8.4.3 (d) which relate to the riparian corridor along Ropes Creek Tributary: 5.6.1 (e) Development adjoining riparian corridors and trunk drainage channels (including detention basins and wetlands) must include a **10m buffer zone** consisting of a landscaped open space area that can tolerate occasional flooding."	– *trunk drainage area.*	
20.	8.3.5 (b) When measured from the top of bank on either side of the creek, development consent shall not be granted, except for development associated with the protection, enhancement and management of the riparian corridor, on land within the precinct that is within: ▪ 40m of Ropes Creek Tributary	No laydown pad or building is proposed within the Ropes Creek Tributary riparian corridor as defined in the polygon of Figure 12 (SEPP59) or Figure 17 (page 8-8 SEPP59 –Eastern Creek Precinct Plan (Stage 3) Dated: 14 December 2005). It is noted parts of the southern edge of Laydown Pad No.5 are located within 40m of the top of bank of Ropes Creek Tributary. Parts of either the bio-retention basin earthen walls or basin area are proposed within 40 m of Ropes Creek Tributary. Figure 12 displays detention basins both within and overlapping the riparian corridor. Figure 12 (SEPP59– Riparian Corridors) indicates it is acceptable to locate detention basins within a riparian corridor. The function of Bio-retention basins is associated with the protection, enhancement and management of the riparian corridor (See 8.3.5 below). *8.3.5 Controls* *(b) When measured from the top of the bank on either side of the creek, development consent shall not be granted, except for development associated with the protection, enhancement and management of the riparian*	

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		corridor, on *land within the Precinct that is within:* ▪ *20m of Eskdale Creek (tributary of Eastern Creek),* ▪ *40m of Reedy Creek,* ▪ *40m of Ropes Creek tributary, or* ▪ *10m of Upper Angus Creek.*	
21	APZ's are to be located wholly within the development site, outside of any conservation area or riparian corridor.	It is important to note that the site itself **is not bushfire prone**. A bushfire management report has been done to further "de-risk" the site and the facility. Recommendations made in the bushfire management report identify the management of grasslands and the riparian zone as an option to limit the risk of fire **or as an alternative** allow the use of protection through the adoption of building construction methods, as set out in the bushfire report, to ensure that the building is able to cope with the radiant heat attack from any possible fire within the retained vegetation or revegetation works along the Ropes Creek Tributary. The Bushfire assessment report by Abel Ecology (13 June 2014) (Document No. 1282-REP-69-ISS-2) provides further details.	Bushfire report at **Appendix AA** of the amended EIS.
22	It would appear a 20m wide riparian zone is proposed to be established along each side of the Ropes Creek Tributary although the EIS and technical reports are confusing in that they refer to a 20m wide and a 40m wide riparian width, for example: ▪ Table 15 in the EIS indicates the	Some confusion may have arisen from the use of the terms "riparian zone" and "riparian corridor". Both NSW Office of Water and the SEPP59 (Stage 3) use the term "riparian zone". NSW Office of Water determines the width of the riparian zone on the basis of the Strahler stream order category. On this site Ropes Creek Tributary consists of a north-south branch and the main east-west tributary. To the west of the north-south branch Ropes Creek Tributary is a second order water course and requires a 20 m riparian zone. On the eastern side of the north-south branch the Ropes Creek Tributary requires a 10 m riparian zone. Thus the required width of the riparian zone varies along the length of the Ropes Creek Tributary on the site.	Refer to explanation of various requirements in section 16 of the amended EIS.

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	development has been sited outside the 40m setback to the riparian corridor (page 105) ▪ Section 15.4.4. of the EIS notes that proposed facility and network excludes the riparian zone which extends 20m each side of the creek (page 159) ▪ Figure 28 in the EIS shows a 20m riparian setback is to be established either side of the creek ▪ Appendix F refers to a 20m wide riparian zone either side of the creek (section 3.1, page 5) ▪ Appendix H indicates works are proposed within 40m of the Ropes Creek Tributary and the southern boundary of the development footprint will be approximately 20m north of the creek (see section 8.2.1, page74) ▪ In response to Council's	The term "riparian zone" is also used in the document SEPP59, however it is not defined within that document. The riparian corridor is defined as the polygon in Figure 12 (SEPP59). No buildings or laydown pad are proposed within the riparian corridor as defined in Figure 12 (SEPP 59). Some parts of the batter overlap the eastern portion of the riparian corridor boundary.	

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	comments that the proponent is to demonstrate on the site plans that no works are proposed within 40m of the creek, Appendix A indicates the revised design submission demonstrates compliance.		
23.	The EIS notes an assessment of the proposed works against the provisions of the Eastern Creek precinct plan has been undertaken (Section 8.6, page 93) but a 20m wide riparian setback is not consistent with the Eastern Creek precinct plan. The precinct plan requires a 40m wide riparian corridor plus a 10m wide buffer zone to be established along either side of the Ropes Creek Tributary. Clarification is required on the riparian corridor width that is required to be established along either side of the	The riparian corridor is defined as the polygon in Figure 12 (SEPP 59 Stage 3). No buildings or laydown pad are proposed within the riparian corridor as defined in Figure 12 (SEPP 59). Some parts of the batter overlap the eastern portion of the riparian corridor boundary. Parts of the bio-retention pond and edges are proposed within 40 m of the top of bank and the 10 m wide buffer zone. This is consistent with the locations of detention basins as displayed in Figure 12. It is noted the works are proposed within 40m on the eastern portion of the proposal.	Refer to section 16 of the amended EIS.

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	Ropes Creek Tributary.		
24.	Appendix F notes the OSD basin will be positioned outside the riparian zone of Ropes Creek Tributary (section 4.2, page 9) but depending on the riparian width that is to be established, the basin may be located within the riparian corridor, as Appendix H indicates the basin is directly adjacent to and up-gradient to the tributary (Section 8.2.2, page 86)	No part of the bio-retention basin is proposed within 20 m of the Ropes Creek Tributary. However, Figure 12 of SEPP 59 clearly displays bio-retention basins located within riparian corridors. NSW Office of Water guidelines (Guidelines for riparian corridors on waterfront land) state that it is permissible for basins to be located within the outer 50% of the vegetated riparian zone. Using the riparian corridor matrix (Guidelines for riparian corridors on waterfront land) the bio-retention basin could be moved up to 10m to the south.	
25.	Section 2.1.3 of the EIS indicates the 20m wide riparian zone either side of the tributary is set by the Water Management Act 2000 (page 12). If the project is applying the Office of Water's guidelines (2012) for riparian corridors rather than the Eastern Creek precinct plan, it should be noted the Office of Water guidelines do not over-ride any other authorities'	It is noted SEPP59 differs in detail regarding controls associated with riparian areas. The proposal is consistent with the NSW Office of Water guidelines. The western portion of the proposal is consistent with the requirements of SEPP59. Part of the eastern portion of the proposal overlaps the riparian corridor, riparian buffer and is within 40m of the Ropes Creek Tributary.	

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	riparian setback requirements.		
26.	Appendix H indicates a Vegetation Management Plan for the Ropes Creek Tributary can be prepared as required (Section 8.2.1, page 74). The former DWE recommended the riparian zone be replanted as part of MP06_0139 (Eastern Creek (Light Horse) Waste Project). Condition 60 of Schedule 3 of the Project Approval for MP06_0139 required the proponent to prepare and implement a Landscape and Vegetation Management Plan. The condition outlines that this plan must include detailed plans and procedures "to restore and maintain the waterways and riparian zones of the Ropes Creek tributary on the site". The Office of Water recommended in its submission of 22 November 2011 on MP06-0139 (Mod 3) that the riparian zones widths should be in accordance with the adopted SEPP 59 – Eastern Creek Precinct Plan (Stage 3) and recommended the	A Vegetation Management Plan (VMP) was previously prepared (Abel Ecology 22 October 2009) which addressed the vegetation along Ropes Creek Tributary. Abel Ecology has been advised the VMP was approved by the Department of Planning on 5 December 2011 and the approval was completed in consultation with the NSW Department of Water and Energy and Blacktown Council.	

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	VMP reflect the precinct plan controls 5.6.1 (e) and 8.3.5 (b).		
27.	Table 6 and Section 8.16 of the EIS indicate the proposal involves the part removal of a first order watercourse and that informal approval has been obtained from the Office of Water via email correspondence (pages 60 and 103). For transparency the proponent should provide a copy of the Office of Water's informal approval.	Abel Ecology has previously discussed the proposal with Gina Potter of the NSW Office of Water during the preparation of the most recent FFAR. In particular the removal of the northern drainage line was discussed and approved in email discussions on the 4 March 2015 (Refer to the Flora and Fauna response).	Flora and Fauna response, **Appendix G**.
28.	A riparian zone shall be established and maintained along Ropes Creek Tributary on the site, for its entirety within the site. The extent of the riparian zone is to be measured horizontally landward from top of bank either side of the watercourses and the width is to be consistent with SEPP59 – Eastern Creek Precinct Plan (Stage 3). [Note this condition needs to specify the minimum riparian corridor width that is required to be established along either side the Ropes Creek	The recommended conditions of approval are addressed to the consent authority which is the NSW Department of Planning and Environment, not the proponent. However, some comments are provided below. SEPP 59 – Eastern Creek does not define a riparian zone. The proposal is consistent with the requirements of SEPP59 on the western side of the proposal. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary. The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m2. The batter overlaps approximately 1600 m2 (approx. 3.3%) of the riparian corridor. Part of the works are proposed on the eastern side over the 10 m buffer and also within 40 m of the top of bank of the Ropes Creek Tributary. Justification for the variation is addressed in DADI's response document.	DADI response document, **Appendix HH.**

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	Tributary at the site. The condition needs to clarify if the riparian corridor width is meant to be consistent with SEPP 50 – Eastern Creek Precinct Plan (Stage 3).		
29.	The Proponent shall prepare and implement a Vegetation Management Plan (VMP) for the protection and rehabilitation of riparian land at the site. The VMP is to be consistent with the Department of Primary Industries Office of Water (2012) Guidelines for vegetation management plans on waterfront land and include but not necessarily be limited to: (i) the location of the top of bank; the riparian corridor width (measured from top of bank); the location of any existing native riparian vegetation to be protected and the areas to be restored, including detailed scaled diagrams/maps; (ii) mitigation measures to be implemented to avoid, protect and/or minimise potential impacts on	While an existing Vegetation Management Plan (Abel Ecology 22 October 2009) addressed the vegetation along Ropes Creek Tributary exists. This VMP will be amended or rewritten and submitted to NSW DPI Water. The preparation of a VMP has been included the mitigation measures provided in relation the management of impacts.	Refer to Section 16 of the amended EIS and consolidated mitigation measures in **Section 28.**

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	riparian vegetation; (iii) strategies to progressively rehabilitate/ regenerate/revegetate riparian vegetation, including vegetation species composition, planting layout and densities; seed or plant sources; (iv) a monitoring and maintenance program. The program shall include: ▪ details on the monitoring locations; ▪ performance indicators; ▪ details on the responsibilities, timing and duration of monitoring; ▪ contingencies where rehabilitation of vegetation fails; ▪ ongoing maintenance including weed control; ▪ reporting of monitoring results;		

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	▪ The Plan shall be submitted for the approval of the Secretary four months prior to construction commencing. Construction shall not commence until written approval has been received from the Secretary.		

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HAZARD AND RISK

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- **NATIONAL TOXICS NETWORK**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	NTN is concerned about the adequacy of the Preliminary Hazard Analysis and Fire Risk Assessment provided in this EIA. Comprehensive community evacuation and emergency response plans are associated with similar plants, such as Tredi Plant in France, where a fire broke out and cause chlorine gas releases causing offsite impacts. NTN assert the conclusion of a study provided by NTN does not match the lived experience of communities already hosting similar incinerators around the world. It is rather curious to conclude that air pollution events and fires would remain behind the fence line.	The Preliminary Hazard Analysis was developed according to the Hazardous Industry Planning and Advisory Paper (HIPAP) No. 6 "*Hazard Analysis*" (Ref. 1) which requires hazard identification, consequence analysis, frequency analysis and risk assessment of potential incidents which could impact offsite. If offsite impacts are identified, the cumulative fatality risk is estimated and compared to acceptable risk criteria published in HIPAP No. 4 "*Risk Criteria for Land Use Planning*" (Ref. 2). If the cumulative risk is below the acceptable criteria for the surrounding land zoning then the facility is considered to be potentially hazardous and is permitted for development. The PHA prepared for the project identified several scenarios which had potential for offsite impacts (i.e. waste fire, powdered activated carbon dust explosion, etc.) which were then assessed for consequence to estimate the potential impact distances of the scenarios. This analysis indicated that the impact distances from these incidents would not extend over the site boundary; hence, the risk of a fatality at the site boundary would be 0. The surrounding land use is industrial; hence, the acceptable fatality risk is 50 chances per million per year (pmpy, Ref. 2); therefore, the facility is below the criteria and would be considered potentially hazardous and would be permitted for development. The acceptable fatality risk for residential uses (closest residence is 1 km away) is 1 chance pmpy (Ref. 2). The estimated fatality risk is 0 pmpy at the site boundary; hence, the facility is below the criteria at the closest resident. Therefore the facility is considered 'potentially hazardous' and is acceptable for development.	**Appendix Y** of amended EIS.
2.	NTN state it is curious to conclude air pollution events and fires would remain behind the fence line. Tredi plant is used as an example of pollution events involving chlorine gas.	The fire incidents assessed in the PHA indicate the fires would not result in substantial radiant heat to impact over the site boundary. This is a combination of fuel source (i.e. volatile materials are not stored at the facility resulting in less severe fires) and the separation of the source incidents to the site boundaries allows for significant attenuation of radiant heat resulting in non-harmful radiant heat at the site boundary. With regards to emissions, NTN presents the Tredi Plant in France as an example of the hazards of incineration, specifically release of chlorine gas. The TNG Plant neither uses nor stores chlorine gas and chlorine gas is not a by-product of combustion; hence, there is no source of chlorine gas. A review of the aforementioned incident does not	N/A

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HAZARD AND RISK

ISSUE RAISED BY:

- **NATIONAL TOXICS NETWORK**

		indicate a fatality occurred at the adjacent properties to the Tredi Facility; hence, presentation of this incident does not provide a substantial basis to discredit or invalidate the findings of the risk assessment conducted in the Preliminary Hazard Analysis. Furthermore, the use of the Tredi Plant as an example against the development of TNG Plant is considered inappropriate as the Tredi Plant was designed in the mid 1980's and treats polychlorinated biphenyl products which the TNG Plant will not process. The Tredi Plant was developed using technology designed to achieve less stringent emission controls than those required by TNG Plant.	

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HUMAN HEALTH

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
Due to issues with the exhibited Human Health Risk Assessment prepared by Fichtner (Appendix O of the exhibited EIS), AECOM has prepared an entirely new Human Health Risk Assessment. This new report comprehensively covers the relevant Director generals Requirements, as well as the requirements of the Environmental Protection Agency and other relevant Australian guides. Due to the completely new nature of the HHRA, many of the agency comments no longer relate. As such, the new HHRA prepared by AECOM should be referred to this report is located at **Appendix N**.			

NOISE

ISSUE RAISED BY:

- **BLACKTOWN CITY COUNCIL**
- **JACFIN (VIA ALLENS LINKLATER AND JBA)**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	With respect to the low frequency noise criteria offered in the assessment (Broner, 2011), rather than Industrial Noise Policy (INP), the EPA should provide confirmation that this is acceptable. Low frequency noise impacts should also be assessed and compared to the stated criteria.	The Noise Impact assessment has been comprehensively reviewed and revised since exhibition.	Noise response prepared by Pacific Environment, **Appendix O**.
2.	The EIS does not address the noise requirements of the Precinct Plan in any depth or detail. No assessment has been provided as to whether the relevant Zone 4 noise level goals will be met once the proposed Facility is operational. Impact of the Facility on the overall noise goals for Zone 4 will be to cause the goals to be exceeded and therefore to place undue pressure on development in adjoining zones to minimise noise emissions to avoid cumulative exceedances in residential receptor areas.	The NIA discusses the Eastern Creek Precinct Plan and noise criteria for the proposed facility with consideration to the precinct plan. Cumulative impacts were assessed from the project in conjunction with existing industrial activity and approved development within Zone 4. A detailed discussion of how these results compare with the noise criteria and cumulative impacts is presented in section 6.8 of the NIA. The worst case cumulative noise impacts were assessed, for the night time period under temperature inversion conditions to the worse affected receivers in Erskine Park. The cumulative results were predicted to result in a 1-2 dB(A) exceedance of the night time optimum noise level goal at receivers in Erskine Park under worst case meteorological conditions. A 1-2 dB exceedance of the night time goals is considered marginal, as typically a 3-5 dB increase in noise level represents a change in noise level noticeable by most people. Furthermore the exceedance limited to the night time temperature inversion conditions, which do not occur frequently. Therefore in consideration of conservative modelling, the marginal degree of exceedance and the conditions under	Refer to **Appendix O**

NOISE

ISSUE RAISED BY:

- **BLACKTOWN CITY COUNCIL**
- **JACFIN (VIA ALLENS LINKLATER AND JBA)**

		which the exceedance is predicted to occur, additional mitigation is not considered reasonable. Further, developments within Zone 5 of the precinct plan are limited to a significantly lower noise goal than Zone 3 and Zone 1. As such noise emission from Zone 1 and Zone 3 will control noise levels at noise receivers in Erskine Park. Meaning a reduction in noise emissions from Zone 5 below the precinct plan goal would not benefit noise levels at the receiver. The mitigation burden is carried by the Zone 1 and Zone 3 activities as they have a controlling influence on receiver noise levels.	
3.	NIA does not provide assessment of noise impacts on the business park. Recommended that the Eastern Creek Business Park be treated as a commercial receiver (due to the significance of the ancillary commercial space adjoining each warehouse). Further assessment should be carried out to ensure an appropriate level of amenity at these receptors and Jacfin land. Depending upon the results of the further assessment, requirements should be imposed for additional noise mitigation measures to be incorporated into the Facility to minimise noise emissions beyond the boundary of the Premises.	The operational noise impact assessment in the NIA presented noise impacts at the nearest commercial and industrial receivers in the vicinity of the project site. Noise levels were predicted to be significantly below the commercial and industrial criteria outlined in the NSW EPA INP under all prevailing meteorological wind conditions. With reference to the noise contours provided in Appendix C of the NIA, it can be seen that worst case predicted noise levels (under night time inversion conditions) would be between 50 - 55 dB(A) at the southern boundary of the Facility, well below the criteria for commercial or industrial land uses. Additional noise mitigation measures are not considered necessary.	Refer to **Appendix O**

NOISE

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- **JACFIN (VIA ALLENS LINKLATER AND JBA)**

4.	The requested assessment of noise impacts should also consider cumulative noise impacts on the Eastern Creek Business Park, with particular reference to the Genesis Xero Waste Materials Processing Centre and Landfill, and the Hanson Asphalt Batching Plant.	Cumulative noise impacts associated with operation of the Genesis Xero Waste Facility (ERM, 2008) and Hanson Asphalt Batching Plant (Heggies 2006) were referenced from noise contour plots. Worst case noise levels of approximately 56 dB(A) are expected at the southern site boundary of the proposed facility. The Noise Criteria at commercial premises is 65dB(A), therefore worst case noise levels are below the relevant criteria.	Refer to **Appendix O**
5.	Construction monitoring is mentioned, however, detailed monitoring recommendations for this phase of work are not included in the report.	A construction noise management plan is to be developed and implemented once further details and schedules are confirmed. This plan will include measures to identify appropriate monitoring locations, schedules, frequencies and methodologies, and is to be completed prior commencement of construction.	Refer to **Appendix O**
6.	Concern that the facility will lead to a marked increase in traffic, and subsequently noise, to our local area due to the increased volume of waste being transported to the Genesis Facility for thermal treatment. Nearby Wallgrove Road, and the M4, have already become heavily congested due to the number of businesses that now occupy the land that was previously Wonderland at Eastern Creek, and Minchinbury and	A road traffic noise assessment (section 7 of NIA) found that the noise impacts on project related roads will comply with relevant noise goals. As a general rule overall traffic noise increases by 3dB with a doubling of traffic flows. Traffic from the project is expected to be low in the context of existing traffic volumes, with overall volumes predicted to increase by less than 2% compared to annual average daily flows and not expected to result in a change to overall traffic noise. Traffic will travel directly between the site and the arterial road network. There are no residential receivers located along project affected roads.	Refer to **Appendix O**

NOISE

ISSUE RAISED BY:

- **BLACKTOWN CITY COUNCIL**
- **JACFIN (VIA ALLENS LINKLATER AND JBA)**

	Erskine Park's industrial areas.		

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OBSTACLES TO AIRSPACE

ISSUE RAISED BY:

- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **SYDNEY AIRPORT**
- **AIR SERVICES**
- **BLACKTOWN CITY COUNCIL**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
Note: At the request of the federal DIRD, Air Services Australia provided comments on the proposal and its potential impact on the proposed Western Sydney Airport via email to DIRD (dated 8 September 2015). Air Services Australia advised that: • In relation to airspace procedures: The proposal will not affect any sector or circling altitude, nor any instrument approach or departure procedure at Sydney, Bankstown, Camden, Westmead Hospital and Richmond Airports. Air Services Australia noted their response did not cover procedures not designed by Airservices Sydney at Sydney, Bankstown, Camden, Westmead Hospital and Richmond. In relation to CNS Facilities: the proposal will not adversely impact the performance of any Airservices Precision/Non-Precision Nav Aids, Anemometers, HF/VHF/UHF Comms, A-SMGCS, Radar, PRM, ADS-B, WAM or Satellite/Links.			
1.	Although prescribed airspace for the proposed Western Sydney Airport has not yet been prescribed, consideration should be given to current expectations of prescribed airspace, specifically obstacles to aircraft overhead - penetration of prescribed airspace including Obstacle Limitation Surface (consideration of Guideline F of NASF)	It is acknowledged that no permanent penetration of the prescribed PANS-OPS protection surfaces is permitted. An Aviation Assessment was conducted by Airspace Design Solutions. <u>In relation to the proposed Western Sydney Airport (WSA):</u> For the purpose of this assessment, it has been assumed that the proposed Western Sydney Airport will be a federally leased airport. OLS and PANS-OPS protections surfaces not directly associated with leased federal airports do not constitute prescribed airspace and are not subject to the same protections. However, obstacles can have an effect on the useability of the airspace and may require changes in airspace or procedure design. A number of assumptions have been adopted for the assessment given the absence of planning and design information around the WSA. The proposed Energy from Waste Facility will be located approximately 13km from the proposed Western Sydney Airport and its position would essentially be on the proposed runways extended centrelines. This assessment has determined that the most critical surface in relation to the OLS would be the Outer Horizontal Surface. This surface is estimated to be approximately 223m AHD. With a planned development height of 182.5m AHD, the surface will not be penetrated. In light of the OLS assessment, it is reasonable to assume the PANSOPS surfaces will not be penetrated by the	Aviation Assessment **Appendix EE**.

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OBSTACLES TO AIRSPACE

ISSUE RAISED BY:

- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **SYDNEY AIRPORT**
- **AIR SERVICES**
- **BLACKTOWN CITY COUNCIL**

		proposed Energy from Waste Facility. The Aviation Assessment also addresses Lower Safe Altitude PANSOPS, Grid LSAT, and Radar Terrain Clearance Chart. <u>In relation to Sydney Airport:</u> The Aviation Assessment confirmed the proposed Facility is outside the 15,000m radius from Sydney Airport and therefore beyond the furthest lateral extent of its OLS. The proposed facility will not penetrate the Sydney Airport PANS-OPS protection surface. <u>In relation to Bankstown Airport:</u> The Aviation Assessment confirmed the proposed Facility is outside the 15,000m radius from Bankstown Airport and therefore beyond the furthest lateral extent of its OLS. It has also been confirmed the proposed facility will not penetrate the critical PANSOPS surface associated with the RWY 11C NDB missed approach.	
2.	To better understand the potential impacts of the proposed facility, the proponent should conduct a plume rise assessment which takes into account the critical plume height and velocity arising from the stacks, consistent with the relevant Civil Aviation Safety Authority regulations and the NASF.	A Plume Rise Assessment has been carried out in accordance with CASA's revised Advisory Circular (AC 139-5(1)) and the accompanying "Plume Rise Assessments - Technical Brief". The revised AC updates AC 139-5(0). The following were assessed with consideration of the OLS of 223 m AHD: • Critical plume velocity • Modelled stack parameters • Modelling approach • Buoyance enhancement The OLS was compared against the critical plume heights, defined as the heights where the plume vertical velocity is greater than 4.3 m/s (the critical plume velocity). Plume rise modelling indicated the average critical plume height is below the OLS for each year modelled. The	Plume Rise Assessment **Appendices FF and GG.**

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OBSTACLES TO AIRSPACE

ISSUE RAISED BY:

- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **SYDNEY AIRPORT**
- **AIR SERVICES**
- **BLACKTOWN CITY COUNCIL**

		maximum critical plume height is above the OLS, however less than 5% of all critical plume heights are greater than the OLS. Plots of the plume velocity averaged by height clearly show that average plume velocity is well below the OLS for all years of analysis. Also, the percentage occurrence of critical plume velocities above 4.3 m/s, at the OLS is very small (less than 0.4% for all years). Finally, the penetration of the OLS by critical plume heights occurs for only a very small area in the immediate vicinity of the stacks. The outcome of both the plum rise assessment and airspace operations report have been sent direct to the DIRD, who consulted with Air Services Australia and CASA who have provided no objection to the proposal.	
3.	Bankstown Airport Limited has advised Council that it is in the process of seeking a Declaration of Prescribed Airspace for Bankstown Airport under the *Airport (Protection of Airspace) Regulations 1997.* The Blacktown council area is located beneath the airspace related to Bankstown airport and as such, it is recommended that the Department liaise with Bankstown Airport Limited to establish if the height of the facility (i.e. 54 m high buildings and 103.7m high ventilation stacks) will satisfy any Civil Aviation Safety Authority (CASA) requirements. Separate approval may also be required from	The proposed Facility will not penetrate the prescribed airspace associated with Bankstown Airport. The Aviation Assessment confirmed the proposed Facility is outside the 15,000m radius from Bankstown Airport and therefore beyond the furthest lateral extent of its OLS. It has also been confirmed the proposed facility will not penetrate the critical PANSOPS surface associated with the RWY 11C NDB missed approach. Assessment of aviation charting in the vicinity of the proposed facility indicates that the development will be located within a danger area (D566A) which extends from ground level to 2500ft (762m) AMSL. D566A is designated as a flying training area associated with Bankstown Airport. There is some potential for the proposed development to impact on flying training operations within this area. Further, Air Services Australia has advised that: • In relation to airspace procedures: The proposal will not affect any sector or circling altitude, nor any instrument approach or departure procedure at Bankstown Airport. • In relation to CNS Facilities: the proposal will not adversely impact the performance of any Airservices Precision/Non-Precision Nav Aids, Anemometers, HF/VHF/UHF Comms, A-SMGCS, Radar, PRM, ADS-B, WAM or Satellite/Links. Since exhibition Bankstown Airport has been provided with copies of both the Airspace Operations and Plum Rise	Aviation Assessment **Appendix EE, FF and GG.**

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OBSTACLES TO AIRSPACE

ISSUE RAISED BY:

- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **SYDNEY AIRPORT**
- **AIR SERVICES**
- **BLACKTOWN CITY COUNCIL**

	CASA for the installation of a safety light on top of the facility.	Assessment. They have provided a response of no objection as there are no matters of concern.	
4.	BCC is concerned the height of the facility may conflict with CASA requirements for the future Western Sydney Airport (Badgerys Creek airport). The CASA should therefore be invited to comment on the proposal to establish if any amendments are required to safeguard the operation of the airport.	CASA has already been invited to comment on the proposal. This correspondence was documented in Table 6 of the Exhibited EIS. In summary, on the 18th February 2015 a member of CASA advised via email: *I have not been able to get information from the Department of Infrastructure and Regional Development regarding the specific detail of the second Sydney Airport and thus a response about any potential impact that the stack may pose is not possible.* DIRD was also consulted prior to the original EIS going on exhibition. Record of this correspondence was appended to the exhibited EIS and is also appended to the amended EIS. Since exhibition the DIRD, Sydney Airport, and Air Services have all provided comments on the proposal. Issues raised by these agencies are now dealt with via a dedicated section of the report that addresses Airspace Operations. The Aviation Assessment indicates there is no risk to OLS and PANS OPS associated with this airport, and plume heights are acceptable. Since exhibition CASA been provided with copies of both the Airspace Operations and Plum Rise Assessment. They have provided a response of no-objection and indicate the expected plum rise should not breach the OLS for Badgerys Creek. However in the event that this does occur mitigation in the form of a symbol on the aviation charts can be used to manage airspace operations. Accordingly mitigation measures have been included in the amended EIS to require the proponent to contact the DIRD/CASA prior to commencing operations, including any proof of performance trials, and confirm what if any measures may be required to ensure the safe operation of airspace.	Refer to Aviation Assessment **Appendix EE, FF and GG.** Assessment of impacts and mitigation measures are included in the amended EIS at Section 21.

URBIS

ODOUR AND AIR QUALITY

ISSUE RAISED BY:

- **AUSTRALAND (VIA GHD)**
- **BLACKTOWN CITY COUNCIL (VIA JACOBS)**
- **BLACKTOWN DISTRICT ENVIRONMENTAL GROUP**
- **BOOMERANG ALLIANCE**
- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **ENVIRONMENT PROTECTION AUTHORITY**
- **HANSON**
- **JACFIN (VIA ALLENS)**
- **JACFIN (VIA JBA URBAN)**
- **NATIONAL TOXICS NETWORK**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	GHD provide commentary around the assumption that there will be no dioxins/furans leaving the primary secondary combustion chamber, and the need to meet current international best practice techniques for the control of such substances.	The Owner's Engineers, for the TNG EfW project, Ramboll, have provided a series of technical memoranda on aspects of the project's emission performance. This includes a dedicated memorandum on the subject of dioxin control (refer Appendix C, in Appendix K). While Appendix C, in Appendix K provides a comprehensive response to GHD comments in relation to dioxin control, the following aspects are highlighted: ▪ The flue gas treatment stage consists of a reactor with injection of lime and activated carbon for dioxin adsorption followed by a bag house filter for dust separation, including the activated carbon particles with dioxin adsorbed. ▪ The flue gas treatment system ensures that the stack emissions comply with the emission requirement of 0.1 ng/m³ (at reference conditions; EC, 2010) regardless the content in the raw, untreated flue gas within any realistic operational range. ▪ This technology is compliant with provisions of the EU Best Available Techniques as described in the BAT reference note (EC, 2006). ▪ The dioxin content of the incoming waste is anticipated to grossly exceed the sum of the outputs such that the TNG EfW facility is a net destructor of dioxin (atmospheric emissions of dioxin are expected to comprise less than 1% of the content of the incoming waste). The total dioxin emission from the TNG EfW facility is estimated to be around 0.02% of the Australian inventory, and 0.05% of the contribution from Australian backyard incineration activities.	Appendix C of Amended Air Quality report, prepared by Pacific Environment at **Appendix K**.
2.	GHD note that the Stockholm Convention on Persistent Organic Pollutants ("the Stockholm Convention") is not made reference to within the Local Air Quality	As noted above, Ramboll have provided a dedicated memorandum on the subject of dioxin control within Appendix C in the amended AQA, which speaks directly to emission performance and implications under the Stockholm Convention. Appendix C directly addresses the TNG EfW facility's emission performance and associated implications under the	Refer to Appendix C in the amended Air Quality Assessment provided at **Appendix K**.

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ODOUR AND AIR QUALITY

ISSUE RAISED BY:

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	Assessment. The Stockholm Convention came into force on 17 May 2004, with Australia ratifying the Convention on 20 May 2004 and becoming a Party on 18 August 2004.	Stockholm Convention. The following aspects of this memorandum are highlighted: ▪ When waste is directed to the TNG EfW facility, less waste will be available for open and other uncontrolled burning of waste, including unintended landfill fires. This is anticipated to have a large beneficial impact on the control of persistent organic pollutants (POPs) from waste management because emissions from uncontrolled burning of waste are several orders of magnitude higher than from a modern EfW facility. ▪ The Stockholm Convention specifically mentions the following to be considered in determining best available techniques for dioxin control; "*Use of improved methods for flue-gas cleaning such as thermal or catalytic oxidation, dust precipitation, or adsorption*". ▪ The TNG EfW facility will be constructed using the Best Available Techniques (BAT) as described in the convention. It uses dust precipitation and adsorption in the flue gas treatment system. ▪ All residues from the process (bottom ash and flue gas treatment residue, including fly ash) are expected to be well below the "low POP content" threshold for wastes. This means that the Stockholm Convention does not require further treatment of the residues prior to disposal when it comes to the dioxin content.	
3.	GHD note that one hour ground level concentrations for PM_{10} and $PM_{2.5}$ have not been evaluated.	The adopted assessment criteria are in accordance with the NSW EPA *Approved method for the Modelling and Assessment of Air Pollutants in NSW* (**EPA, 2005**). Therefore 1-hour criteria for PM_{10} and $PM_{2.5}$ are not applicable.	Refer to amended AQA report.
4.	GHD note that there is a lack of detail outlining the meteorological data used as input for the AERMOD atmospheric dispersion model.	Sections 5 Dispersion Modelling and 6 Existing Air Quality, of the amened Air Quality report go into significant detail regarding the source of the meteorological data used in the modelling.	Refer to amended AQA report provided at **Appendix K.**
5.	GHD note that upper air sounding data was not used in the AERMOD	It is acknowledged that upper air profiles are available in the Sydney area. However, these profiles comprise twice daily measurements collected at Sydney Airport and therefore require interpolation for the remaining 22 hours. Furthermore, Sydney Airport is located on the coastline 37 km south east of the Project with both locations subject to	Refer to section 8.1 of the amended AQA. **Appendix**

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ODOUR AND AIR QUALITY **ISSUE RAISED BY:** • AUSTRALAND (VIA GHD) • BLACKTOWN CITY COUNCIL (VIA JACOBS) • BLACKTOWN DISTRICT ENVIRONMENTAL GROUP • BOOMERANG ALLIANCE		• DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD) • ENVIRONMENT PROTECTION AUTHORITY • HANSON • JACFIN (VIA ALLENS) • JACFIN (VIA JBA URBAN) • NATIONAL TOXICS NETWORK	
	model.	very different influences of the boundary layer. The height of the mixed layer in coastal areas is very different to those experienced at inland area, such as where the Project is located. These inland influences are characterised by the frequency of calm wind speeds (<0.5 m/s) associated with night time drainage flows and inversion conditions. For the operation of AERMET, a full morning upper air sounding (RAWINSONDE) is required for winds, temperature, and dew point. Wind data are used by AERMET to produce the profile data file, and temperature is used for mixing height calculations. Critically, there are no temperature and dew point temperature data for nearly all upper air sounding taken in Australia. Further, there are a lot missing days and hours such that there are not a sufficient number of soundings to be useful within AERMET For AERMET, the use of the Upper Air Estimator has the advantage of having no issues surrounding consistency between surface and upper air data, which is often the case when synthetic (prognostic) upper air data is referenced. Reviewer comments around the use of cloud data from Bankstown Airport AWS having less coastal influences than Richmond RAAF Base AWS are noted. However, given Bankstown Airport is located some 25km inland, this issue is not considered material in the characterisation of upper air wind speed and direction data.	**K.**
6.	GHD note that there is insufficient odour emission data and uncertainty in the influence of the quarry void used in the dispersion modelling. Further, it is noted by GHD that there was no cumulative assessment of the approved composting on the Genesis	Significant commentary is provided as to the characterisation, modelling and subsequent assessment of odour impacts associated with the adjacent Genesis facility. The Genesis facility was approved to operate in November 2009, following submission and regulatory review of a technical odour assessment report (Holmes Air Sciences, 2008). A further odour assessment for the (now operational) Genesis facility was completed in January 2014 (Pacific Environment, 2014). This document was produced under a requirement of the site's Environmental Protection Licence	Odour Assessment, **Appendix L** of the amended EIS

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ODOUR AND AIR QUALITY

ISSUE RAISED BY:

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- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **ENVIRONMENT PROTECTION AUTHORITY**
- **HANSON**
- **JACFIN (VIA ALLENS)**
- **JACFIN (VIA JBA URBAN)**
- **NATIONAL TOXICS NETWORK**

	site.	(EPL), and as such again received technical review from the NSW Environment Protection Authority (EPA). The reviewer is directed to the following sections relating to the above: • The Odour Assessment appended to the exhibited and amended EIS has been informed by two previous, regulator reviewed, comprehensive odour assessments relating to the Genesis facility. Details of these reports are provided in the Pacific Environment Odour and Air Quality response. • The Genesis facility, while relevant in the assessment of cumulative odour impacts, is not the subject of the current development application. The reviewer recommends that a perimeter odour survey be undertaken to 'ground truth' odour modelling results for the existing Genesis facility. The reviewer is reminded of detail within the Odour Assessment surrounding odour complaints data. The Genesis Facility has provided records of logged complaints relating to odour since the commencement of operations in June 2012. During this period the Genesis Facility has logged three odour complaints. Subsequent to further investigation and inspection, two complaints were found to not have originated from the Genesis Facility but from other known odour sources in the area. The odour complaint in February 2013 resulted in the review of leachate treatment practices at the facility. The above data are considered a sufficient ground trothing exercise relating to existing odour impacts. Finally, the reviewer provides commentary as follows ".depending on the number of staff/and type of occupancy a higher impact assessment criteria may potentially be more relevant". It is not clear whether the reviewer is arguing that a higher (i.e. less stringent) odour unit performance criterion may be applicable in this instance. In any event, the Odour Assessment adopts the most stringent odour performance criterion invoked in NSW, namely 2 OU, relevant to urban populations (>2,000 people) as well as schools, hospitals, etc.	

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ODOUR AND AIR QUALITY

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- **DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD)**
- **ENVIRONMENT PROTECTION AUTHORITY**
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- **NATIONAL TOXICS NETWORK**

7.	It is recommended that all relevant pollutants be included in the assessment. The same applies to pollutant ambient air quality criteria as set out in Section 4.4. H2S is a notable exclusion for Section 4.4 and it is not included in the Odour Assessment either.	It appears that Jacobs may have been reviewing a previous iteration of the Air Quality Assessment. The exhibited report provides an assessment of potential hydrogen sulfide (H_2S) impacts. The 99th percentile predicted H_2S is 70% of the impact assessment criterion.	Local Air Quality and Greenhouse Gas Assessment, **Appendix K** of the amended EIS.
8.	It is noted that there are no half hourly limits for Cadmium and Mercury. 2010/75EU includes 0.5 – 8-hour criteria for these pollutants. Section 7.3: Table 7-4 should include model averaging times for each pollutant emission rates for all relevant pollutants that criteria are outlined for (either in Car, 2010 and 2010/75 EU plus those where ambient air quality criteria are specified).	Since the production of the Air Quality Assessment, the owner's engineer, Ramboll, has produced a technical memorandum as to 'real world' in-stack concentrations of a comprehensive list of air quality metrics, referenced from existing EfW facilities internationally. This has been produced in response to commentary around the air quality metrics evaluated within the original Health Risk Assessment for the project (exhibited as appendix to the originall EIS), with the memorandum provided in Appendix C in the AQA appended to the amended EIS at Appendix K. These stack test data have been referenced to provide predictions of 1-hour ground level concentration for the comprehensive list of air quality metrics for input within the revised Health Risk Assessment report. A summary of the ground level concentrations predicted through this exercise is provided in Appendix B of the Odour and Air Quality response along with performance against relevant air quality criteria, where applicable. Results are presented for the following: • Normal operations (100th percentile) • Normal operations (99.9th percentile) • Upset operations (100th percentile) • Upset operations (99.9th percentile)	Fichtner Human health Risk Assessment, Appendix O of the exhibited EIS. AECOM HHRA, **Appendix M.** Odour and Air Quality response, prepared by Pacific Environment at **Appendix H**.

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ODOUR AND AIR QUALITY

ISSUE RAISED BY:

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9.	The calculated emission rates per stack are stated to be based on concentration limits in Table 4-3 and flue gas flow rates in Table 7-8 (from Fichtner 2014). The Fichtner 2015 Concept Design Report contains different flow rates to those shown in Table 7-8. This needs to be checked and emissions and modelling revised accordingly.	Following exhibition the project team has undertaken a comprehensive review of the submitted information and produced a Project Definition Brief and updated Air Quality Assessment. The amendment was aimed at aligning all technical information including the flue gas flow rate information. A summary of the changes in stack exit parameters are shown in Table 7-8 of the amended Air Quality assessment, prepared by Pacific Environment. Remodelling has been completed to evaluate the potential impact on ground level concentration predictions presented in the Air Quality Assessment based on the revised stack exit parameters.	Appendix K, Air Quality Assessment and Appendix CC Project Definition Brief
10.	AERMOD has been used to predict the ambient concentrations of substances emitted to air from the facility. There is a high frequency of calm conditions in the Project area (area 30% according to Figure 5-1) and the assessment should confirm that the model is able to accurately predict impacts during these calm conditions.	The percentage of calms at the Bureau of Meteorology St Marys AWS (6km west of the EfW facility) is compared with those from the Horsley Park Equestrian Centre AWS (6.5km south southwest of the facility) within Appendix F-1 of the Air Quality Assessment. It is considered that the percentage of calms observed at the St Marys AWS (and ultimately referenced within the AERMOD modelling system) is fairly consistent with Horsley Park AWS, which provides a range between 14.2 % for 2009 and 24.5% for 2013. Thus, the prevalence of calm conditions in the western Sydney area is shown to be a common feature of the meteorology in the vicinity of the EfW facility. These calm conditions are most common during autumn and winter and are often a function of temperature inversions that also occur during these cooler months. Calm conditions are also associated with poor dispersion conditions. In view of the high percentage of calm conditions for 2013 measured at St Marys, using these data for dispersion modelling will provide an additional level of conservatism in the prediction of	Refer to Appendix K for amended Air Quality Assessment.

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ODOUR AND AIR QUALITY

ISSUE RAISED BY:

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		ground level pollutant concentrations. It is highlighted that the AERMOD modelling system allows for wind speed and direction variation in the vertical, through reference to a 'surface' meteorological input file, and a 'profile' input file. The profile input file contains information on the (logarithmic) increase in wind speed with height. Thus, it is noted that the wind speeds interacting with the stack exit (100m aloft) will not reflect any calm observation occurring within the surface input file. As a general note, the AERMOD dispersion model is anticipated to be the most widely used dispersion model internationally, and has been the subject of many validation exercises to confirm its satisfactory performance for both calm conditions and tall stack applications using standard model validation data sets.	
11	The assessment states that fugitive odour may be released from the tipping hall when the roller door is opened to allow access to the facility but this should be minimal as the building will be maintained under negative pressure. Negative pressure infers air will be drawn into the building but there is no discussion in the odour report on how this will be extracted and whether any extraction air will be odorous. The air quality assessment states that combustion air for the furnace will be extracted	The EfW facility will employ high speed roller doors for truck access to ensure fugitive odour emissions from within the building are minimised. All waste storage and unloading will take place within the tipping hall building, which is kept under negative pressure. Air extracted from the building is to be used as excess air in the boiler (i.e. potentially odorous air will ultimately be thermally oxidised). The primary air will be drawn from the tipping hall using a fan beneath the individual grate zones. It is anticipated that the primary air flow will range between 77,560 Nm^3/hour and 129,180 Nm^3/hour. The primary air flow will also be used to cool the grate. The air will then be drawn into the primary combustion zone and will ultimately undergo combustion and released via the stack. As a result, the odorous compounds within the primary air will breakdown to simpler compounds that will pass through the various scrubbers and process to further remove contaminants from the air stream.	Refer to Appendix K for the amened Air Quality Assessment.

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ODOUR AND AIR QUALITY **ISSUE RAISED BY:** • AUSTRALAND (VIA GHD) • BLACKTOWN CITY COUNCIL (VIA JACOBS) • BLACKTOWN DISTRICT ENVIRONMENTAL GROUP • BOOMERANG ALLIANCE		• DEPARTMENT OF INFRASTRUCTURE AND REGIONAL DEVELOPMENT (DIRD) • ENVIRONMENT PROTECTION AUTHORITY • HANSON • JACFIN (VIA ALLENS) • JACFIN (VIA JBA URBAN) • NATIONAL TOXICS NETWORK	
	from the tipping hall, but it is recommended that ventilation be more discussed more fully.		
12	There appears to be some inconsistency between the relationship of emission rates and model results as presented in the 2014 and 2015 air quality modelling reports. For example, in the 2014 report cadmium (Cd) was stated to have an emission rate of 0.003 g/s (or 0.0035 g/s) per stack and a maximum GLC impact of 0.000010 µg/m^3. In the 2015 report Cd is stated to have an emission rate of 0.007 g/s per stack and an impact of 0.000014 µg/m^3. These results are inconsistent, and assuming the 2014 modelling has just been updated to reflect the higher emission rate, an impact of 0.000020 µg/m^3 would be expected. This is an important consideration and needs to be	It is anticipated that Jacobs refer to an earlier iteration of the air quality assessment presented to agencies for adequacy assessment (“the 2014 report”) compared with the report produced for public exhibition (“the 2015 report”; Pacific Environment, 2015a). To clarify, Pacific Environment, 2015a was at the time of exhibition the appropriate report to provide commentary upon within the Response to Submissions process. Jacobs state “..assuming the 2014 modelling has just been updated to reflect the higher emission rate”. This is an incorrect assumption. Modelling results presented within Pacific Environment, 2015a in fact rely upon amended stack parameters compared to earlier modelling, including, for example, a doubling of exit velocity. It is indeed appropriate to highlight ground level concentration predictions of Cadmium (Cd) as an important consideration for the air quality assessment. s modelling to date has indicated that this parameter is a potential design constraint for the project (i.e. stack heights have been optimised to demonstrate compliance with EPA’s 1-hour ground level concentration criterion for Cd). The maximum (99.9th) predicted 1-hour concentration for Cd under revised modelling inputs comprise 11% of the relevant performance criterion at all locations across the modelling domain. Consistent with advice from Ramboll the in-stack concentration for Cd is referenced as being 0.009 mg/Nm^3, and a corresponding mass emission rate of 0.001 g/s. This is compared with previous model assumptions of 0.04 mg/Nm^3, and a corresponding mass emission rate of 0.007 g/s.	Refer to Air Quality Report provided at **Appendix K.**

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	clarified as the GLC criteria for Cd is 0.000018 µg/m^3.		
13.	The GHG section determines the emissions from the proposed facility from the carbon content of the fuel. The report doesn't reference the source of this data, as the 2014 Fichtner Concept Design Report and is based on the proposed fuel mix- it is noted the concept design report has been updated (Fichtner, 2015). There are a couple of issues with these data – linked to the waste report, namely the waste composition (and therefore chemical analysis) is the same for C+I and C&D wastes. This shouldn't be the case. It is likely that an assumption has been made that the residue (i.e. what is left post removing recyclable material) is similar, but this is not explained	The carbon content of the residual waste fuel is based on the information provided for the design fuel mix. Compositional surveys for waste streams were undertaken combined with research of the typical profile of waste materials and streams.	Refer to Project definition brief.

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	anywhere in the reports that have been reviewed. The waste composition data for these material streams in NSW (or from NGER) is not used. It states in the Fichtner report that these data were 'provided from TNG' but has no other reference. It is recommended that the clarity on the source and accuracy of the waste composition data is provided.		
14.	The report considers the avoided emissions from electricity generation and export and avoided from landfill. For electricity generation as the facility will operate for some years, it would be considered prudent to assume a reduction over time in the carbon intensity of grid electricity. The carbon intensity of NSW is incorrect it is 0.86 kgCO_2e/kWH and therefore carbon offset offered is overestimated. For landfill, no link is	The technical points raised by Jacobs in relation to this aspect of the report are noted. A DOC fraction of 0.43 was in fact used in the calculations, despite the exhibited Local Air Quality Assessment stating, in error, that a value of 0.23 was referenced. The correct value is currently utilised in the amended AQA. Using this DOC fraction provides a conservatively low estimate of GHG emissions from landfilling.This results in a conservatively low estimate of GHG emissions diverted from landfill. It is acknowledged that some landfills combust the methane via a flare or gas engine. However, this is not currently the case at the Genesis facility and would not form part of the future operations for the site (and has therefore not been	Refer to amended AQA at **Appendix K**.

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	made to the waste report nor the Concept Design report to determine the likely mix of waste which has avoided landfill. Additionally, calculations for the degradable organic content (DOC) of the waste stream are assumed to be the same as 'wood' with the rationale that "By using a DOC fraction for wood (which is lower than other organic wastes) we have potentially underestimated GHG emissions from landfilling. This results in a conservatively low estimate of GHG emission saved from incineration". The figure quoted is a DOC of 0.23, which is incorrect. Wood has a DOC of 0.43 within the 2014 (measurement) Determination and is one of the highest therefore potentially overestimating the landfill emissions. However, as 0.23 has been used in error, it is suggested that this is corrected. It is	considered). The overall conclusion of this report section is not in contention, namely that there is a net greenhouse gas emission reduction on an annual basis compared with the status quo. Assuming a 25 year facility life, the cumulative emission reduction will be in the tens of Mt CO_2-e. For this reason alone, it is not considered instructive to further consider the technical points above, which are not anticipated to be material in terms of the report outcomes.	

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	recommended that the DOC of the waste should be based on waste composition data to make it as accurate as possible, not a default for one waste component (which makes up approximately 21% of the proposed waste steam according to the Fichtner Concept Design Report (subject to the issues noted above). Landfill emissions are assumed to be emitted in one year. In reality, it will be some time of continuous landfilling before maximum emissions are reached (70+ years). If this exceeds the proposed life of the TNG facility. It is recommended that a time-series for waste emissions in landfill should be produced, identifying the point at which the facility starts to emit less than the landfill would, and the cumulative balance over the intended life of the asset. Additionally as Method 1 under NGERS is specified,		

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	then this should be used in its entirety (with all defaults for carbon contents and waste composition). Section 10.3: No mention is made of methane capture or combustion from the landfill. Modern landfills would be expected to install and run either a landfill gas engine or flare to reduce emissions. This is especially the case for putrescible landfills, where methane generation rates support their use. It is assumed that the material sent to the TNG facility would not be sent to a putrescible landfill as the waste types are likely to be non-putrescible. However, as the material would be pre-sorted to remove recyclable materials, there is potentially a degradable component that would support methane capture (wood, textiles, paper and card, vegetation). This should be considered to improve the emissions		

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	offset from landfill are not overestimated. The assessment of landfilling is based on 850,000 tonnes per annum (noted as the current weight of material received at the Genesis Xero facility). The assessment should be based on the likely throughput of the TNG facility at capacity (1,360,000 tonnes per annum). Additionally, no mention is made of the likely emissions (or otherwise) of the output of the TNG facility which needs to be landfilled.		
15	Section 7.1.2 outlines arrange of emission control technologies that can be used for EfW facilities and provides a list of facilities and the controls they have in place. It states that Table 7-3 includes the flue gas controls that will be installed on the TNG EfW facility. Table 7-3 is a	The proposed technology for the EfW facility is based on existing facilities in the United Kingdom (UK) and rest of Europe and will incorporate best available technology (BAT) for flue gas treatment. The flue gas treatment is designed to meet the in-stack concentration limits for waste incineration set by the European Union (EU) Industrial Emissions Directive (IED; EC, 2010). The flue gas treatment system includes: • Selective Non-Catalytic Reduction (SNCR) for reducing emissions of oxides of nitrogen. • Dry lime scrubbing for reducing emissions of acid gases, including hydrogen chloride (HCl) and Sulfur Dioxide (SO2). • Activated carbon injection for reducing emissions of dioxins and mercury (Hg).	Refer to Project Definition Brief, **Appendix CC.**

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	summary of controls across existing plants. It is recommended an additional table is includes that states the specific controls for this facility.	• Fabric filters for reducing emissions of particles and metals. Following flue gas treatment, emissions will be dispersed via a 100m stack. Further details of the flue gas treatment are discussed the Project Definition Brief, Section 6.	
16.	There is no discussion of fugitive dust emissions, and their mitigation.	Fugitive dust emissions are discussed in section 7.13 of the AQA. Potential impacts of dust and mitigation measures are also discussed in section 16 of the amended EIS.	Refer to amended Air Quality Assessment at **Appendix K.**
17.	The plant has been assumed to be designed to meet Industrial Emissions Directive 2010, rather than the Waste Incineration Directive 2000. The plant has assumed to meet the final NSW Energy from Waste policy, not the draft (ESI pg 57-72). The Genesis Xero Waste Facility generates uncontaminated wood waste and source separated green waste, but these are not proposed to	The Industrial Emissions Directive (IED; EC, 2010) replaces the EU Waste Incineration Directive (2000/76/EC; EC, 2000). It is correct that the plant has assumed to meet the final NSW Energy from Waste policy (EPA, 2014), not the draft, since this is the most current guidance available. It is understood that there is little difference between draft and final documents in any event. A clean auxiliary support fuel will be used in the incinerator to regulate the temperature. It is understood that the fuel would comprise diesel, with all emissions released from the 100m stacks. As the nature of the emissions from the combustion of diesel fuel would burn significantly cleaner than the residual waste fuel, and in consideration of the infrequent occurrence of start-up and shut down, emissions during such conditions have not been further assessed.	Refer to amended Air Quality Assessment at **Appendix K.**.

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	be fired in the EFW plant. If they are proposed to be fired (as is likely a higher resource recovery outcome for these low value materials), it should be not be necessary to seek and exemption, as they will be fired in an authorised EFW plant. The Auxiliary fuel is now nominated as Natural Gas, but the EIA is not consistent in this regard, and in other parts it has been assumed to be diesel.		
18	Blacktown District Environmental Group has raised concerns over the odour from the facility in addition to the Eastern Creek Waste Management Facility and Wallgrove Tip.	Odour emissions from the Project have been addressed in a stand-alone quantitative assessment. The results of this assessment show that the odour concentrations would be below the impact assessment criterion of 2 OU at all off-site sensitive receptors. This result has taken into consideration the existing air quality in the area.	Refer to the updated Odour Impact Assessment provided at **Appendix L.**
19	Boomerang Alliance note that the proposed EfW facility believes that the text within the NSW EfW Policy needs to be amended to reflect the	Matters relating to the management of materials containing chlorine are addressed in both the amended EIS and the Project Definition Brief (**Appendix CC**). Chlorine contents will be managed through mixing and homogenising of waste fuels, typical in the European experience.	Refer to the Project Definition Brief at **Appendix CC.**

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	EU regulation and the European experience of safe EfW at chlorine concentrations of typically around 1% with some waste fractions up to 8%.	Management of chlorine content through mixing and homogenisation controls the percentage fraction and so does not require combustion at higher temperature.	
20.	Any other potential impacts which may result in increased hazards for aircraft operations at a future airport such as particulate matter and hot air being released into the air. This may require a plume rise assessment in accordance with Part 12 of the Airports Act and the Airports (Protection of Airspace) Regulations 1996. The proponent has also stated that in relation to plume rise and particulate matter emissions there is approximately 14 kilometres of separation between the proposed facility and the airport site and so it is unlikely the facility will interfere with	A plume rise assessment has been carried out, and addressed in the 'Obstacles to Airspace' table of this document.	Plume Rise Assessment **Appendix FF**.

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	aircraft operations. The Department does not believe this is an adequate assessment of the potential impacts of plume rise or particulate matter on future aircraft operations. Emission of hot air from the facility's stacks could cause air turbulence which may pose a safety issue for aircraft approaching the airport from the northeast. The Department confirms its previous advice, that to better understand the potential impacts of the proposed facility, the proponent should conduct a plume rise assessment which takes into account the critical plume height and velocity arising from the stacks, consistent with the relevant Civil Aviation Safety Authority regulations and the NASF.		
21.	Insufficient information regarding the diesel generators The EPA requires that the proponent provides the following additional	A manufacturer's guarantee has been provided by Cummins that the emergency diesel generators will operate within the POEO Regulation emission limits. A copy of the emission performance specifications for the emergency diesel generators is provided as Appendix to the Aur Quality report.	Refer to the updated Air Quality Assessment provided **Appendix K**.

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	information: • Confirmation and further details regarding the use of diesel generators to maintain the furnace temperature. • Concentration of air emissions from the diesel generators and their compliance with the relevant Clean Air Regulation emission standards. • Revised air quality impact assessment which includes the two diesel generators as a source of air emissions.	Two emergency diesel generators will operate as part of the Project, one for safe shutdown and one for black start. Dispersion modelling has been used to assess the ground level concentrations during the operation of the diesel generators during emergency conditions. As stated in Section 7.6 of the Local Air Quality and Greenhouse Gas Assessment, the diesel generators would not operate for more than 200 hours per year, therefore the predicted ground level concentrations from these sources have been compared against the short term assessment criteria only.	
22.	No demonstration of suitability of secondary combustion chamber 850°C minimum operating temperature. The EPA requires the proponent to identify the expected chlorine content of the waste for the proposed EfW plant. This is the chlorine content that will be maintained at all times and not	Details of the chemical profile of waste streams is provided in the Project Definition report combined with a detailed discussion on the management of chlorine content.	Refer to the Project Definition Brief at **Appendix CC**.

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	an annual average. Further, more detailed information must be provided regarding the issues with the current technology such that efficient energy recovery is prevented when operating at a temperature of 1100°C.		
23.	Section 1.1 of PEL (2014a) provides the background to the proposed Energy from Waste Facility including the source of the waste that will power the facility. This information has not been updated from the adequacy review. Section 1.1 states that the facility will have a total capacity of 1.35 million tonnes of waste per annum and up to 500,000 tonnes per annum will be obtained from external sources and 850,000 tonnes per annum will be sourced from the waste already received at the neighbouring Genesis Xero Waste Facility. This information is	The EIS and the AQA have been amended following exhibition.	Refer to **Appendix K** for the amended Air Quality Assessment and the amended EIS.

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	inconsistent with section 10.4.2 of Urbis (2015) which outlines the source and composition of the residual waste fuel. According to Urbis (2015) phase 1 of the project (lines 1 and 2) requires 552,000 tonnes per annum, 23% of which will be chute residual waste from the MPC and the remainder from third party authorised facilities. Construction of lines 3 and 4 will be delayed until eligible material inputs for these lines can be confirmed to the satisfaction of the Department of Planning and Environment and the EPA. The EPA requires that the information in the EIS regarding the source of the fuel should be reviewed to ensure it is consistent throughout the document.		

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24.	Meteorological data is not demonstrated to be site representative The EPA requires that further information should be provided to demonstrate that the St Mary's meteorological data results in a more conservative assessment of impacts.	This advice has been superseded by subsequent advice provided by email on 18 August 2016, which sought: *The Proponent clarify why OEH St Marys 2010 to 2012 data was not used in the evaluation of the chosen 2013 data* On page 19 of the revised Air Quality Assessment prepared by Pacific Environment the use of 2013 data is justified as follows: *In view of the high percentage of calm conditions for 2013 measured at St Marys, using these data for dispersion modelling will provide an additional level of conservatism in the prediction of ground level pollutant concentrations.*	Refer to amended Air Quality Assessment provided at **Appendix K.**
25.	Cumulative impacts must be assessed at likely future sensitive receptors The EPA requires that the Proponent assess the cumulative impacts of the project at existing and likely future sensitive receptors as outlined in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.	The Air Quality Assessment (AQA) has been revised since exhibition. The AQA includes assessment of cumulative impacts at sensitive receptors (refer to Table 9-5).	Refer to the amended Air Quality Assessment provided at **Appendix K**.

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26.	NSW Legislation does not provide for upset conditions The EPA requires that the Proponent is advised of the requirements to comply with the Clean Air Regulation and EPL limits at all times and that there are no requirements in NSW legislation or policy document regarding allowable number of hours emission limits can be exceeded.	The Proponent acknowledges the requirements to comply with the Clean Air Regulation and EPL limits at all times and that there are no requirements in NSW legislation or policy document regarding allowable number of hours emission limits can be exceeded. Provision of upset scenario modelling has been presented at the request of the regulator such that they can evaluate impacts under such adverse conditions.	Refer to the Air Quality Assessment provided at **Appendix K.**
27.	BAT control for air emissions not demonstrated for proposed EfW plant. The EPA requires that the Proponent update Table 7-3 in PEL (2015a) to include the fuel type for the existing facilities and include additional existing facilities where the fuel mixture is identical to that for the proposed EfW facility. Should no facility exist where the fuel mixture is identical to that for the proposed EfW	Ramboll have prepared a detailed technical memo addressing the identified reference facilities. We note that there is no identical facility with respect to waste streams or volume currently operating. However, the breadth of facilities reviewed combined with the diversity of waste fuels processed and their varying capacities should be taken as evidence of the capability of the technology to handle variation in waste streams and types and continue to operate within acceptable environmental parameters. Notably the IED emissions limits are more stringent than those adopted by the POEO Act and this should provide a level of comfort and certainty in relation to the technologies perforamcne..	Refer to Reference Facility Technical Memo in **Appendix DD**.

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	facility, the Proponent must provide additional robust justification for the proposed plant design and technology.		
28	PEL (2015a) should consider impacts during process upset conditions. The EPA requires that the Proponent revise the assessment to: • Include additional information on the predicted frequency of exceedance per year for each pollutant under upset conditions • Clarify the release height (if known) for emissions from the diesel generators • Clarify clause 57A of the CAR applies to nitrogen dioxide and nitric oxide only.	During upset Pacific Environment predict there are two pollutants that are predicted to exceed the NSW impact assessment criteria and include NO_2 and Cd. To assess these exceedances during upset conditions, a probabilistic approach has been adopted. The adoption of design to the requirements of the EU IED entails that such events shall under no circumstance occur for more than four hours uninterrupted where the emission values exceed the limits and no more than 60 hours per year. The probability that upset conditions will actually result in adverse air quality impacts at ground level is therefore a function of the maximum allowable hours of upset per year (60/8,760) multiplied by the predicted frequency of exceedance per annum for each pollutant. The resultant probabilities are therefore: • NO2 – 0.007% probability • Cd – 0.002% probability • Based on the above it can be inferred that in reality, the probability of the above pollutants resulting in adverse air quality impacts at ground level due to upset conditions would be extremely low. As noted in Section 7.2 of the Odour and Air Quality response, prepared by Pacific Environment, dispersion modelling currently assumes that the emission release height for the diesel generators is 3.2m. This adopted value is considered to be conservative, and the stack height may be increased during detailed design.	Refer to the amended Air Quality Assessment at **Appendix K.**

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		It is acknowledged that the in-stack concentrations for NO_2 and NO are the only pollutants exempt per Clause 57A of the POEO (Clean Air) Regulations. Section 7.6 notes that a manufacturer's guarantee has been provided by Cummins that the emergency diesel generators will operate within the relevant POEO Regulation emission limits. A copy of the emission performance specifications for the emergency diesel generators is provided as Appendix H of the Odour and Air Quality response, prepared by Pacific Environment.	
29.	Clarification is required regarding the assessment of Chlorine emissions. The EPA requires the Proponent provide clarification on the assessment of chlorine emissions.	PE provide the following amended text by way of clarification: *In the case of Cl_2, the Clean Air Regulation limit (200 mg/m^3) is considered inapplicable (overly high) to be used to estimate the mass emission rate of this compound. Rather, the EU IED ½ hour average limit for HCl (60 mg/m^3) is considered a more appropriate in-stack concentration to establish an upper limit for Cl_2. This is because of the important role of the Deacon equilibrium, described below:* $4\,HCl + O_2 \rightleftarrows 2H_2O + Cl_2$ *The equilibrium is shifted to the left side of the above equation when the combustion occurs in the presence of water vapour (H_2O). In other words, when chlorine gas is in the presence of water vapour, it readily forms HCl, and assuming excess water, all Cl_2 will occur as HCl. Given the design fuel mix is anticipated to contain ~28% H_2O, there is anticipated to be the necessary H_2O within the exhaust gas stream to favour HCl formation over Cl_2. On the above basis, the release and subsequent impacts of Cl_2 are addressed through the evaluation of HCl.* The following extract from the EU Best Available Techniques (BAT) reference note (**EC, 2006**) for waste incineration is instructive:	Refer to the amended Air Quality Assessment provided at **Appendix K**.

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		Many wastes contain chlorinated organic compounds or chlorides. In municipal waste typically approximately 50 % of the chlorides come from PVC [64, TWGComments, 2003]. In the incineration process, the organic component of these compounds is destroyed and the chlorine is converted to HCl. Part of the HCl may react further to metal chlorides on inorganic compounds which are also contained in the waste. *HCl is highly soluble in water and has an impact on plant growth. It is measured continuously with emissions in the range of 0.1 - 10 mg/Nm^3. The formation and emission of Cl_2 is of minor importance under normal incineration conditions.* *During the combustion of hydrocarbon-containing waste the equilibrium is shifted to the left side of the equation, due to the fact that during combustion an excess of H_2O is formed, and as a result, chlorine is present in the HCl form in the combustion gas.* The dispersion modelling presented in Table 14 show that the 99.9th percentile 1-hour maximum concentration of HCl is predicted to comprise 2% of the criterion beyond the site boundary.	
30.	Clarification regarding stack exit parameters is required. The EPA requires the Proponent provide clarification on the stack flow parameters presented in Table 7-8, and potential impacts regarding aviation safety have been considered.	A plume rise assessment has been undertaken and forwarded to the DIRD, including CASA. Advice received from CASA raises no objection to the plume rise.	Refer to Plume rise **Assessment FF** and emails from the DIRD at **Appendix GG**.

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31	The EPA requires the proponent to provide a discussion on the feasibility of possible offsets in the Sydney basin as an option for reducing the contribution of the proposed facility to regional ozone.	The most straightforward approach to evaluating the potential for offsetting of ozone precursors is through evaluation of the outputs of the NSW EPA air emissions inventory (NSW EPA, 2012). Other significant NO_x sources in the Sydney and Greater Metropolitan Region (GMR) air sheds are primarily sourced from shipping, passenger vehicles, fuel production and heavy duty diesel vehicles, in addition to power generation facilities (NSW EPA, 2015). The annual NO_x emissions from the TNG EfW facility have been compared against other significant NO_X sources, as extracted from the NSW EPA GMR 2008 emissions inventory. A comparison of the top ten man-made NO_X emission sources within the Sydney air shed, as well as how the TNG EfW projected emissions, are shown in Figure 6-1 of the amended Ozone Impact Assessment, prepared by Pacific Environment. The TNG EfW facility ranks seventeenth compared to other grouped emission sources in the Sydney air shed. Relative to man-made sources within the GMR, where most electrical power generation sources are located, the TNG EfW facility would be placed significantly lower in ranking. Figure 6-1 of the Ozone Report is meaningful in the context of potential to offset ozone precursors from other sources in lieu of the TNG EfW contribution. Of the top ten anthropogenic NO_X sources located within the Sydney basin, the first eight are transport related. There are issues related to establishing offsets within such emission sectors. Principally, these relate to the sources being many and disparate. It is not considered practicable on either a logistics or financial basis to create a meaningful offset opportunity given the multitude of stakeholders and physical sources involved. For an offset to be economically viable, it is considered that it should involve an emission reduction at a discrete (industrial) location, based on a single activity (i.e. introduction of an abatement technology). Neither of these aspects are aligned with an offset approach within the	Refer to Amended Ozone Report provided at **Appendix M.**

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transport sector.

The two remaining significant sectors (defined as emission sources greater than 800 t NO_X / annum) are shown in Figure 4 of the Odour and Air Quality response as:

- Generation of electrical power from gas; and
- Petroleum products and fuel production

The NSW EPA air emissions inventory (NSW EPA, 2012) provides data on a sectoral basis, and does not provide information on a facility basis.

It is anticipated that gas fired power generation sources within the Sydney basin have already been optimised in terms of NO_X abatement technologies. This is since such projects would not be supported by the regulator without having demonstrated such technologies (e.g. as a minimum, the use of low-NO_X burners). For this reason, it is not considered that there is potential to pursue meaningful offsets within this sector.

Lastly, it is anticipated that the petroleum products and fuel production sector is dominated by two emission sources, namely the refineries at Clyde and Kurnell.

It is envisaged that the 2008 emission inventory does not take account of the current / impending closure of these facilities for fuel production. Given that both facilities are being decommissioned, there is no opportunity to consider offset scenarios here.

It is highlighted that the TNG EfW facility is the first development application to operate under the NSW EPA's *Tiered Procedure for Estimating Ground Level Ozone Impacts from Stationary Sources* (exhibited Waste Management Report).

Thus, it is the first proposal that has been requested to consider emissions offsets, as referenced within this document.

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		In view of lack of any precedent in this area, as well as the significant (contractual, financial, technological, logistical) barriers it is considered that further regulatory guidance should be provided if offsets are to be considered as a practicable scenario.	
32.	The EPA requires the proponent to discuss NO_X emissions from the proposal and the best practice approaches chosen to minimise them in light of the results of the investigation into potential emission offsets.	Thus, inspection of Table 15 of the Odour and Air Quality response, prepared by Pacific Environment indicates that under the revised mass emission and flow rate scenario, the proposed TNG EfW facility will only marginally exceed the SIL of 0.5 ppb for the maximum 1-hour increment, and is not predicted to exceed the 4-hour increment value. Adoption of the optimised SNCR scenario (operating at 120 mg/Nm^3 NO_X during the ozone season of December – February) yields outputs that are well below the SIL for ozone assessment. In summary, it is considered that the adoption of optimised SNCR running parameters during the summer ozone season, thus achieving in stack NOx concentrations of 120 mg/m^3 represents a best practice approach to tropospheric ozone abatement. Use of the EPA's Level 1 Screening Tool to evaluate the impact of such an activity indicates compliance with the Screening Impact Level for all relevant averaging periods.	Waste Management Report, Appendix J of the amended EIS. Odour and Air Quality response, prepared by Pacific Environment at **Appendices K and L.** Ozone Impact Assessment, **Appendix M** of the amended EIS.
33.	The EPA has provided comment on minor inconsistencies and typographical errors within the Air Quality Assessment.	PE has reviewed and acknowledged comments provided by EPA and is in agreement with the issues raised. These minor points would be corrected in any future issue of the Air Quality Assessment. An amended Air Quality Report has been prepared since exhibition.	Refer to **Appendix K** Air Quality Assessment.
34.	The AQIA has incorrectly identified the nearest receiver. Hanson operates the asphalt plant, including	The Hanson asphalt plant is included in a list of new receptors modelled. Revised modelling indicates that there are not anticipated to be any exceedances of the relevant air quality criteria at the Hanson facility under normal operating	Refer to **Appendix K** Air Quality;.

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	offices and a laboratory which is contiguous with the proposed development. The AQIA incorrectly identifies the Kmart and Best & Less DC facilities as being the nearest receivers which are in fact some 600m further away than the Hanson asphalt plant.	conditions.	
35.	The EIS contains no information on the purpose and use of the laydown pads or whether the surface of these pads will be sealed or unsealed. The laydown pads constitute an area of 77,514m2 (7.7 hectares) and are proposed to be constructed on unsealed fill. Unsealed surfaces will generate dust and particulate emissions, especially when driven over by heavy vehicles.	It is anticipated that the lay down pads will be sealed and planted with native cooch grass once construction is complete. Following completion of construction nothing will be stored on the laydown pads and on ongoing use is sought as part of this application. Hence, no DA has been prepared or approved for the use of these areas after construction. Potential dust dispersion has been considered in the amended EIS and the Air Quality Assessment. Any potential impacts associated with bulk earthworks and the construction of the laydown pads can be mitigated through the implementation of effective construction management practices. The applicant's construction manager, Brookfield Multiplex has prepared a CEMP that provides details of potential dust management and mitigation options.	Refer to **Appendix K** Air Quality; **Appendix BB** Construction Environment Management Plan and Section 16 amended EIS
36.	While the predicted odour concentration in the EIS materials for the southern boundary of the	The assumptions implemented in the dispersion modelling have been reviewed by the regulator for technical robustness on more than one occasion. Odour emissions from the Project have been addressed in a stand-alone quantitative assessment. The results of this	Refer to **Appendix L**

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	Premises is less than the allowable level of detection, there is no sensitivity testing to identify how robust the results are to the various assumptions in the odour modelling. It is therefore submitted that the proponent should provide further modelling to ensure the robustness of the results at the southern boundary.	assessment show that the odour concentrations would be below the impact assessment criterion of 2 OU at all off-site sensitive receptors. This result has taken into consideration the existing air quality in the area.	
37.	Conditions should be imposed on any development approval requiring no odour to be emitted beyond the boundary of the Premises so as to protect the amenity of the current and future occupants of the adjacent business park.	It is anticipated that conditions of consent will include a requirement for no offensive odour beyond the site boundary in accordance with the POEO Clean Air Regulations. Notwithstanding this, Odour assessment concludes that odours will be below acceptable limits.	Refer to **Appendix L**
38.	Our client is concerned that the ability of the applicant to operate the facility is unproven and, as noted in the JBA assessment, there is uncertainty about how the applicant will manage the need to adjust the operational	TNG will be contracting an experienced operation and maintenance company and has commenced contract negotiations with suitably qualified companies. A detailed project definition brief has been prepared that details how chlorine content will be managed. Since exhibition a detailed review of the Air Quality Assessment and HHRA has been undertaken.	Refer to: Project Definition Brief at **Appendix C;** Air Quality Assessment **Appendix K;** and

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	parameters (particularly temperature) depending upon the characteristics of the waste materials (particularly halogenated organic substances containing chlorine) while still ensuring acceptable ambient air quality standards are met. Further air quality data (and associated human health risk assessment) should be provided in the form of predicted contours for upset and emergency conditions extending to surrounding sites including our client's land and its commercial occupants (not just the residential receptors);		HHRA at **Appendix N.**
39.	It is acknowledged that the facility will incorporate Best-Available-Technology in relation to the treatment of air emissions during normal operations, as required under the EPA's Energy from Waste Policy Statement. However, the proponent has not demonstrated that it has the	TNG will be contracting an experienced operation and maintenance company and has commenced contract negotiations with suitably qualified companies. The frequency and magnitude of upset conditions are discussed in the Odour and Air Quality response, prepared by Pacific Environment. The Jacfin facility is included in a list of new receptors modelled (Receptor identified as R5089). Revised modelling indicates that there are not anticipated to be any exceedances of the relevant air quality criteria at the Jacfin facility under normal operating conditions. The likelihood that any plant upset would occur at the same time as poor	Refer to the amended Air quality report at **Appendix K.**

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	experience or the capability to match the Best-Available-Technology with the necessary management and governance systems to ensure the facility can be operated in accordance with best practices. During 'upset' conditions significant exceedances of the POEO Regulation discharge limits for particulate matter, mercury and cadmium are predicted, resulting in exceedances of the ground level concentrations of cadmium and mercury. But, the Air Quality Assessment does not provide contours so that neighbours can determine where these exceedances are predicted to occur. Given the predicted exceedances, and that these pollutants are toxic and subject to short-term 1-hour averaging periods (commensurate with the short-term nature of the 'upset'	dispersion meteorology (and thus lead to an exceedance of air quality criteria at nearby receptors) is considered to extremely low.	

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	conditions periods) it is considered that these contour plots should be provided and that further assessment of the potential impacts should be provided.		

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	It is concluded from previous reports (ADI, 1995 & ADI, 1998) that groundwater at the site is not contaminated, although the writer questions the validity of the analytical results. It is also stated that: "It is further noted that low-levels of TPH and PAH can occur naturally in samples of bedrock in the Wianamatta Group rocks" although a reference to this statement is not provided. Recent site contamination investigations by ADE (2014) have not analysed the groundwater to verify this conclusion. It is advised the ADI (1995 and 1998) reports of relevant extracts be provided for verifications along with a reference that substantiates the claim that natural TPH and PAH levels occur in the bedrock.	The ADI (1995 and 1998) reports are appended to this document. In relation to the matter of naturally-occurring background levels of TPH and PAHs in the Wianamatta Group rocks, the author has direct experience in the sampling and analysis of carbonaceous shales freshly excavated from quarry pits in the Sydney basin. This comment was made by way of background.	ADI Reports, **Appendix V**.
2.	Page 25 mentions bio-retention basin, however, this basin is now	The basin is a bio-retention basin and will be used for water treatment to the BCC SEPP 59 standards. This basin will be retained in private ownership and is designed to meet the required BCC treatment rates and detain the water flows	Refer to section 16 of the amended EIS.

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	being used as a storage/treatment pond of runoff storm water prior to discharge into a tributary of Ropes Creek. Clarification is required of any water treatment that will be carried out prior to discharge. For example flocculation, etc. If any treatment will be carried out, additional details of the chemicals used (eg, flocculant etc) is required together with an explanation of the dosing system (automatic or manual) to avoid residual chemicals migrating into the creek.	off site to not exceed pre-developed rates.	
3.	Page 26, section 5.2 refers to Table 5.2 for monitoring details. Table 5.2 indicates relevant sampling locations 1 to 7, however, the actual locations of these sampling points are not identified in a location plan. Provide diagrammatic locations of the proposed sampling points.	A description of the monitoring point locations is as follows, as per the IGGC (2015) report: 1. Upstream site boundary; 2. Upstream of construction sediment basin/bio-retention basin discharge point; 3. Downstream of construction sediment basin/bio-retention basin discharge point; 4. Downstream site boundary 5. Construction sediment basin/bio-retention basin; 6. Discharge from construction sediment basin/bio-retention basin; 7. Excavation Sump(s)/Dewatering Wells.	

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4.	Page 26 refers to one of the Suite A analytes as 'total heavy metals'. Clarification is required as to what this 'analyte' actually represents. It appears that this refers to a total concentration of heavy metals; however, individual heavy metals are not specified.	'Total heavy metals' refers to the determination of concentrations of eight metals and metalloids (arsenic, cadmium (total), chromium, copper, mercury, nickel, lead, zinc) in un-filtered water samples. Page 26 of the Soil and Water Report has been modified as follows: *The following analytical suites and field measurements are recommended:* • *Suite A: Routine Monitoring. Field measurements and observations (pH, electrical conductivity (EC), dissolved oxygen (DO), turbidity and description of flow conditions). Laboratory analysis for total suspended solids (TSS), total (unfiltered) heavy metals, nutrients (ammonia, total oxidised nitrogen (NO¬¬x), total nitrogen (TN) and total phosphorus (TP)), total organic carbon (TOC);* • *Suite B: Wet weather monitoring. Field measurements and observations (pH, electrical conductivity (EC), dissolved oxygen (DO), turbidity and description of flow conditions. Ammonia, TN, TP, TOC, TSS;* • *Suite C: Field monitoring of surface water conditions during construction. Field measurements and observations (pH, electrical conductivity (EC), dissolved oxygen (DO), turbidity and description of flow conditions with particular attention to visual appearance such as surface sheen, visually turbid, etc), odour and flow conditions.*	Updated Soil and Water Report appended to the Soil and Water response, **Appendix P**.
5.	Consider adding turbidity field measurement to Suite B and C analytes.	The Soil and Water Report has been updated to add field turbidity measurement to Suite B and C. Page 26 has been modified as follows: *The following analytical suites and field measurements are recommended:* • *Suite A: Routine Monitoring. Field measurements and observations (pH, electrical conductivity (EC), dissolved oxygen (DO), turbidity and description of flow conditions). Laboratory analysis for total suspended solids (TSS), total (unfiltered) heavy metals, nutrients (ammonia, total oxidised nitrogen (NO¬¬x), total nitrogen (TN) and total phosphorus (TP)), total organic carbon (TOC);* • *Suite B: Wet weather monitoring. Field measurements and observations (pH, electrical conductivity (EC),*	Updated Soil and Water Report appended to the Soil and Water response, **Appendix P**.

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		dissolved oxygen (DO), turbidity and description of flow conditions. Ammonia, TN, TP, TOC, TSS; • *Suite C: Field monitoring of surface water conditions during construction. Field measurements and observations (pH, electrical conductivity (EC), dissolved oxygen (DO), turbidity and description of flow conditions with particular attention to visual appearance such as surface sheen, visually turbid, etc), odour and flow conditions.*	
6.	Monitoring non-compliance - Additional information is required of the management options available if any of the Table 5.2 monitoring shows non-compliance.	Sections 6.12 and 6.13 of the Brookfield Construction Management Plan address the matters of non-compliances and non-conformances, the latter section relating specifically to environmental audits which are taken to include environmental monitoring results.	Appendix BB of the amended EIS 'Construction Environmental Management Plan'.
7.	The overall water consumption is nominated as 25.6 m/h (Concept Design pg 25), but no breakdown is provided. It is assumed that the water treatment plant effluent and the boiler blowdown volumes will be consumed by ash quenching. Therefore the waste water will be disposed with the bottom ash in evaporation and absorption (bottom ash 25% H2O by weight). The wet bottom ash is proposed to be recycled as aggregate, however water may degrade the value of the aggregate.	The plant designer, Hitachi Zosen Inova HZI has prepared a water balance for the plant (attached to the Soil and Water Response, appended to this document. The water balance provides a detailed account of water use in the plant. The water balance shows the amount of water expected to be used for ash quenching. The water content in the cooled bottom ash is expected to be maximum 25% (by weight) and approximately 20% in average. The water content in the bottom ash will not impact or degrade the value of the bottom ash as aggregate. On the contrary certain moisture content is needed for ensuring a dust free environment when handling the bottom ash. Moreover the water is needed for stabilizing the alkali components in the bottom ash ("maturation" of the bottom ash). This stabilizing process will encapsulate and inactivate the potential heavy metals in the bottom ash, making the stabilized bottom ash suitable for further use as aggregate in concrete or as road material.	HZI Water Balance, attached to the Soil and Water reports, **Appendix P**.

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8.	Water generated from commissioning e.g. boiler chemical clean at commissioning would be removed from site by truck to a licensed facility. This is reasonable due to the small volumes proposed. We would recommend a boiler maintenance drain tank be added, to allow for reuse of the water following maintenance.	Empting of the boiler is only applicable in the rare case of a boiler leakage, and will be a controlled process as to enable repair. Here the boiler will only be emptied to the extent needed to enable the repair, and not a complete emptying. In such case it would be expected to rent tanker trucks to temporary store the boiler water. A complete emptying of the boiler is not foreseen, except as a part of a scheduled maintenance.	
9.	No water analysis is provided.	The HZI water balance provides a detailed account of water use in the plant. The designers have assumed that all input water will be Sydney Water mains supply. Edison Environmental & Engineering have not cited any data on the quality of water in various stages of the plant.	HZI Water Balance, attached to the Soil and Water report, **Appendix P**.
10.	No water balance is provided, which is essential to determine how water is used and reused within the plant. The Soil and Water Report Section 7.2 and EIS Section 3.16 deals with water only at a high level for the actual power plant.	Plant designer HZI prepared the water balance for the plant (attached to Soil and Water response, appended to this document). The water balance provides a detailed account of water use in the plant.	
11.	Inadequate Groundwater Impact Assessment. Insufficient detail provided in the EIS on the nature of the waste bunker to adequately	A cross section of the site showing the current and proposed land surface, intermediate and deep groundwater pressure levels and interpreted shallow groundwater table is provided in the Soil and Water response letter. The data herein are derived from IGGC (2014). The location of the cross section is shown in the plan attached to the Soil and	Soil and Water response, **Appendix P.**

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	assess true impacts on the groundwater system that flows through to Ropes Creek and potential GDEs and IDEs. "The waste bunker, some 15m deep, has the potential to intercept and possibly obstruct shallow groundwater flow. As no significant groundwater is expected to be encountered at the proposed excavation depths, the potential impacts are considered to be negligible." Figure 3.6 of this report shows the location of groundwater monitoring bores (piezometers) within the vicinity of the proposed development. Table 3.3 of this report states that the depth measured to ground water at these bores: It is evident that the proposed invert of the waste bunker will be significantly lower than the existing groundwater levels. There is	Water response letter (prepared by AT&L). It is noted that: The existing ground surface at the location of the proposed waste bunker ranges from ~74 to ~78m AHD; The level of the base of the waste bunker is ~61 mAHD; The interpreted shallow groundwater table at ~68-70 mAHD (IGGC, 2015); The completed width of the waste bunker is approximately 32 m. The waste bunker will be fitted with a groundwater drainage and extraction system, likely comprising drainage material between the excavated bedrock and concrete liner. It is expected that, over time, the shallow groundwater table will be depressed in the area around the waste bunker. Groundwater inflows are expected to be greatest immediately following completion of the excavation and then progressively decline as water until levels stabilise. In terms of groundwater inflow estimates, Edison Environmental has stated the groundwater inflow estimates will consist of lateral inflow through the four walls and upward inflow through the floor. It is noted that these calculations assume the installation of a drainage system in the bunker, that the bunker will drain freely to a collection sump and will not confine or restrict groundwater inflow. Further details on the modelling of the walls and floor of the bunker are provided in the attached Soil and Water response letter. In relation to the GDEs, the shallow groundwater system present beneath the site is likely to be providing some support to terrestrial vegetation (predominately non-native grasses) and a limited contribution to base flow in the	

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	insufficient detail provided in the EIS on the nature of the waste bunker to adequately assess true impacts on the groundwater system that flows through to Ropes Creek and potential GDEs and IDEs. According to the BOM GDE and IDE mapping (below) the area in question is highly likely to have ground water interaction and have GDEs and/or IDEs reliant on surface and subsurface ground water flows. The EIS has made no assessment of the impacts on these GDEs and IDEs.	tributary. The groundwater system is limited to that hosted by the weathered profile overlying the shale bedrock with low hydraulic conductivity likely to prevail except in the upper ~1 m of the soil profile. The available groundwater storage in the system is low; thus, together with the low hydraulic conductivity of the lower soil profile and underlying strata greatly limit the potential for the shallow groundwater system to sustain terrestrial ecosystems or surface water base flow during extended dry periods. The limited contribution of shallow groundwater to surface water base flow is supported by the salinity levels noted in monitoring bore MW2. The site and the tributary of Ropes Creek have been substantially altered from the original natural state by historical clearing of native vegetation to allow establishment of pasture and by maintenance of a highly artificial surface water flow regime over a prolonged period due to discharge of water pumped from the quarry and by leakage from the settlement dams located immediately adjacent to the south-eastern boundary on Hanson's site.	
12.	It should be ensured that during storage and/or during blending, saline runoffs are prevented from entering the local water course (Ropes Creek tributary) if high rainfall periods are encountered. It would be advised, that salinity (EC) levels in the Creek be measured when it is flowing, and any waters (such as runoffs or groundwater dewatering) with higher salinity be prevented from	This EPA point is agreed in principal and has been documented in AT&L's exhibited Stormwater Management Plan. The bio-retention basin will act as a sediment basin during construction. This will allow all runoff to be detained and settled prior to discharging into the Ropes Creek Tributary. The water report prescribes a testing regime for surface-water discharges and also background monitoring of local waterways. The monitoring regime described in the Soil and Water Report includes testing for salinity and nutrients.	**Appendix P** of the amended EIS.

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	entering the creek. High salinity can be toxic to aquatic organisms and plants located onsite and/or downstream from the site of development, especially if discharges contain high bicarbonate together with other toxicants.		
13.	The bioretention basin is now being used as a storage/treatment pond of runoff stormwater prior to discharge into a tributary of Ropes Creek. Clarification is required regarding any water treatment that will occur prior to discharge (including chemicals used and dosing systems).	The basin is a bio-retention basin and will be used for water treatment to the BCC SEPP 59 standards.	
14.	Salinity (as electrical conductivity) should be included as one of the water quality targets to be achieved prior to discharge in the CEMP.	Agreed, the monitoring regime in the Edison report (attached) includes salinity (electrical conductivity) measurements.	Updated Soil and Water Report, attached to the Soil and Water response at **Appendix P.**
15.	Further information is required regarding surface water quality and groundwater quality. Additional baseline monitoring should be undertaken to allow appropriate pre-	Agreed. A program of baseline surface- and ground-water monitoring will be undertaken prior to the commencement of works.	

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	development and operational monitoring requirements.		
16.	Consideration should be given to the source of water used in spray dust control devices and any potential inhalation exposure pathway for onsite workers/visitors and any potential off-site receptors.	Water for dust suppression will be obtained from the existing Genesis basin (this source has already been approved for dust suppression (sprinkling) at Genesis so therefore is considered an appropriate source). If/when this supply is exhausted, as can occur in the summer months, the operation will use Sydney Water town supply for dust suppression. Water for dust suppression will be applied by means of sprinklers rather than sprays, therefore minimizing the potential for the creation of aerosols and inhalation of same.	
17.	Incomplete information regarding the proposed abstraction of groundwater for construction purposes is provided. If any dewatering of groundwater is required during construction stage, is contaminant testing of such water warranted prior to discharge into the creek? Future assessment should include re-testing of the hardness of the creek water. Also, the hardness correction of copper is not recommended as it has been clearly shown that hardness corrected values of copper is not protective of all aquatic species	Abstraction of groundwater for use in construction is not proposed with the possible exception of the waste bunker excavation. The waste bunker will be fitted with a groundwater drainage and extraction system, likely comprising drainage material between the excavated bedrock and concrete liner. It is expected that, over time, the shallow groundwater table will be depressed in the area around the waste bunker. Groundwater inflows are expected to be greatest immediately following completion of the excavation and then progressively decline as water until levels stabilise. It is agreed that any groundwater pumped from excavations is to be tested prior to discharge. Note that dewatering is expected to be minimal and associated only with the waste bunker excavation. Agreed. Any further assessments can be structured to include testing for hardness.	Soil and Water response, **Appendix P.**

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	and this may be removed in the reviewed ANZECC guidelines		
18.	There is no estimate in the programme of the quantity of water to be retained for reuse on site during the construction phase. It is likely that the reuse of retained stormwater will be concentrated during the civil works for uses such as dust suppression	This item relates to water retention during construction use for dust suppression. Refer to AT&L civil drawings for details on detention pond. Detention pond will be constructed at the beginning of the project and utilised for sediment control / dust suppression during civil and construction works. The amount of water re-use will be based on amount of rainfall collected in detention pond during construction period. This pond is retained as part of the permanent design. The exhibited Soil and Water Report outlines these details, and includes a "water balancing schematic" which outlines envisaged water recycling / re use. These details remain in the updated Soil and Water Report attached to this document.	Amended EIS **Appendix E** 'Civil and Stormwater plans', C002 rev F. Updated Soil and Water Report attached to the Soil and Water response, **Appendix P.**
19.	There is insufficient detail contained in the EIS to support direct discharge to Ropes Creek Tributary. There is insufficient detail contained in the EIS to support dewatering activities. Detailed investigations to support dewatering and the disposal of pumped/collected water are required.	The Civil drawings exhibited with the EIS describe the stormwater management infrastructure proposed for the construction and post-construction phases of the project. The design includes a bio-retention basin that will be used for water treatment to the BCC SEPP 59 standards. This basin will be retained in private ownership and is designed to meet the required BCC treatment rates and detain the water flows off site to not exceed pre-developed rates. Runoff water from the project site will flow through the bio-retention basin and will not discharge directly to Ropes Creek Tributary. Dewatering is limited to the waste bunker excavation. This matter is addressed elsewhere in this table.	Amended EIS **Appendix E** 'Civil and Stormwater plans', C002 rev F.
20.	Details regarding any specific erosion or sediment controls are required.	Sediment and erosion plans and details were shown in the exhibited civil drawings.	**Appendix E** of amended EIS.
21.	Further investigations of salinity conditions should be undertaken to identify high risk salinity areas close	The development does not propose works within 20 metres of the Ropes Creek Tributary and as such the potential for development to be located within "high risk" areas is limited. For the most part works are located on the land described as "moderately saline" and mitigation measures have been included that aim to manage the impacts of salinity of	Amended EIS. Section 11.

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	to drainage lines and monitoring programs designed to establish baseline and operational water quality values.	building and construction and landscaping. Notwithstanding the above, investigations of salinity conditions and the designing of monitoring programs will be done prior to application for Construction Certificate.	
22.	If effluent and/or overflows become contacted with ash residues and/or other waste particles then a range of organics should also be included in the suite of analysis. If TSS levels are high, analysis of relevant organics should also be considered.	Effluent and/or overflows will not be in contact with ash residues, as the ash residues will be contained at all times.	N/A
23.	Jacobs noted some discrepancies in the documentation: • Water demand in the EIS (pg. 29) • Ash water consumption – Concept Design p. 21 and Soil and Water Assessment	Please refer to the Soil and Water Report and HZI Water Balance appended to the Soil and Water Report. The Water Balance has been provided with the Soil and Water Response appended to this document. Please refer to the Soil and Water Report for the correct details on ash and water consumption. The details in the Concept Design Report were more general in nature, which accounts for the inconsistencies.	HZI Water Balance attached to the Soil and Water response, **Appendix P.** Updated Soil and Water Report attached to the Soil and Water response, **Appendix P.**
24.	No consideration has been made of the OSD quality and its suitability for the water treatment plant or the use of recycled water from offsite.	There is no proposal to use water from OSD in the plant or to use recycled water from off site.	

TOWN PLANNING

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	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	BCC confirms a site specific DCP is not required.	This is acknowledged.	Noted. N/A
2.	BCC states subdivision is unsatisfactory	The plan of subdivision has been amended in response to Blacktown Council's submission. It is considered the changes proposed adequately respond to any concerns raised on this matter.	The updated draft Subdivision Plan can be found at **Appendix F.**
3.	BCC submission states 'the EIS is silent on whether the development is 'Integrated Development''.	The project, by virtue of being State Significant, is not integrated. Notably Section 89J of the Act "turns off" the integrated provisions. Agencies including the NSW Office of Environment and Heritage have been consulted since the preparation of the DGRs. It is also noted Jacobs (BCC's independent review body), in their previous comments on the original EIS on behalf of Council, pointed this fact out and subsequently references to Integrated Development were deleted. Planning Circular 'Assessment of State Significant Development and Infrastructure' dated 30 September 2011 clarifies this point: *"SSD proposals are not integrated development and do not require the concurrence of other state agencies – consultation with relevant public authorities occurs before the Director-General issues DGRs for the preparation of the EIS."*	N/A
4.	BCC submission asserts the development is inconsistent with the Broader Western Sydney Employment Area draft Structure Plan 2013 in that the development is a low employment generating development. The submission states "The EIS should recognise that the proposal is a low employment	It is acknowledged the development does not meet the Plan's target employment density of 21 jobs per hectare. For the following reasons, it is considered the stated employment density is appropriate given: • The proposed subdivision represents opportunities for further employment potential in the future • The facility is highly advanced with efficient technology. Therefore additional staff working on the facility would be superfluous and not a genuine reflection of the true employment potential • The employment per hectare for this facility is largely driven by space requirements for construction, erection, operation, and maintenance. A more compact site area and facility would bring about accessibility and maintenance difficulties. The proposed layout and site area represents an optimal layout and sizing	Refer to amended EIS. **Section 8.**

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	generating development and investigate if any measures should be taken to address this".	• The draft structure plan for the WSEA acknowledges the potential for users to have lower densities than others. The broader application of an average across all types of industry does not promote the delivery of a broader range of suitable uses or innovation in technology.	
5.	VPA requirement	It is acknowledged a VPA is required. TNG's expected liability under a VPA has been calculated at $180,000/net developable Ha for Lot 2. The Applicant has contacted Bruce Coleman at the Department for confirmation as to methodology and preparation of a draft agreement. A VPA proposal was postponed pending agreement with Blacktown Council on the proposed plan of subdivision and the relevant developable areas.	
6.	Hanson has asserted recent title searches with LPI indicate Lot 4 DP114508 does not exist.	Please note Lot 4 DP 1145808 has been changed to Lot 8 DP 1200048. Notwithstanding this the land to which the application relates is subject of amendment.	Refer to amended EIS. Section 4.10
7.	Jacfin assert the proposed use is inappropriate for the site, and the application fails to assess alternative locations. It is wrongly conceived that the surrounding industrial zoned land provides adequate separation distances and buffer which is significant due to the sites 'greenfield location'.	Alternatives are addressed in the EIS, the ability of the site to deliver the benefits listed below places the proposed location in significantly better stead above other potential options which may not have been able to deliver the same range of benefits. As such, other locations were dismissed. Another location would lack the opportunity for synergies and efficiencies with the Genesis MPC, and thus double handling of materials leading to greater traffic impacts on public roads to deliver the Residual Waste Fuel to the Facility. Benefits of chosen location include: • Proximity to Genesis MPC to maximise efficiencies with the proposed facility • Ideal location within Eastern Creek Industrial Precinct, creating an appropriate surrounding context for the development • Opportunity for shared infrastructure with the Genesis Xero Waste Facility, including roads • The broader site is an appropriate distance from sensitive receivers including residential areas • The broader site is buffered by other industrial land uses and roads, and does not adjoin sensitive land uses • Proximity to a major road network	Refer to amended EIS. Section 5. Flora and Fauna report

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		• Proximity to Transgrid easement, negating the need to carry out extensive works on other landowners property. The close proximity saves on cable distances and electricity loss from transporting to the grid. Further details on the preference for the location within the broader site are detailed within the Flora and Fauna response document appended to this document. It was considered that any other site immediately fails to present opportunities for efficiencies with the Genesis MPC. Without this adjacency, external impacts including traffic would immediately increase. It is maintained the proposed location and separation from surrounding land uses is adequate to avoid unacceptable impacts on surrounding properties in terms of hazards and risks, air quality, human health, noise, amenity, and other matters dealt with in more detail in the amended EIS.	**Appendix G**. Amended EIS.
8.	Jacfin asserts seeking approval for the whole development is premature and approval should only be given for the first phase so that the ability of the operator to manage and operate the facility to the best available technology standards proposed can be tested and proven before the second phase commences.	There will be a contract tender process for both construction and operation and maintenance of the facility. The SSDA applicant will not be the operator. Key criteria for awarding the operation and maintenance contract will be international experience in operating comparable waste-to-energy facilities. The facility's ability to comply with the relevant standards will be tested consistently throughout operation. Naturally, the second phase will not proceed should the facility fail to comply with the necessary standards. Seeking approval for both stages of the development is a reasonable approach. The proponent continues to seek approval for the full development; with Phase 2 of the development to be built when the relevant authorities are satisfied the required residual waste fuels are available to the facility.	
9.	Jacfin assert that the DCP must demonstrate the manner in which the premises will integrate into the planning for the whole of the Eastern Creek Precinct and take into account the Eastern Creek Stage 3 Precinct	A DCP is not required under the provisions of SEPP (WSEA) as the Eastern Creek Precinct Plan (stage 3) is a deemed DCP.	

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	Plan (now DCP)		
10.	Jacfin raises concerns in relation to the assessment of electricity transmission, noise, air quality, health impacts and visual impact in so far as they will affect worker amenity.	Matters relating to noise, air quality, human health and visual impacts are dealt with in other sections of this Response to Submissions. In summary it has been demonstrated the impacts of the proposed facility will not unacceptably affect worker amenity. It is not anticipated at this stage the electricity transmission associated with the project will have a significant impact on the environment in accordance with Section 111 of the EP&A Act. This is due to the underground cables being installed in the existing easement of Line 20. This will be reviewed by Transgrid as the project develops but at this stage it is anticipated that an assessment in the form of a Review of Environmental Factors (REF) will be prepared.	
11.	The National Toxics network submission states that by installing the facility, employment opportunities are foregone with 'cool' technologies being higher employment generators.	The proposed facility will generate 55 operational jobs, and up to 250 construction jobs over the three year construction period. The labour demand for the proposed Development and the range of jobs created are outlined in the amended EIS.	Amended EIS, Section 4.6.2.

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<table>
<tr><th></th><th>COMMENT</th><th>PROPONENT RESPONSE</th><th>DOCUMENT REFERENCE</th></tr>
<tr><td colspan="4">It is noted Ramboll have provided at Appendix L an updated technical design information document.

The original Concept Design Report (CDR) prepared by Fictchner was drafted in November 2013, revised several times and issued in March 2015 for the original EIS planning application submission. The CDR outlined the initial concept design of the Facility and discussed initial considerations of the key engineering design and technology aspects of the project including the risks associated with design, construction and operation. The amended application withdraws this report from further consideration. This information has been superseded and replaced by the Project Definition Brief prepared by Ramboll.

As a result additional and more accurate technical design information has now been developed which has been used to provide further information especially in the context of the EIS objections. Due to the further development of the plant technical design this data has been partially conflicting with the initial CDR information. This technical document at Appendix L seeks to restore the “single source” of information used for the further design and assessments.</td></tr>
<tr><td>1.</td><td>The development fails to consider the use of cooling towers.</td><td>The concept of air cooled condensers (ACC) has been chosen for reasons of natural resource conservation. Cooling towers consume a considerable amount of make-up (domestic-water) water. As an order of magnitude such a facility would consume approximately 2,800 litres of water per tonne of waste. This equates to approximately 3 billion litres of water per year. Comparatively, the water demand for an ACC is nil. ACC therefore are an environmentally friendly solution as they save a considerable amount of water compared to cooling towers.</td><td>Amended EIS refer to section 4.</td></tr>
<tr><td>2.</td><td>A heat balance has not been provided.</td><td>A water-steam and heat balance has been produced and cycle optimization has been checked carefully. The heat balance is subject to intellectual property rights and therefore is not publicly available. Nevertheless, we have listed the thermal input and output of the plant below

<table>
<tr><th></th><th><u>per Line</u></th></tr>
<tr><td>Input incineration</td><td></td></tr>
<tr><td>Thermal power waste + burner fuel</td><td>117'375 kW</td></tr>
<tr><td>Thermal power primary air</td><td>3'451 kW</td></tr>
<tr><td>Thermal power secondary air</td><td>2'435 kW</td></tr>
</table>
</td><td></td></tr>
</table>

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		Thermal power recirculated flue gas: 2'251 kW Thermal power solution reactant medium: -49 kW Total input incineration: 125'463 kW **Output incineration** Losses due to bottom and fly ash: 1'513 kW Losses due to radiation and convection: 795 kW Losses due to sensible heat of flue gas: 13'886 kW Power grate water cooling: 1'440 kW Power transferred into water/steam of boiler: 107'829 kW Total output incineration: 125'463 kW	
3.	The development proposes 2 steam turbines when only 1 is required.	To produce as much energy as possible the steam turbine has to be operated at 100% of its designed capacity. The plant is planned with four boiler lines, two of which will be built as part of Phase 1 construction, the remaining two as part of Phase 2 construction. Therefore it is the most efficient configuration to join two boilers to one turbine. As a result the turbine can run with a high efficiency while the two other boilers are in construction or in the event that a boiler is out of operation for maintenance. Operating out of one line would compromise operational efficiency.	Comments noted.
4.	No basis has been provided for the plant availability.	The availability has been chosen based on industry-standard and Ramboll's international experience with comparable Energy-from-Waste facilities. A plant availability of at least 8000 hours per year is a standard number used internationally. In the report of Tolvik (2014) which has compared all Energy from Waste facilities (EfWs) in UK, the availability based on the reported operational hours across of all EfWs available in 2014 is 90%, which equates to 7885 hours. As such the proposed availability is consistent with comparable facilities.	Amended EIS. Section 4.

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5.	Co-firing the fuel in accordance with best practice has not been considered and would increase the efficiency of the facility.	Co-firing of waste (in cement kilns or thermal power plants) is an accepted disposal method for a few and very specific waste fractions. Within others such fractions are tyres, waste oil, plastic fractions and waste wood. The main obstacle for a wide application of this method (besides the heterogeneity of waste in general) is the chloride content of construction and demolition, commercial and industrial as well as municipal solid waste. While industrial processes require chloride free fractions (otherwise either the product will be spoilt or the plant lifetime reduced), waste-to-energy facilities are designed and built to safely control such contamination. As a conclusion co-firing is not an alternative.	Comments noted.
6.	The EIS provides misleading information about the export of heat	It is correct that it is not practical to modify steam plant after construction to export heat in a suitable form. It is also correct that the technical possibility of exporting heat is not visible in the EIS. However, the turbine is constructed to export up to 20MW heat at 180°C per line. DADI is very interested to use this technical possibility and is actively exploring potential heat export possibilities. This potential will be pursued as a separate process to this SSDA.	Comments noted. Refer to amended EIS.
7.	Inconsistencies between EIS, WMR and Concept Design Report have resulted in uncertainty in information being provided.	Since exhibition all key technical reports including the EIS have been comprehensively reviewed and reissued to remove inconsistencies.	Refer to amended.
8.	EIS and supporting documentation only outline a possible concept for a facility and does not define the facility in sufficient detail to allow for a full adjudication to be made on whether the proposal is compliant with international best practice.	Since exhibition the operational design of the EfW plant has progressed and a Project Definition Brief has been prepared and a BAT assessment completed.	Project definition brief at **Appendix CC** and BAT assessment at **Appendix KK.**

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9.	Concerned the ability of the applicant to operate the facility is unproven.	There would be a contract tender process for construction and a second contract tender process for operation and maintenance of the facility. The applicant will not be the operator. Key criteria for awarding the operation and maintenance contract will be international experience in operating comparable waste-to-energy facilities.	Refer to the amended EIS, section 4.7.
10.	There is uncertainty about how the applicant will manage the need to adjust the operational parameters (particularly temperature) depending upon the characteristics of the waste materials (particularly halogenated organic substances containing chlorine) while still ensuring acceptable ambient air quality standards are met.	The operational parameters of waste flow, combustion air and temperatures will be automatically controlled by the Distributed Control System based on the incoming waste parameters. This will provide the necessary combustion conditions and maintain the necessary temperature and residence time in the secondary combustion chamber. Chlorine content will be managed by thorough mixing and homogenising of wastes in the bunker to ensure that wastes containing chlorine are appropriately managed. The process control described above is standard in modern WTE plant with comparable feedstock and with continuously very low emissions. Refer to emission data from plants with C+I / C+D and/or semi dry APC contained in the HHRA memo.	Refer to the project definition brief provided at **Appendix CC**.
11.	Mass combustion incinerators are the dirtiest form of energy generation both in terms of toxic emissions and climate change gases. Mass combustion facilities produce far more carbon dioxide per unit of energy generated than coal, oil or gas fired power stations.	Scientific studies and life cycle assessments of energy from waste facilities, particularly the type proposed in the EIS, do not provide evidence to support this comment. The CO_2 emission of a coal-fired power plant are 750–1100 kg CO_2 per MWh the (fossil) CO_2 emission of a WtE power plant 400-600 kg CO_2 per MWh. Coal-fired plants therefore can emit more than double the amount of CO_2 per MWh. According to broadly acknowledged life cycle assessment results (Primärenergiefaktoren von Energiesystemen, Frischknecht et al., 2012) the summarized environmental impact of electricity from waste-to-energy scores at 13.8, while coal scores 175.1 and gas 73.8 (the lower the score the lower the environmental impact). In this respect electricity from coal-fired power plant has a more than 10 times the environmental impact than electricity from a waste-to-energy facility.	Comments noted.

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12.	A recent study published in American Economic Review found that solid waste combustion has the highest ratio of negative environmental and economic impacts (gross external damage) to benefits, among U.S industries.	The study "Environmental Accounting for Pollution in the United State Economy" (American Economic Review 101, August 2011) investigates the gross external damage (based on emissions to air) in order to *"... develop the framework for integrating external effects into national economic accounts"* (cited from 2nd para., page 1650). With regard to energy from waste facilities this study states that *"Solid waste combustion facilities, sewage treatment plants, and marinas all provide valuable nonmarket services that are not correctly measured by prices in the national accounts."* (Second para. page 1666). Citing the study in this context is therefore inaccurate and misleading.	
13.	The application fails to objectively demonstrate the associated facility's (MRF) recycling performance and that it can meet specific state targets in the future (C&D - 80%, C&I - 70%, MSW - 70%)	The Genesis Xero Waste Facility is transparent in its operation and performance to the regulator as required under State legislation. All incoming material is weighed upon arrival; all outgoing material is weighed upon departure; and the fraction committed to landfill is weighed. All weights are reported monthly to the NSW EPA and verified by twice yearly independent survey. Genesis Xero Waste Facility does not release actual figures because they are commercial in confidence and confer upon Genesis a significant competitive advantage. The proportion of recycling is verifiable and EPA has the records. An overview of the process is as follows: 1. The Genesis Xero Waste Facility operates pursuant to Environmental Protection Licence (EPL 20121). Selected waste materials received by Genesis Xero Waste Facility are currently landfilled. 2. The incoming waste materials are accounted for by reference to an EPA mandated descriptive category. 3. Returns are forwarded monthly to the NSW EPA identifying the quantity by weight of each material in each specified category. 4. The site commenced commercial operation with a clean base level verified by independent survey which is provided to the NSW EPA. 5. Segregated materials such as brick, concrete sand and soil including co-mingled brick and concrete delivered to the site are readily identifiable by category and are managed in a specified part of the site by crushing, grinding, screening and separating. 6. These segregated materials (when processed) are sold from site. Until they are sold they remain in stockpile	Confidential source of waste document prepared by TNG and provided to the Department of Planning under a separate cover at **Appendix JJ.**

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		either as raw material for processing or as processed material for sale. 7. All stockpiles of segregated materials are subject to a biannual aerial photograph and independent survey, the results of which are reported to the NSW EPA. 8. The reporting enables the NSW EPA to ensure that the amount remaining in stockpiles matches: a) the balance of stock on hand from the previous survey plus b) new additional materials received in the same period minus c) the materials sold and transported off site during the same period. This leaves: d) the fraction landfilled. 9. The same methodology applies also to mulch and to timber wastes. 10. Co-mingled wastes containing materials from both the construction and demolition and the commercial and industrial waste streams are weighed as they enter the site as part of the overall obligation to weigh incoming materials. They are dealt with in a separate processing center. 11. Fractions are able to be recovered by a range of manual and mechanical processes. These include ferrous and non-ferrous metals, paper, cardboard , wood, plastic and concrete/ brick aggregates 12. Of these, the concrete/ brick aggregates are removed to be processed with the 'hardfill' materials, wood is managed with the remaining wood waste and the balance of recoverable materials are removed from site (steel, plastic, cardboard , paper). These are transported from site for processing by others. 13. Following the removal of all of these fractions there is a residue left which is currently landfilled and that quantity is also weighed for compliance with the *Protection of the Environment Operations Act 1997.* Energy from waste is part of the NSW Government Waste Avoidance and Resource Recovery Strategy. This includes the EPA Energy from Waste Policy. There is an opinion that the TNG Facility will somehow divert recycling targets. This is a misconception as no regulation or policy directive will change as a consequence of the TNG Facility and the TNG will be accepting waste destined for landfill. This will be audited both internally and by the EPA.	

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		Energy from waste complements recycling programs; it does not compete with them. The project compliments NSW's target increasing waste diverted from landfill to 75% by 2021-22. It should be noted that under the current NSW waste levy it is more profitable for DADI to recycle waste as oppose to using the waste for a fuel source in the TNG Facility. Therefore, it will be the preference and aim of DADI's Genesis Xero Waste Facility to recycle as far as reasonably practicable and not divert any recycling opportunities in favour of use at the TNG Facility. Additionally, TNG has provided the Department of Planning with a confidential source of waste document (Appendix JJ).	

TRAFFIC AND TRANSPORT

ISSUE RAISED BY:

- **AUSTRALAND (GHD)**
- **RMS**
- **EPA**

<table>
<tr><th></th><th>COMMENT</th><th>PROPONENT RESPONSE</th><th>DOCUMENT REFERENCE</th></tr>
<tr><td>1.</td><td>The RMS submission raises no objection to the Application. Items raised in the response are generally matters to be dealt with during detailed design development, prior to issue of a Construction Certificate.</td><td>Not required.</td><td></td></tr>
<tr><td>2.</td><td>There is no assessment on the impacts the construction truck movements will have on the surrounding road network. Although the management measures construction traffic will be detailed in the CTMP, management measures and commitments could be outlined in the EIS.</td><td>Peak construction traffic and peak traffic movements at the completion of the facility are detailed in the traffic report. The report identifies that expected peak traffic at completion of the facility is greater than traffic loads during construction. Therefore it can be deduced that the impact of construction traffic is acceptable given it is less than that at facility completion.

A further traffic management plan will be developed after approval. This plan will interface with the current Genesis Waste facility as DADI drive is utilised during construction. Any impacts from construction traffic will be less than that justified in the Traffic report for peak operation. This will limit traffic management within DADI property in relation to pure traffic control, queuing of construction traffic as opposed to traffic flow which is covered in the Traffic report.</td><td>Appendix Q ‘Traffic Report’.</td></tr>
<tr><td>3.</td><td>The GHD peer review states the TRAFFIX report does not satisfy the Director General’s Requirements.</td><td>It is asserted the Traffic and Transport Report submitted with the amended EIS adequately responded to the DGR’s. Nonetheless, a table has been prepared by Traffix which details how each DGR has been responded to. This table is provided below.
<table>
<tr><th>Item No.</th><th>Requirement</th><th>Response / Report Reference</th></tr>
<tr><td>1</td><td>Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need / associated funding for upgrading or road improvement works (if required)</td><td>The submitted traffic report clearly identifies Daily and peak Hourly movements.</td></tr>
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TRAFFIC AND TRANSPORT

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- **AUSTRALAND (GHD)**
- **RMS**
- **EPA**

2	Details of the proposed accesses 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 widths, etc).	Access arrangements are described in Section 8, with plans showing the access arrangements included in Appendix C. Swept paths and design commentary is provided in Appendix D. Notwithstanding, any minor non-compliance and/or additional splays can be dealt with during detailed design development in response to a suitable condition of Consent requiring compliance with AS2890, as required by the RMS response to the submission discussed above.
3	Proposed number of car parking spaces and compliance with the appropriate parking codes.	Refer Section 5 Parking Requirements of the submitted traffic report.
4	Details of service vehicle movements (including delivery vehicle type and likely arrival and departure times).	Refer to Section 6.1 Trip Generation of the submitted traffic report which outlines traffic generation and facility operational times (24 hours a day, 7 days a week).
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.	Not included in the traffic report as this is outside our area of expertise. Presumably addressed within the Preliminary Hazard Analysis included in Appendix Y of the submitted Environmental Impact Statement (EIS).
6	RMS will require in due course the provision of a traffic management plan for all demolition / construction activities, detailing vehicle routes, number of trucks,	Deferred with a detailed Construction Traffic Management Plan (CTMP) to be prepared, prior to issue of a Construction Certificate.

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ISSUE RAISED BY:

- **AUSTRALAND (GHD)**
- **RMS**
- **EPA**

		<table><tr><td></td><td>hours of operation, access arrangements and traffic control measures.</td><td></td></tr></table> One DGR which has not been responded to by Traffix is: *'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.'* Loads transported to and from the facility are not classified as a Dangerous Goods (DG); hence, are not subject to the State Environmental Planning Policy No. 33. This policy requires the assessment of the potential risks associated with the storage of DGs stored, handling and transportation to and from a facility. As the loads are not subject to this policy, it is not necessary to assess the risks associated with transportation of the waste in the Preliminary Hazard Analysis. It is noted the RMS response raises no objection to the application or satisfaction of the DGRs. Therefore it is assumed these matters are all adequately addressed by the submission, and comments by GHD that the RMS requirements have not been addressed would, in the view of Traffix, be unfounded.	
4.	No cumulative impact assessment for the Eastern Creek precinct.	The EIS has been amended since exhibition. A cumulative assessment has been made based on approved and known uses within the immediate locality.	Refer to the amended EIS.
5.	Inclusion of ash residue in traffic impact calculations	The EPA submission correctly identifies that the submitted traffic report does not account for the additional traffic volumes associated with the off-site disposal of ash residue produced at the facility. An amended traffic assessment has been undertaken since the EIS was exhibited. The amended report now include truck movements associated with the ash residues. This assessment concludes that the intersection will continue to operate with a Level of Service B or better during both on-street peak periods. As such, the additional traffic associated with ash residue removal (or the development generally) will have minimal impact on the surrounding road network or the general study conclusions of the submitted traffic report.	Revised traffic report provided at **Appendix Q.**
6.	GHD detailed review of submission	A response to the 'report issues' included in the GHD review is provided in the table below.	An amended traffic report

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Page No.	Item	GHD Comment	TRAFFIX Response
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.	Parking demands are discussed in Section 5.1 of the traffic report where it specifically states: "…results in a staff parking demand of 37 spaces. This demand would reduce to say 18 spaces outside of peak shift changeover periods."
14	Section titled, Parking Requirements	The TIA does not consider bicycle parking which may be required under the Blacktown City Council DCP.	The Blacktown City Council DCP does not include specific bicycle parking rates, other than to say provision for bicycle parking should be "encouraged". It is noted that a review of Journey-to-Work data for the locality (TZ 4045) did not indicate any use of bicycles by staff with a place of work in the locality such that the demand for bicycle parking will be minimal, if any. The traffic report conservatively assumes that all staff rely on a private vehicle (car) to access the site. In the event that a proportion of staff use bicycles, then some car parking could be converted for use as bicycle parking, as necessary. As such, provision of bicycle parking if deemed necessary can be dealt with by way of a suitable condition of consent.
16	Table 4 Heading states "Modelled"	The report does not clearly identify what was modelled, how it was calibrated or the outcomes.	The modelled tonnage on the basis of a conservative scenario whereby a total input of 1.35M tonnes is received from external sources.
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	Assumptions regarding vehicle size and tonnage capacity are provided.

has been prepared this is provided at **Appendix Q.**

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		they are conveying.	
18	First paragraph of page 18 states “Figure 6 below have been adopted for the purposes of peak hour intersection analysis for both peak periods”	Figure 6 only shows one (1) peak. Typically traffic assessments are of the AM and PM peak periods.	Traffic volumes have been adopted for the purposes of peak hour intersection analysis for both peak periods.”
18	Figure 6, states “Peak hour intersection volume change”	It is unclear which peak period (AM or PM is being described).	See comments above. These volumes relate to BOTH AM and PM peak periods.
20	“Construction Traffic Impacts”	The type and size of construction trucks should be shown and explained in this section.	No, they should not. This section of the report is provided only as an estimate of truck movements and will ultimately be confirmed when a specific Construction Traffic Management Plan report is prepared, following project approval, as stated in the traffic report.
22	Section 8.2, first dot point, mentions “…the general layout of the site lends itself to a one way clockwise circulation”.	There are not detailed plans in the report showing such a layout supporting the statement.	This is simply a recommendation based on review of the plans, as submitted. An indicative truck movement/circulation plan is provided in the Architectural package.
24	Conclusion section, third dot point “Management of staff shift changeovers may spread the peak car	This is assumption is uncertain and should be further justified.	No further justification necessary as a reduction in parking is not being relied upon.

TRAFFIC AND TRANSPORT

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			parking demands such that a reduced on-site parking provision may be appropriate."			
		Traffix notes the RMS has not raised any issues with the SIDRA traffic modelling undertaken.				

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VISUAL IMPACT

ISSUE RAISED BY:

- **JACFIN**
- **PENRITH COUNCIL**
- **BLACKTOWN DISTRICT ENVIRONMENTAL GROUP**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	Jacfin notes the Visual Impact Assessment has not considered impacts on Jacfin land. Visual impact is likely to affect the potential development of the remaining vacant land on our client's property Additional planting along the southern boundary of the Premises (to the south of the bio-retention basin) be included as a requirement of a Landscaping Plan. This should be consistent with maintaining the vegetation visual catchment indicated under the Eastern Creek Stage 3 Precinct Plan	It is not considered the proposed facility will interrupt regional or iconic views from Jacfin land. The proposed development is located within an industrial precinct containing large, bulky operations of a large scale. As such, views from within this industrial context are not considered sensitive and warranting view analysis. The DGR's require a visual assessment from nearby 'public receivers and significant vantage points'. This has been satisfied. It is noted the visual sensitivity of the development depends on a range of viewer characteristics. The primary characteristics used in the visual impact analysis (appended to the exhibited EIS) were: • Land use and the expectation of the viewer of a particular visual experience. • Distance of the development from viewers. It should be highlighted that the Jacfin site is zoned industrially, as is the surrounding land. As such, it is reasonable to expect that an industrial view within an industrial context. Additionally, the proposed facility is not positioned on the shared boundary between Jacfin and the broader subject site. A significant setback exists between the proposed facility and the site boundary. Visual presence of the facility is not considered to sterilise future industrial development of surrounding land given the proposed setbacks and the fact that no physical impacts from the proposal will affect Jacfin land. NSW Department of Primary Industry have recommended a VMP be prepared for revegetation works along the Rope's Creek Tributary south of the proposed development. Planting will take place along the watercourse, close to the southern boundary of the premises.	Appendix H of the amended EIS.

VISUAL IMPACT

ISSUE RAISED BY:

- **JACFIN**
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- **BLACKTOWN DISTRICT ENVIRONMENTAL GROUP**

2.	The visibility of stacks will be out of character.	It is asserted the development is located within land specifically zoned for industrial purposes. As such, the development is 'in character' with this land use, and the surrounding land uses within the industrial precinct. A visual impact assessment has been carried out which assesses the visual impact of the proposed facility from the most sensitive residential locations. The assessment concluded the visibility of the stacks will be low and from a considerable distance.	Visual Impact Assessment at Appendix H of the amended EIS
3.	Penrith Council notes a visual impact analysis has not been carried out from properties within Erskine Park.	Given the vast range of possible viewpoints, an analysis of all view options was not carried out. Rather, key viewpoints with the greatest impact were analysed. In the case of Erskine Park, the distance from the facility is comparable to that of the 'Peppertree Park' view analysis (1.7km) and as such this view analysis can be conservatively applied to Erskine Park. Views from Hocking Place and Swallow Drive, Erskine park benefit from foreground screening by buildings. Therefore views of the facility will be obscured compared to those from Peppertree Park.	Figure 21 of View Impact Assessment, provided at Appendix H of the amended EIS

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WASTE MANAGEMENT, WATE AND RECYCLING

ISSUE RAISED BY:

- **BLACKTOWN COUNCIL AND JACOBS**
- **BOOMERANG ALLIANCE**
- **EPA AND ENRISK AND ARUP**
- **NATIONAL TOXICS NETWORK**
- **NSW HEALTH**

	COMMENT	PROPONENT RESPONSE	DOCUMENT REFERENCE
1.	The assumed plant availability of 92% Is highly optimistic, and It overstates the potential electricity generation and the benefits of the whole EfVI/ plant. Achieving such a high availability Is not realistic in the Australian context	The availability has been chosen based on industry-standard and Ramboll's international experience with comparable Energy-from-Waste facilities. A plant availability of at least 8000 hours per year is a standard number used internationally. In the report of Tolvik (2014) which has compared all Energy from Waste facilities (EfWs) in UK, the availability based on the reported operational hours across of all EfWs available in 2014 is 90%, which equates to 7885 hours. As such the proposed availability is consistent with comparable facilities.	
2.	Air pollution control (APC) residues are not being processed on site. The EIS provides misleading information about the reuse of the ash.	The EIS has been amended since exhibition. For clarity purposes it is confirmed that there is no reuse of APC residues. Details of waste management practices for wastes arising from the EfW process are outlined in the WMR. In brief, APC residue is classified as follows: - APC waste should not be referred to as hazardous waste but as 'Restricted Solid Waste' in accordance with the EPA *Waste Classification Guidelines Part 1: Classifying Waste* (2014). As stated in the Waste Management Report "*there is a potential the waste may be classified as Hazardous Waste (although current analysis Restricted Solid Waste). In the event the waste exceeds the criteria for Restricted Solid Waste then the residue will be taken off site to a Hazardous Waste Treatment facility*." - The original EIS refers to APC/FGT requiring treatment prior to disposal to landfill. While this is true it should be made clear that treatment will be at an off-site licenced facility. For example, Section 3.3 (page 24) of the Waste Management Report (WMR) states *"Air Pollution Control (APC) residue ash will be collected into sealed storage silos and transported off-site in sealed tankers for further treatment or disposal."* Section 3.7.1 (pages 35) adds *"If TCLP testing shows it is leachable then it will be stabilised with cement."* *Bankstown Council has expressed concerns that no facilities have been nominated where the residual ash will be transported, treated (potentially) and disposed:* - Facilities authorised to receive and treat ash residue are available in NSW, and the material will only be taken	Waste Management Report, Appendix J of the amended EIS.

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- **NSW HEALTH**

		to such a facility. As such the potential issues associated with transportation, treatment and management of the residual ash at the receiving facility are addressed and regulated. *Bankstown Council also expressed concerns that the EIS is 'misleading' in its statement that APC residue could potentially be reused on concrete.* - The WMR lists three different residue ash disposal options. The Applicant accepts that transportation to a licenced waste treatment facility to treat the residue is the most likely disposal option. - Fly ashes from incinerator contain high concentrations of chlorine. Therefore the ash is not suitable to be reused in concrete.	
3.	Only half the waste fuel will be sourced from the neighbouring Genesis. Issue with remaining source, particularly with screening. Concerns about the screening of waste.	An outline of appropriate screening procedures is outlined in the WMR. As part of the operational requirements, appropriate waste sorting procedures will be refined to incorporate Conditions of Consent issued by the Department of Planning and Environment. The WMR proposes to verify the recovery rates of the TNG facility by requiring that audits be conducted by Green Star accredited auditors as per the same reporting scheme required for the Genesis facility. This will assist with ongoing quality control of the screening process. Continuous air emission monitoring will be a validation that sorting procedures are been successfully implemented. The question regarding the availability of waste as fuel source is a commercial issue. Despite this, the availability of waste as a fuel source has been investigated and discussed in the amended EIS and WMR. As stated in the amended EIS and WMR the facility will be implemented in two stages: - Phase 1 (lines 1 and 2) which will require 552,500 tpa as waste. - Phase 2 (lines 1, 2, 3 and 4) which will require 1,105,000 tpa as waste. The eligible tonnes received currently across DADI's extensive waste asset portfolio exceed the tonnes required for lines 1 and 2 (552,500tpa). The Genesis Xero Waste Facility operates pursuant to EPL 20121. The incoming waste materials are accounted for by reference to an EPA mandated descriptive category. Returns are forwarded monthly to the NSW EPA identifying the quantity by weight of each material in each specified category. All stockpiles of these	Appendix J, Waste Management Report. Confidential source of waste document prepared by TNG and provided to the Department of Planning under a separate cover at Appendix JJ.

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		materials are subject to a biannual aerial photograph and independent survey the results of which are reported to the NSW EPA. Ramboll environ have estimate that there is potentially 1,112,115 tonnes of C&D and 1,430,000 tonnes of C&I residual waste fuels available in SMA for use by TNG. It is noted that recycling percentages have increased overtime however, population increases have meant that waste generation overall has increased to counter increases in recycling. From the study and DADI's working knowledge of the waste markets, confidence can be placed on the availability of waste as a fuel source to meet the tonnes per annum requirements to run all four lines. Importantly, DADI plans to commission the plant in two phases to give time to make contract arrangements with waste collectors in order to assure there is sufficient waste fuel to open lines 3 and 4. Without approval and an operating plant it is unrealistic to have these contracts in place. It should be noted that under the current NSW waste levy it is more profitable for DADI to recycle waste as oppose to using the waste for a fuel source in the TNG Facility. Therefore, it will be the preference and aim of DADI's Genesis Xero Waste Facility to recycle as far as reasonable practicable and not divert any recycling opportunities in favour of use at the TNG Facility. Additionally, a cconfidential source of waste document prepared by TNG has been provided to the Department of Planning under a separate cover (Appendix JJ).	
4.	Application is in breach of the state waste recycling targets (75% recycling overall) (waste to energy is not classified as recycling).	Energy from waste is part of the NSW Government Waste Avoidance and Resource Recovery Strategy. This includes the EPA Energy from Waste Policy. The facility would not be in breach of, or be an impediment to achieving the NSW State recycling target of 75% recycling for municipal solid waste for 2021-22, as the facility does not intercept waste eligible for recycling. Rather, it exclusively accepts waste destined for landfill.	

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		It should be noted that under the current NSW waste levy it is more profitable for DADI to recycle waste as opposed to using the waste for a fuel source in the TNG Facility. Therefore, it will be the preference and aim of DADI's Genesis Xero Waste Facility to recycle as far as reasonably practicable and not divert any recycling opportunities in favour of use at the TNG Facility. As such, energy from waste complements recycling programs; it does not compete with them. The project compliments the Applicant's priority to recycle wastes, and further minimise waste going to landfill. It is apparent there is an agency concern the TNG Facility will somehow divert waste capable of being recycled, and compromise recycling targets. This is a misconception. It must be noted that no regulation or policy directive will change as a consequence of the TNG Facility. The performance of the facility will be audited both internally and by the EPA.	
5.	Long term increase in recycling not considered. Concern if resources are 'locked in' to long term contracts with the facility.	As discussed above, Energy from waste complements recycling programs; it does not compete with them. The project compliments NSW's target increasing waste diverted from landfill to 75% by 2021-22. DADI expects recycling rates to increase overtime but also expects there to be a sufficient volume of waste requiring disposal as the general volume of waste has increased over time. It should be noted that under the current NSW waste levy it is more profitable for DADI to recycle waste as opposed to using the waste for a fuel source in the TNG Facility. Therefore, it will be the preference and aim of DADI's Genesis Xero Waste Facility to recycle as far as reasonably practicable and not divert any recycling opportunities in favour of use at the TNG Facility.	
6.	The material to be used (mixed C&I & C&D, shredder floc) is likely to contain serious hazardous materials which can lead to pollution spikes.	With regard to the mitigation and management of air emissions, hazardous substances processed at the facility will either be of organic or inorganic nature. The combustion chamber provides best possible conditions for complete destruction of organic substances at temperatures above 1000° C and inorganic substances remaining (especially heavy metals) will be eliminated by the Air Pollution Control (APC) system. The APC system is designed, controlled and operated to capture such substances even when occurring as a spike. As such, the risk of 'pollution spikes' from	Refer to the project definition brief (**Appendix CC**)

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		any hazardous materials is entirely mitigated and controlled closely on a continuous basis. Chemical profiles and compositional information on wastes to be treated are provided in the Project definition brief prepared by Ramboll.	
7.	Facility targets waste streams which are outside materials the NSW EPA has considered 'eligible fuels'	In regards to '*eligible fuels'* Section 4 of the NSW Energy to Waste Policy Statement states that *"Any facility proposing to thermally treat a waste or waste-derived material that is not a listed eligible waste fuel (Section 3 – eligible waste) must meet the requirements to be an energy recovery facility*". TNG will seek a resource recovery exemption from the EPA. TNG will record the origin, composition and consistency of these wastes before seeking an exemption. This will allow the emissions from thermal treatment to be known and consistent over time.	
8.	The proposal is seeking to change current pollution controls for chlorine and allowing toxic emissions.	The proposal is not seeking to change any emission requirements and uses a proven and worldwide accepted system for air pollution control. The proponent has requested for changes of the NSW EfW Policy to be amended to reflect the EU regulation and best international practices. The facility will process materials contain chlorine, further information is provided on these fractional waste streams and how they are processed. In particular, details on waste mixing and homogenisation prior treatment. Emissions will be within the NSW PoEO (Clean Air) Regulation limits, where the proposal seeks to alter any such emissions level they are been reduced to below the PoEO limit to improve the air quality outcomes.	Refer to the Project Definition Brief on waste streams and the management of "special waste fractions" **Appendix CC.** Air Quality Report provides information on proposed emission limits (**Appendix K**).
9.	Requests clarification on: • The total tonnes received on the site by waste stream and material (which is a basic KPI of any	Refer to Point 13 in the 'Technology' response table, and Point 3 in this table. Genesis Xero Waste Facility does not release actual figures because they are commercial in confidence and confer upon Genesis a significant competitive advantage. The proportion of recycling is verifiable and EPA has the records.	

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	legitimate recycling operation); • What is currently recycled on the site by waste stream and material (again a basic industry KPI);		
10.	The proposal exaggerates the amount of waste to landfill available to be diverted within the C&I and C&D streams. Boomerang Alliance estimates the 1 – 1.2 million tonnes per annum of available waste for any waste to energy facility.	A revised waste management report has been prepared since exhibition. The waste management, prepared by Ramboll Environ estimates that there is currently 1,112,150 tonnes of C&D and 1,430,000 tonnes of C&I residual wastes available in SMA for use by TNG.	Refer to Appendix J.
11.	Any mixed waste stream has the potential to be contaminated with toxic materials as the input point cannot be controlled.	Refer to the responses to Points 6 and 21 in this table. Point 11 references that no two Energy from Waste plants would have “identical” feedstock as the feedstock always depends on the region and the waste fractions delivered to the plant. However when comparing the operation and emission behavior of plants they are largely consistent, irrespective of location and feedstock. Detailed screening procedures will be put in place and the success of these procedures will be measurable by the continuous air emission monitoring. The potential for any inorganic substances (especially heavy metals) to enter the system and contaminate the fuel will be eliminated by the Air Pollution Control (APC) system. The APC system is designed, controlled and operated to capture such substances and manage accordingly.	Refer to Appendix J.
12.	Processing a mixed plastic stream	Refer to the responses to Points 6 and 21 in this table.	

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	poses significant pollution risks, Plastics from used containers found on buildings sites bright about toxicity issues.	Point 21 in this table references that no two Energy from Waste plants would have “identical” feedstock as the feedstock always depends on the region and the waste fractions delivered to the plant. However when comparing the operation and emission behavior of plants they are largely consistent, irrespective of location and feedstock. The energy from waste plant has a destruction and removal process for every single contaminant group (including acid gases, organic substances, heavy and metals). The combustion chamber provides best possible conditions for complete destruction of organic substances at temperatures above 1000° C and inorganic substances remaining (especially heavy metals) will be eliminated by the Air Pollution Control (APC) system. The APC system is designed, controlled and operated to capture such substances even when occurring as a spike. As such, the risk of ‘pollution spikes’ from any hazardous materials is entirely mitigated and controlled by continuous emission monitoring	
13.	Plastic film, dense plastics, paper and card (estimated to be about 120,000t) in Stage 1 are eminently recyclable and improved recovery techniques could capture them for recycling.	Under the current NSW waste levy it is more profitable for DADI to recycle waste as opposed to using the waste for a fuel source in the TNG Facility. Therefore, it will be the preference and aim of DADI’s Genesis Xero Waste Facility to recycle as far as reasonably practicable and not divert any recycling opportunities in favour of use at the TNG Facility.	Noted. TNG will only process residual waste streams.
14.	Claim the current facility already achieves 75-80% recycling is difficult to validate.	Recovery rate is verifiable via the reporting and independent surveying the facility is subject to on a continuous basis. The Genesis Xero Waste Facility is transparent in its operation and performance to the regulator.	N/A
15.	The methodology to project the ash residual and its constituent nature is naïve. Use of ash as a road base is unlikely, more likely to end up in landfill, therefore should be deducted from	Waste output streams are detailed in the amended EIS and Waste Management Report (Appendix J). These include: • Bottom Ash; • Boiler Ash; and • APC Residue.	Waste Management Report, Appendix J of the amended EIS.

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	recycling claim.	There will be no liquid effluent generated as a result of the combustion process. Waste disposal measures and treatment will vary based on the varying ash properties. Refer to the section 6 of WMR (Appendix J) The Applicant accepts that transportation to a licenced waste treatment facility to treat the residue is the most likely disposal option.	
16.	Substantially better recycling (now and in the future) is not considered as an alternative	The assessment and consideration of alternatives can only fully consider alternatives that are currently approved and/or operating and proven to be effective. Speculative technology, understandably, has not been relied upon. DADI acknowledges that recycling technology may improve in the future, however a factual and robust consideration of alternatives requires adequate details on realistic and certain alternatives.	Comments noted.
17.	Not enough information to demonstrate compliance with the requirements of Part 4 of the Energy from Waste Policy	The facility's compliance with the criteria of Part 4 of the Energy from Waste Policy is addressed in the WMR. It is noted that issues and requirements raised by the relevant regulating authority have been satisfied, and therefore compliance can be demonstrated. Specifically: **EPA comment**: The source, supply, composition recovery and management of the proposed waste fuel feedstock. **Response:** See emission data from plants with C+I / C+D and/or semi dry APC contained in HHRA memo. **EPA comment**: The project does not demonstrate compliance with air emissions standards. **Response:** The Air Quality report has undergone significant amendments in response to EPA concerns. The plant is consistent with most recent standards as the IED; Directive 2010/75/EU. Continuous air emission monitoring will be a validation that sorting procedures are been successfully implemented. **EPA requirement/issue**: Dialogue with the community during and post the EIS process and no commitment for a	Waste Management Report, Appendix J Appendix W of the amended EIS 'Community Communication and Consultation Report. Ongoing Community Consultation Strategy, **Appendix II**.

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		good neighbour principle. **Response**: • Appendix W of the exhibited EIS Provides Community Communication and Consultation. Appendix X described ongoing consultation in Section 5 which is considered adequate for consultation to-date. • Appendix W described ongoing consultation in Section 5: "*In line with TNG NSW's commitment to open, transparent and ongoing community engagement a range of additional communication activities will be undertaken. Additional communication and consultation with the community (to support the public exhibition or during preparation of the EIS) includes:* - *Printed collateral – including fact sheets to provide further information about the technical aspects of the project, together with updates and answers to frequently asked questions.* - *Community information events – such as site visit community days to enable direct interaction between the project team and interested community members and stakeholders.* - *Project website – to post regular updates and to enable the upload of relevant documents and plans. Updates could also be provided during the work program.* - *In addition to the above it is envisaged that the 1800 community information telephone number be continued to ensure there is a direct point of contact to respond to queries.*" Additionally, an Ongoing Consultation Strategy has been prepared.	
18	WMR and supporting appendices contain limited, conflicting and sometimes inconsistent information about the source, supply, composition, recovery and management of the proposed waste fuel feedstock for the TNG facility. Without sufficient information, the	Since the exhibition of the initial EIS, a comprehensive review of the primary technical information has been undertaken to remove inconsistencies.	Refer to amended reports.

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	EPA cannot complete an assessment of the feedstock proposed by TNG to determine their compliance with the Resource Recovery Criteria in the Energy from Waste Policy.		
19.	Information provided does not show that proof of performance trials will be undertaken to demonstrate compliance with air emissions standards, that genuine dialogue with community has and will continue to be undertaken or that there is any commitment to the good neighbour principle within the Energy from Waste Policy.	**Community Dialogue** The WMR describes that: "The operators of an energy from waste facility will need to be 'good neighbours' – particularly if near a residential setting but also where there are workers in other facilities. This would apply to waste deliveries and operating hours, but most importantly with respect to readily available information about emissions and resource recovery outcomes." Appendix W of the amended EIS Provides Community Communication and Consultation. Appendix II described ongoing consultation in Section 5: *"In line with TNG NSW's commitment to open, transparent and ongoing community engagement a range of additional communication activities will be undertaken. Additional communication and consultation with the community (to support the public exhibition or during preparation of the EIS) includes:* - *Printed collateral – including fact sheets to provide further information about the technical aspects of the project, together with updates and answers to frequently asked questions.* - *Community information events – such as site visit community days to enable direct interaction between the project team and interested community members and stakeholders.* - *Project website – to post regular updates and to enable the upload of relevant documents and plans. Updates could also be provided during the work program.* - *In addition to the above it is envisaged that the 1800 community information telephone number be continued to ensure there is a direct point of contact to respond to queries.*	**Refer to Appendix J:** Good Neighbour Policy response; **Appendix W and Appendix II for** consultation to date and ongoing consultation framework. **Appendix LL** for proposed Proof of Performance framework.

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		Additionally, an Ongoing Consultation Strategy has been prepared. The Strategy is appended to this document. **Proof of Performance** This is described in the amended EIS. TNG will fully comply with all EPA requirements, allowing independent personnel to conduct proof of performance trials at any time. As part of the environment protection licence conditions of any energy recovery facilities, the EPA will require operators to undertake proof of performance trials to demonstrate compliance with air emissions standards.	
20.	Real data for how the proposed technology will handle proposed feedstock not adequately provided. Similar facilities have been listed, but are not appropriate for use.	A list of plants with comparable feedstock (mainly or exclusively construction and demolition, commercial and industrial waste) and identical APC process have been supplied. This list also includes emissions from these plants. This appendix shows publicly available emission data from plants exclusively fired by construction and demolition, commercial and industrial waste with semi dry APC system (as used for the TNG project) as well as plants with mixed waste (MSW plus C&I, C&D). In summary all values are comparable and below the emission limits.	Refer to Technical Memo from Ramboll, re: CoPC (**Appendix DD**)
21.	Most assessments rely heavily on knowing the waste feedstock proposed to be accepted at the facility and how the facility will process it. Without clear real data it is difficult to robustly assess impacts.	A list of plants with comparable feedstock (mainly or exclusively construction and demolition, commercial and industrial waste) and identical APC process have been supplied. It is acknowledged that worldwide no two Energy from Waste plants would have “identical” feedstock as the feedstock always depends on the region and the waste fractions delivered to the plant. However when comparing the operation and emission behavior of plants they 2 are largely consistent, irrespective of location and feedstock. The reason for this is that the energy from waste plant has a destruction and removal process for every single contaminant group (including acid gases, organic substances, heavy and metals) and controlled by continuous emission monitoring. As a result plants with comparable (not identical) feedstock are sound evidence for the suitability of the technology. Further it should be noted that HZI’s (HZI technology forms the basis of the facility assessed in the amended EIS) state-of-the-art thermal and biological waste and flue gas treatment solutions have been part of some 600 reference projects delivered since 1933. Ramboll (the process engineering advisors to the Applicant) is internationally recognized as the world-leading waste-	Refer to discussion of reference facilities in the amended EIS.

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		to-energy consultancy. Ramboll has worked on waste-to-energy projects in 40 countries around the world, providing consulting services for 130 new units and retrofits.	
22.	In addition to producing larger quantities of greenhouse gas (GHG) per energy unit than coal, incinerators also destroy the 'resources' in waste including the embedded energy that could be recovered through recycling and reuse.	This comment refers to incinerators in general. The TNG project is far more sophisticated than general incineration, typically emissions generated from the EfW are lower that derived from the NSW electricity grid. In addition, all recycling and reuse opportunities will have been exhausted before the materials arrive at the Facility. It is in DADI's commercial interest that the Genesis Xero Waste Facility recycles all materials as far as reasonably practicable and not divert any recycling opportunities in favour of use at the TNG Facility.Only materials destined for landfill will be processed.	Refer to the Waste Management Report, **Appendix J**
23.	Much of the residual waste material burned in incinerators is based on petrochemicals "Petrochemicals are fossil fuels and burning plastics derived from fossil fuels does not create 'green' energy – It is simply burning fossil fuels in another form.	A small portion of the fuel source will be derived from petrochemicals. Based on European experience at least 50% of the energy content of waste fuel is based on renewable source (paper/card, vegetation, wood, combustibles etc). For the TNG facility this design fuel mix value is even 56%. Less than 18% of the fuel source will be derived from a petrochemical (not 'much' which is stated by the National Toxics Network). This is waste that would otherwise be going to landfill. The WMR provided a breakdown of the composition of fuel sources. Emissions generated from the incinerator are lower than that derived from the NSW electricity grid. The proponent does not state that the WfE project is 'green energy' but instead assists in reducing the demand on Sydney's declining landfill space whilst providing an alternative energy source with GHG emission lower than that of the NSW electricity grid.	Refer to the Waste Management Report, **Appendix J**
24.	TNG has not demonstrated that their facility will adequately provide for detailed source separation needed to reduce the levels of residual waste	The TNG facility will only accept waste that will otherwise be going to landfill. An outline of appropriate screening procedures is outlined in the WMR (**Appendix J**). As part of the operational requirements, appropriate waste sorting procedures will be refined to incorporate Conditions of Consent issued by the	**Appendix J**

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	that would enter the incinerator.	Department of Planning and Environment. In addition the Applicant proposes to verify the recovery rates of the TNG by requiring that audits be conducted by accredited auditors, like Green Star, as per the same reporting scheme required for the Genesis facility. Continuous air emission monitoring will be a validation that sorting procedures are been successfully implemented.	
25.	Generation of toxic ash - there is currently no market for incinerator ash in Australia and it must be disposed of to landfill, most probably Eastern Creek Landfill.	The residues of energy from waste represent 20-25% of the waste processed in the system. Previously, all this waste would (under current waste management technologies) have been disposed to landfill. While some of the residues may need to be disposed of to landfill (if a market for its reuse is not available), this represents a significant reduction in the amount of material currently having to be disposed to landfill. Facilities authorised to receive and treat ash residue are available in NSW, and the material will only be taken to such a facility. As such the potential issues associated with transportation, treatment and management of the residual ash at the receiving facility are addressed and regulated. The Applicant accepts that this will require further testing of the composition of the ash after commissioning of the facility as well as the establishment of commercial arrangement (and potential regulatory approval) prior to nominating a landfill. Facilities authorised to receive and treat ash residue are available in NSW, and the material will only be taken to such a facility. As such the potential issues associated with transportation, treatment and management of the residual ash at the receiving facility are addressed and regulated.	
26.	Waste to energy incineration entrenches a linear economy in our society that relies on the extraction of virgin materials and rewards consumptive and wasteful lifestyle choices.	The Applicant contends that energy from waste does not promote consumptive and wasteful lifestyle choices. Energy from waste in fact complements (and does not remove or compete with) recycling and reuse strategies, and reduces the need to extract virgin materials (such as coal) for the generation of energy. Along with other recycling and reuse strategies, energy from waste reduces the amount of waste that would previously have gone to a landfill without any beneficial reuse.	N/A

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27.	Residual wastes should be shrinking with increased recycling and composting. The entire premise of this project is based on this shrinking waste stream and therefore does not provide a robust long-term business case.	The Applicant accepts that the rate of recycling waste is increasing, however, population growth and GDP is increasing and therefore the total volume of waste generated is increasing to supplement increasing in recycling percentages. As a result DADI forecasts that there will be an adequate supply of fuel sources (waste currently destined for landfill) to support the facility.	N/A
28.	If the waste stream is locked up by incinerators for decades, alternative waste treatment technologies including recycling, re-use, composting and anaerobic digestion are effectively stymied.	The technologies identified (recycling, re-use, composting and anaerobic digestion) have operated for many years, and continue to be developed and operated. As noted above, energy from waste complements, not replaces, other technologies. It should be noted that under the current NSW waste levy it is more profitable for DADI to recycle waste as oppose to using the waste for a fuel source in the TNG Facility. Therefore, it will be the preference and aim of DADI's Genesis Xero Waste Facility to recycle as far as reasonably practicable and not divert any recycling opportunities in favour of use at the TNG Facility.	N/A
29.	Robust mechanisms (including multiple barriers) need to be put in place to ensure asbestos containing materials, which can be comingled with C&D waste and difficult to detect, are not inadvertently transferred to the mixed waste feed hopper of the facility for incineration.	An outline of the screening procedures is outlined in the WMR (**Appendix J**). As part of the operational requirements, appropriate waste sorting procedures will be refined to incorporate Conditions of Consent issued by the Department of Planning and Environment Asbestos is not an approved fuel for the TNG energy from waste facility. Upstream sorting and screening procedures will be implemented to stop asbestos entering the plant \. In addition: • An asbestos management plan (dated May 2015) is currently active for Genesis. This is currently being updated and is likely to be finalised in October 2015. This asbestos management plan can be adapted and made appropriate for the TNG Facility. • The Applicant would accept a Condition of Consent requiring that a site specific asbestos management plan be	Refer to **Appendix J**

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		developed and submitted to the DP&E prior to the commissioning of the Facility. In the unlikely case of asbestos being processed in the facility it will be treated securely to avoid potential health risks. In case the asbestos enters the process as cement bound material, particles will not be released and the residue will remain as inert material in the bottom ash. In case the material enters in powderized form, it will be transferred to the fly ash, precipitated and removed in the APC system. As a result asbestos emissions are not considered an issue for energy from waste plants.	