TNG ENERGY FROM WASTE ELECTRICITY GENERATING FACILITY

CONSOLIDATED AGENCY FEEDBACK FROM TEST OF ADEQUACY (DECEMBER 2014)

Key	Comments from:
	Arup (for DPE)
	Dept. of Planning
	EPA
	Blacktown City Council
	Enrisk
	RMS
	Ozzy
	OEH

DG requirement		Environmental Assessment Requirements/ general requirements	Agency Reference	Review Comments	Applicant Team Response	Applicant Reference
General Requirements						
Arup (gnl)	1.	The Proponent must demonstrate that the technology will perform as stated in the EIS, with the composition of feedstock proposed.		While the technology proposed (HZI Moving Grate) is primarily designed and well established for the management of Municipal Solid Waste ("MSW"), it is not well established for the management of a composition of C&I and C&D feedstock. Demonstration of performance can be done by providing real data from named reference facilities that treat the same type and mix of wastes that are proposed for the Next Generation facility (C&I and C&D) for comparison. However, the EIS does not list any named reference facilities or 'real' representative data from those facilities to support the assertion made in the EIS about the performance of the proposed Next Generation facility with the proposed feedstock composition. Therefore, the Proponent must provide named reference facilities treating similar feedstock and ratios as is proposed for the Next Generation Facility. This includes specific data on the composition of waste feedstock received at those named reference facilities and the subsequent performance of those facilities, so it can be compared to the Next Generation's proposed facility.	The following is a list of EfW plants with moving grate technology whose fuel contains only or to an important fraction of C&I waste or pre-treated (often mostly commercial) waste. • 'TREDI' in Salaise, France. 146'000 t/a, Grate furnace within a plant for treatment of industrial and hazardous waste • 'KEBAG' in Zuchwil, Switzerland. 200'000 t/a, 50% C&I waste (no pretreatment) • 'VFA' in Buchs, Switzerland. 180'000 t/a, 65% C&I waste (no pretreatment) • 'STADTWERKE ERFURT' in Erfurt, Germany. 80'000 t/a 100% pretreated MS and C&I waste (RDF) (fraction not known) • 'EEW' in Knapsack, Germany. 300'000 t/a 100% pretreated C&I waste (RDF)	EIS Section 3.
	2.			The EIS is not a stand-alone document and relies heavily on information contained within the appendices and even at that the information is spread across a number of the appendices. This makes the EIS difficult to read and review.	A peer review has been carried out by Ramboll and ENVIRON Australia. The quality and independence of the EIS is considered to have substantially improved since the previous submission. Ramboll and ENVIRON Australia consider the EIS addresses the comments from the agencies' reviews and is adequate for exhibition.	

	3.			The EIS does not provide all the supporting information required and makes a large number of general statements without providing justification or supporting data.	See above.	
	4.			The assessment of the need for the development is weak and does not provide robust analysis of current waste and infrastructure available in catchment area for this proposal. Furthermore, no assessment is made of other potential EfW projects that could be drawing on the same waste feedstock as this proposal. The EIS implies that the total available residual C&I and C&D waste streams in the catchment area are available to the facility. This assumption is not supported by any analysis of financial or demand modelling.	Additional information has been added on need for the development and detail on current waste infrastructure in the catchment area. A section on material input streams has been provided in the Waste Management Report and EIS. Although there is a lot of interest in EfW, particularly spurred on by the release of the EfW Policy Statement, TNG is by far the furthest advanced in terms of planning, licensing and procurement. No other large scale EfW facilities are currently in operation in NSW. As such, there are currently no other EfW facilities that would be drawing on the same waste feedstock as the proposal.	EIS Section 24. EIS Section 10.4, Waste Report Section 2. EIS Section 24.3
	5.			The assessment of the potential sources of feedstock is confusing and it is not clear where feedstock will emanate from outside of the c10% residual waste by-product from the Genesis Xero Facility.	Clarification of sources has been provided in the Waste Management Report.	Waste Report Section 3.5
	6.	Further details on compositional data required		Very little compositional data is provided on the proposed feedstock. It categorises feedstock as general C&D and C&I and residual waste from Genesis Facility, "Flock waste" and other organic waste. Some compositional data is provided in the Fichtner Concept Design Report (Appendix Y) but it does not clarify if this data is based on Australian compositional analysis.	See above.	Waste Report Section 3.5
	7.			The composition of the bottom ash provided is based on the EfW facility burning Municipal Solid Waste. This facility will handle other feedstock and therefore the data provided is not representative of the waste that will be treated at the proposed facility.	This has been updated accordingly.	Waste Report Section 6.6.1
	8.	The Concept Design Report suggests the		This needs to be clarified as it will impact construction	Phasing details have been provided in the EIS	EIS Section

		facility will be phased but no details are provided on phasing in the Main EIS.		activities etc.		3.3
	9.	No information is provided on the proposed facility's Distributed Control System (DCS).			Details of the DCS provided in EIS and Appendix E of the Waste Report.	EIS Section 3.13. Waste Report Appendix E.
	10.	There is no separate assessment of cumulative impacts with other existing or proposed projects, except for where a short commentary is provided at the end of individual chapter.			Section added in EIS.	EIS Section 9.2
	11.	The EIS has no referencing. There are numerous spelling, incomplete sentences and inconsistencies on information provided in the main document and appendices throughout			A peer review has been carried out by Ramboll and ENVIRON Australia. The quality and independence of the EIS is considered to have substantially improved since the previous submission. Ramboll and ENVIRON Australia consider the EIS addresses the comments from the agencies' reviews and is adequate for exhibition.	
Arup (DGR)	12.	Detailed description of the development, including need for the development; alternatives considered; engineering and/or architectural plans; justification for the development taking into consideration its location, any environmental impacts of the development, suitability of the site and whether the development is in the public interest	Executive Summary, section 3.0, 4.0 and 24.0.	The need and justification for the development is addressed in Section 4, 24 and the Executive Summary and the Waste Management Assessment Report. Further information and analysis on the justification for the project would be beneficial, particularly around the demand for waste infrastructure including EfW and the economic viability of the project in relation to a changing renewable energy and carbon market. No information on the staging of the development was located, although suggested in the Concept Design Report.	Additional information has been included around the demand for waste infrastructure and economic viability of the project. A summary on the phasing of construction has been provided.	EIS Section 24 EIS Section 3.2
	13.	Likely interactions between the development and existing, approved and proposed operations in the vicinity of the site		No information on the interaction with existing, approved and proposed operations in the vicinity of the site could be located, with the exception of the provision of some information on the existing Genesis Xero Waste Facility. No discussion on any potential interactive or cumulative impacts was located in the main body of the EIS, although air, noise and traffic assessments in appendices had considered cumulative impacts. An additional section	Additional section added to EIS addressing cumulative impacts	EIS Section 9.2

				should be added to the EIS describing existing, approved and proposed operations and the interactive/cumulative impact of these in combination with the proposed project.		
	14.	Consideration of any relevant statutory provisions	Sections 7.0 and 8.0		-	
	15.	Risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment	Section 5.0	A summary of risk assessment has been provided in Section 5.0. Further information on the risk assessment methodology, criteria and scale/level of impact should be provided.	The Director-General's Environmental Assessment Requirements do not include an Environmental Risk Analysis. Further detail has been provided.	EIS Section 5.
	16.	Detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: a description of the existing environment, using sufficient baseline data; an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment;	Various	A detailed assessment of key issues below is provided, as well as some additional issues (Section 22.0). There is limited assessment of staging options and cumulative impacts; descriptions of operational controls, contingency plans, monitoring and reporting could also be provided in more detail.	Staging details provided. Cumulative impacts detailed. Details of DCS provided.	EIS Section 3.3, 3.13, 9.2, 10-22.
	17.	Consolidated summary of all the proposed environmental management, mitigation and monitoring measures, highlighting all commitments included in the EIS.	Sections 23.0 and 25.0	A summary of recommended mitigation measures is provided in Section 23.0. The proponent should confirm that all mitigation measures listed are to be applied (the use of 'if possible', 'should' etc. should be avoided). Section 25.0 provides a summary of residual impacts and commitments. Monitoring measures should also be included in these sections where relevant.	Mitigation/control measures have been confirmed. Monitoring measures included where relevant.	EIS Section 23, 25.
	18.	The EIS must also be accompanied by a report from a qualified quantity surveyor providing: a detailed calculation of the capital investment value (CIV) of the development (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000), including details of all assumptions and components from which the CIV calculation is derived; a close estimate	Appendix I, Section 3.0	Appendix I contains a report from a quantity surveyor providing calculations of the capital investment value, although information on assumptions is limited. A close estimate of operational jobs that will be created by the development is provided, however detailed information on construction employment is not provided. Information on how jobs figures were developed and relevant assumptions would be beneficial.	These details have been provided.	EIS Section 24.2, Appendix J.

		of the jobs that will be created by the development during construction and operation; and verification that the CIV was accurate on the date that it was prepared.				
DPE	19.	The EIS does not demonstrate that the proposed facility can perform adequately with the intended feedstock, which is to consist of construction/demolition and commercial/industrial waste residue.		The data upon which the proposed facility is based appears to be representative of municipal solid waste, which is different in its composition and characteristics to the intended feedstock. In addition, not all waste outputs from the facility are fully described (e.g. boiler ash and effluent) and there is insufficient analysis of the end-treatments or facilities for such outputs.	Waste Report has been updated accordingly.	Waste Report Section 6.1, 6.6
EPA	20.			The feedstock for the proposed facility is referred to as "fuel" throughout the EIS. The EPA's view is that the feedstock should be referred to as "residual waste fuel" to make it clear to the public that the feedstock is waste.	Noted.	Throughout.
	21.			The facility is proposed within close proximity of the also proposed second airport. Proponent should give appropriate consideration of flight, safety and traffic impacts.	The development will result in only a minimal increase in traffic volumes, particularly in the context of the high volumes currently using (and projected to use) the M7 Motorway and other surrounding arterial roads. As such, the proposal will have minimal impact on traffic conditions associated with the Badgerys's Creek airport. Details of consultation with CASA and the Department of Infrastructure and Regional Development is provided in the EIS	EIS Section 6.3
	22.			The proponents SSD application outlines that the area proposed for the development is in in regular use by trail bikes. The proponent has a responsibility for public safety i.e. fencing and community communication, regarding the use and security of the development. The risk assessment (EIS, page 86) identifies that there will be no illumination proposed, so no risks. However. Elsewhere in the EIS it outlines a 2417 operation which will inevitably have lighting and illumination for the safety and security of people and plant. Lighting impacts to residents, roads and potentially aircraft needs to be considered as well as possibility for reducing the intensity of illumination during certain hours or if there are impacts.	Details on public safety provided. 24 hour lighting is proposed at the facility for the safety and security of people and the plant. The EIS has been updated to reflect this detail.	EIS Section 3

	23.			The risk assessment in the EIS does not include risk from not meeting the Energy from Waste Policy criteria. This needs to be addressed prior to public exhibition.	This has been provided.	EIS Section 5.
Strategic Planning						
Arup (DGR)	1.	an assessment of the development against State Environmental Planning Policy (Western Sydney Employment Area) 2009;	Section 8.6		-	
	2.	A demonstration that the development is consistent with the Broader Western Sydney Employment Area draft Structure Plan 2013;	Section 7.4		-	
	3.	Justification that the site is suitable for the proposed development;	Section 7.0 and 8.0	An assessment of the proposed development against the requirements of various statutory planning documents is provided.	-	
	4.	Demonstration that satisfactory arrangements have been or would be made to provide, or contribute to the provision of, the necessary local and regional infrastructure required to support the development.	Section 7.1	The EIS states that a Voluntary Planning Agreement is being prepared in consultation with the Department of Planning and Blacktown City Council. There is no description of the details or scope of that agreement in regards to local and regional infrastructure; however it is assumed that arrangements will be made outside of the EIS process.	VPA will be arranged outside the EIS process.	
BCC	5.	Likely interactions between the development and existing, approved and proposed operations m the Vicinity of the s1te	Section 1 indicates that this is addressed in Section 3	Section 3 does not provide a specific assessment of likely interactions between the development and existing, approved and proposed operations in the vicinity of the site cumulative Impacts. There is discussion in Section 2 regarding the Genesis Xero Waste Facility (GXWF) - but not specifically in the context of cumulative impacts with the proposed development. The cumulative impact assessments provided for each issue are not consistent in terms of addressing existing, approved and proposed operations in the vicinity of the site. The assessments primarily address only existing operations.	Additional consideration of cumulative impacts provided	EIS Section 9
	6.	Consideration of any relevant statutory provisions	Section 1.4 of the EIS indicates that this is addressed in Section 3.2, 3.4	Sections 3.2-3.4 do not address the relevant statutory provisions. The discussion is provided in Sections 7 and 8.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	Document references have been updated. References to Integrated Development have been deleted.	Section 1

			Section 8.2 indicates that the project is integrated development. Section 8.3 EPBC Act.	the EIS. Only listed threatened species and ecological communities were identified as a potential trigger for MNES under the EPBC Act. Appendix G indicates that impacts are not likely to be significant. It is noted that whilst the Proponent may be able to make a determination about whether impacts are likely to be significant, only the Commonwealth can ultimately decide whether or not an action is a controlled action. Based on a preliminary review, relevant statutory requirements including consideration of typical planning related legislation and EPIs (i.e. SEPPs, LEP and DCPs) have been appropriately identified. It is noted that section 89J and 89K of the EP&A Act removes certain legislative requirements for SSD.	This has been addressed in The Flora and Fauna Assessment Report.	Appendix H.
	7.	Consultation	Section 6.1 of the EIS	No reference to consultation with NSW Health as required under the DGRs	Consultation with NSW Health has taken place.	EIS Section 6.
	8.	An assessment of the development against State Environmental Planning Policy (Western Sydney Employment Area) 2009.	Section 8	Zone E2 is not a prescribed zone and hence cannot rely on the ISEPP rather it would be subject to the specific provisions of SEPP (WSEA). Under SEPP (WSEA) the development would be prohibited in this zone. Notwithstanding, the development would not have any physical impact on this zone. Furthermore section 89E (3) of the EP&A Act provides that for SSD, *"Development consent may be granted despite the development being partly prohibited by an environmental planning instrument."* The EIS indicates an intention that the E2 zoned land be subdivided for future employment land (i.e. Lot 9 approx. 10.6 ha). This would not be consistent with the provisions of SEPP (WSEA).	Subdivision for future development of E2 zoned land not proposed.	
	9.	A demonstration that the development is consistent with the Broader Western Sydney Employment Area draft Structure Plan 2013;		As indicated above sub-division of the E2 zone land as future employment land would not be consistent with the Structure Plan which assigns this land for environmental protection. With respect to employment the Structure Plan implies a target of around 21 jobs per hectare (assuming ultimate development of around 10000 hectares with 212 000 jobs when the area is fully developed). The proposed development would have around 6 jobs/hectare. No information is provided in the EIS on job numbers for	Subdivision for future development of E2 zoned land not proposed. The proposed Facility during construction and operation phases will present an intensification of land use and employment on the land. The proposed subdivision also represents opportunities for further employment potential in the future.	

				the adjacent GXYVF development. Assuming 70 (based on article in Blacktown Sun Dec 2013) and the proposed subdivision of the site to approx. 28 hectares- the density of jobs would be around 2.5. Combined with proposal (i.e. total of 37 hectares and 125 jobs) the density of jobs would be around 3.5 jobs/hectare. Again this would appear much lower than the overall target for the WSEA. Whilst employment densities would seem much lower than what is envisaged in the Structure Plan the site needs to be considered in the context that it is adjacent to a deep quarry that needs considerable fill material. Hence any development that takes advantage of that situation needs to be considered in that context. Given the relatively low density of employment it will be important that it does not impact on adjacent lands within the Precinct from achieving much higher employment densities	The proposed Development will not impact on adjoining lands from achieving a higher employment density.	
	10.	Justification that the site is suitable for the proposed development	Section 4.1	The site location would appear justified based on location in the Eastern Creek Industrial area, in an industrial zone (where the proposed use would be permissible), proximity to major motorways, proximity to the GXVVF Site and a reasonable buffer from nearby residents. Furthermore, the development should be considered in the planning context that it can take advantage of being located next to a deep quarry that requires considerable fill. Issues with respect to the developments location in the Western Sydney Employment Lands is addressed elsewhere in this table.	-	

	11.	Demonstration that satisfactory arrangements have been or would be made to provide, or contribute to the provision of, the necessary local and regional infrastructure required to support the development	Section 1.4 of the EIS indicates that this issue is addressed in Section 7. Section 7.1 indicates "that the development will contribute to regional roadworks through contributions" Table 14 of Section 8.10.1 references A future draft VPA	The EIS does not identify any specific development contributions. Notwithstanding it commits to a VPA which is assumed to be sufficient		
Waste Management						
Arup (gnl)	1.	Details on Boiler ash		Boiler Ash can often be hazardous in composition and is managed either separately or with the APC residues as it may contain elevated heavy metals or dioxins. Therefore, data on this ash should be provided separately.	The quantity, composition and management of boiler ash has been estimated and is provided in Appendix H and Section 3.7.1 of the Waste Management Report. Ramboll and HZI have carried out an assessment of the ash fractions from the plant, based on the expected residual waste fuel composition (Appendix H). This now includes: 1. Bottom Ash 2. Boiler Ash 3. Air Pollution Ash	Waste Management Report Section 3.7.1 & 6.6.1. Appendix H of the Waste Management Report
Arup (DGR)	2.	a description of the classes and quantities of waste that would be thermally treated at the facility;	Section 10.3	A general list of waste streams and estimated quantities is included however full compositional breakdown is not provided for each waste stream. Compositional analysis is provided within the Concept Design Report Table 1;	The Waste Management Report now provides the composition of all waste streams specific to Australia (Table 7). The data was sourced from publically available documents and confidential	Waste Management Report Section 3.5 &

				however it is not clear whether this compositional breakdown reflects the composition of these waste streams in Australia.	data sourced from operators of authorised waste facilities in NSW. The Company names will be provided in confidence to the Department but for commercial reasons the names will be omitted from the Waste Management Report. Other C&D and C&I residual characterisations have been determined using EPA data as a baseline. Recyclables have then been removed at appropriate recovery rates to determine a residual characterisation.	Table 7 Section 6.1
	3.	demonstrate that waste used as a feedstock in the waste to energy plant would be the residual from a resource recovery process that maximises the recovery of material in accordance with Environment Protection Authority Guidelines;	Section 10.3	The source of each potential waste stream is provided and states that all waste will come from authorised waste facilities. Details of the actual locations of these facilities with the exception of the Genesis Facility has not been provided. Therefore not able to validate if all feedstock be residual from a resource recovery process that maximises the recovery of material in accordance with Environment Protection Authority Guidelines; Furthermore, clarification required on sources of feedstock as Exec Summary states that 850,000 tonnes will be from waste received from Genesis Xero Waste facility and 5`00,000 from external sources. Section 10.3 Table 16 states that 100,000 tonnes will be from Genesis facility.	A summary of Resource Recovery Facilities is appended to the Waste Management Report and Section 2 summarises waste capacity in NSW. The details and contracts with 'other waste facilities is not possible to be finalised at this stage of the project, however, it is expected to be similar to MPC. The project will take a two phased approach after receiving feedback from the government agencies. Phase 2 will receive waste from external waste facilities. Phase 2 will only commence once the Department of Planning and Environment is satisfied that the required amount of eligible residual waste fuel is available to the TNG facility.	Waste Management Report Appendix C. Waste Management Report Section 1.1 and 3.5
	4.	procedures that would be implemented to control the inputs to the waste to energy plant, including contingency measures that would be implemented if inappropriate materials are identified;	App J Waste Management Assessment	Section 7.6.1 discusses how will minimise lead and nickel from feedstock. More description required on general management practises including SCADA/PLC systems that would be installed to monitor operations at the facility.	These inputs are minimised at the pre-sort stage. The DCS and Plant Operation Outline document appended to the WMR provide this information. Figure 3 presents the methods to be employed for controlling the inputs to the EfW Facility. A Waste Inspection Procedure has been included in Appendix B	Waste Management Report Appendix D, E and F. Waste Management Report Sections 3.3 & 6.3

	5.	details on the location and size of stockpiles of unprocessed and processed recycled waste at the site;	Section 3.4	All feedstock will be stored in the receiving waste bunker. Ash will be stored in dedicated ash bunkers.	No comment to be made.	-
	6.	demonstrate any waste material (e.g. biochar) produced from the waste to energy facility for land application is fit-for-purpose and poses minimal risk of harm to the environment in order to meet the requirements for consideration of a resource recovery exemption by the EPA under Clause 51A of the Protection of the Environment Operations(Waste) Regulation 2005;	Section 3, 10.3, App J	Composition of Bottom ash is based on a Municipal Solid Waste Stream feedstock and not on the basis of the actual proposed feedstock. Commentary that bottom ash suitability to be recycled as aggregate or landfilled will be dependent on actual composition but no actual justification of this assumption provided.	An estimation of ash and residue composition has been appended to the Waste Management Report (Appendix H). It is TNG's intention to recycle bottom ash via a crushing and screening process to produce aggregate for road base. This will likely require a resource recovery order and resource recovery exemption to be issued by the EPA under Clause 92 of the PoEO Waste Reg	Waste Management Report Appendix H. Waste Management Report Section 6.5
	7.	procedures for the management of other solid, liquid and gaseous waste streams;	App J Waste Management Assessment Section 7.6	Ash residues classified as either Bottom Ash or Air Pollution Control residue are described. Liquid effluent and Gaseous emissions also described. No details or estimate of quantity of boiler ash has been provided. Boiler ash composition is dependent on the feedstock can be classified as either hazardous no nonhazardous and is either handled with the bottom ash or the Air Pollution Control residues dependent on its classification. No details provided on how other waste streams such as waste produced by staff or chemical waste will be managed.	Estimated residue ash quantities are now provided in Ramboll 'Estimation of ash and residue composition' assessment. Details on other waste streams are now provided in Section 6.6.	Waste Management Report Section 6.6.3, Waste Management Report Appendix H.
	8.	describe how waste would be treated, stored, used, disposed and handled on site, and transported to and from the site, and the potential impacts associated with these issues, including current and future offsite waste disposal methods;	App J Waste Management Assessment	Some general commentary is provided. No details are provided on an actual the sources of feedstock or possible suitable licenced landfills that could accept the ash residues.	Appendix H and Section 6.7 describe expected ash classification. Only APC reside is a potential the waste that may be classified as Hazardous Waste (although current analysis indicates APC reside will be classified as Restricted Solid Waste). In the event the waste exceeds the criteria for Restricted Solid Waste and is classified as 'hazardous' then the residue will be taken off site for treatment at a Hazardous Waste Treatment facility.	Waste Management Report Section 3.5
	9.	identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and	App J Waste Management Assessment		No comment to be made.	

		guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2007.				
BCC	10.	*A description of the classes and quantities of waste that would be thermally treated at the facility:*			No comment to be made.	
	11.	**Recommendation:** The proponent should provide clarity on the source of waste fuel to the facility now and in the future. The report states (Section 4.3) that a significant proportion of this waste is already received on site from authorised facilities and is currently landfilled, however, no data are presented to further inform the reader on how significant this is, where these facilities are, what agreements are in place and how this will change into the future. **Recommendation:** Waste composition data should be used to identify the likely residual component of waste to be combusted, leading to the Net Calorific Values presented, and discuss this in the context of other EPA programs to increase recycling and eliminate residual waste in the C+I and C+D sectors. Waste composition data used in Appendix Y- The Concept Design Report- appears to have the same composition for C&I and C&D wastes.		No composition data are provided in this report but a separate technical report is referenced (Appendix Y- The Concept Design Report). It is essential for the waste composition data to be provided to the boiler vendor, and also to determine whether the chlorine will require a furnace residence temperature of 850 or 1,100 as specified in the EFW policy. Some composition *data* is provided in Appendix Y page 6, but its source is not known, and local real data should be used instead. Waste input quantities have been identified based on the intended throughput of the system (and expected net calorific value of the waste feedstock). This assumes that sourcing material is not a limiting factor (which will most likely be correct). However, there is no evidence in the report that waste fuel supply contracts have been discussed or agreed with authorised facilities that would make up the greatest bulk of feedstock, and will be critical to the efficient operation of the facility. Table 6-3 suggests that the facility, if in operation in 2010, would require approximately 52% of available NSW C&I waste, and 78% of available NSW C&D waste ('available' meaning the proportion of each waste which is allowed under NSW EPA policy to be sent for energy recovery). Data are sourced from NSW EPA reports. This is ambitious. The report caveats that by the time the facility is operational, it is expected that tonnages will have increased; however, waste projections which are available from the NSW EPA, were not used to support this (http://www.epa.nsw.gov.au/warr/WARRStrategy2013.htm). No information is presented on the gate fees associated with the facility, and their likely comparison to those for local landfills. This is likely to be the major driver for waste generators using the facility over a landfill, and therefore influence the ability of the proponent to capture the large proportion of the NSW waste stream it is aiming for.	Clarification of composition has been provided in the Waste Management Report. Chlorine heating is addressed in the WMR (Table 12). Waste projection data will be used to quantify future potential material in the market. The staged development also plays a critical role in addressing concerns about market size. The gate fee for the facility will be determined at the time of commissioning and will take into consideration landfill prices and waste policy at all levels of government. This constitutes a commercial decision for TNG that cannot be accurately quantified today.	Waste Management Report Section 3.7.1 & Table 7 Waste Management Report Table 12 and Appendix G/

	12.	Demonstrate that waste used as a feedstock in the waste to energy plant would be the residual from a resource recovery process that maximises the recovery of material in accordance with Environment Protection Authority Guidelines: **Recommendation:** The proponent should confirm its intentions with regard to ongoing monitoring and auditing of its suppliers to ensure that it is complying with the NSW EPA EfW Policy. Waste that is processed at the Generation Xero facility is expected to have a large recovery rate (stated at between 75% and 80%. This meets or exceeds the requirements in the NSW EPA EfW Policy for both C&D waste (25%) and C&I waste (50%). It is not clear from the report how this will be practically assessed, given that this facility receives both waste streams. These can be classified on the way into the facility at the weighbridge, but the recovery rate of these material streams post-processing (when materials are presumably mixed) will be difficult to confirm. As a greater proportion of the input is C&I waste, presumably the facility could fail to meet C&D targets but this wouldn't be flagged if the total facility diversion achieved>75%. **Recommendation:** The proponent should confirm how it intends to assess its conformance with the NSW EPA EfW policy where waste from different sources is mixed and processed on site.		It would be expected that TNG would manage its suppliers in such a way to ensure data are reported to it regularly on compliance with the EfW policy. This means receipt of reports from each supplier on the percentage that the residual waste represents of the total input to each supplier. The audits stated in the report would then be used to confirm the accuracy of this reporting.	Current operations are subject to extensive audits conducted on behalf of green star accreditors, the EPA, key waste generators and other interested parties. TNG proposes to verify the recovery rates of the Genesis MPC and any other DADI owned processing facility using the same methodologies for the purpose of compliance with the EfW Policy. TNG will also request receipt of reports from third party facilities to verify the reported resource recovery rates of each facility. TNG will also have independent audits performed on third party facilities using the same criteria as the Green Star reporting scheme to ensure residual waste fuels are eligible for acceptance at the TNG EfW Facility. This approach has been discussed with the EPA. All waste will be classified at the weighbridge and for each facility. For all waste streams that are mixed and processed via a single facility (either owned by DADI or a third party), the most conservative EfW Policy resource recovery criteria will be applied to the residual waste fuels. The current diversion rate through the MPC achieves the required EfW threshold for C&D material, which comprises the majority of the processed material. This ensures that the required recovery rate for C&I waste sufficiently exceeds (50%).	Waste Management Report Section 3.3.2
	13.	Procedures that would be implemented to control the inputs to the waste to energy plant, including contingency measures that would be implemented if inappropriate materials are identified: **Recommendation:** Site environmental management plans, when produced, should include detail on load inspection and rejection		Details of the procedures for checking the appropriateness of waste materials are provided in various sections of the report. These are to be based on visual inspection of the loads at 3 checkpoints. Whilst the flow diagram for this process is incomplete and has issues in terms of the decision path flow, the intent is understood. Practically, the success of this system is based on the	The inspection procedure has been appended to the Waste Management Report. Flow chart has been amended. The tipping area will be large enough to quarantine any suspect loads to facilitate rejection.	Waste Management Report Appendix B. Waste Management Report

		procedures, and the criteria for acceptance.		vigilance of operators and them being incentivised to report contraventions / contamination. Many loads will arrived at the site covered, and therefore visual inspection is not possible until the vehicle has tipped its load.		Section 3.5.3
	14.	Details on the location and size of stockpiles of unprocessed and processed recycled waste at the site: **Recommendation:** None		No external stockpiles are proposed at this facility. Materials to be taken offsite for further processing will be held indoors / covered silos. If the material received is processed as much as forecast, then these stockpiles will not be significant if regularly collected.	No comment to be made.	-
	15.	Demonstrate any waste material (e.g. biochar) produced from the waste to energy facility for and application is fit-for-purpose and poses minimal risk of harm to the environment in order to meet the requirements for consideration of a resource recovery exemption by the EPA under Clause 51A of the Protection of the Environment Operations (Waste) Regulation 2005: **Recommendation:** The anticipated chemical analysis of the APC residues and their potential uses other than landfill should be detailed.		No material from the facility will be applied to land for agricultural purposes. There is suggestion in the report that air pollution control residue may be improved such that it can be used as cement replacement, but this is not confirmed. Bottom ash will be disposed in landfill. No data for the composition of the bottom ash is available (as the facility is not I' in operation) so proxy data for the expected composition (based on facilities in Europe which accept putrescible residential waste as well as non-putrescible waste) were used as a proxy. This highlighted potential contraventions of NSW EPA guidelines for Nickel and Lead. However, as noted in the report, sources of these elements would be less likely to occur in C&I and C&D waste, and with site checkpoints this impact should be mitigated. Ash monitoring will confirm compliance	An estimation of ash and residue composition has been appended to the WMR. Disposal options are provided in Table 8 of the Waste Management Report.	Waste Management Report Appendix H. Table 8.
	16.	Procedures for the management of other solid, liquid and gaseous waste streams: **Recommendation:** The proponent should provide indicative volumes of effluent discharge from the site, and if significant (or highly contaminated), explore the composition and discharge options in more detail. With regard to ash, no representative sample is available so a proxy ash analysis is provided from UK experience. Real ash analysis should be obtained from a local fuel composition data.		Information is presented on the proposed generation of wastes from the process and the treatment route for each of these, including how they are to be handled on site. No information is presented on the market capacity to handle or treat these wastes. Recent changes to the Protection of the Environment Operations (Waste) Regulation may put a limit on the distance which this material can be transported (there are, however, some caveats that may apply). It would be expected that facilities with appropriate licence and capacity to handle the waste generated by the facility would have been identified but this is not a major consideration. No impact associated with waste generation and transport off site is presented in this report, but it is assumed that these are covered elsewhere in the EIS	Management of liquid effluent is addressed in the Waste Management Report.	Waste Management Report Section 3.7.3

				(and appendices). With regards to liquid effluent (typically generated during boiler maintenance and operation), the report does not explain sufficiently its intended management. It suggests that overflow could be discharged to sewer or sent in a tanker off-site. No volumes are presented in the report (as it is suggested that the majority of the time, this effluent will be used for bottom ash cooling).		
	17.	Describe how waste would be treated, stored, used, disposed and handled on site, and transported to and from the site, and the potential impacts associated with these issues, including current and future offsite waste disposal methods: **Recommendation:** None		As per the report, this DGR appears to be covered in other DGRs, including the previous.	No comment to be made.	
	18.	Identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2007: **Recommendation:** None		The facility sits within the waste hierarchy, and the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2007.* Recent updates to this strategy have in fact included scenarios modelling Energy from Waste within the Sydney region; however, no mention is made of this. It is noted that the EPA forecast two EfW facilities- one of 200,000 tonnes per annum accepting Municipal Solid Waste, and one of 200,000 tonnes per annum accepting C&I waste, with the expansion of an existing C&D facility to handle 100,000 tonnes per annum. These are all significantly smaller than the proposed facility of 1.1 million tonnes per annum. Linking this site with the Generation Xero facility, and it's reprocessing / recycling capability, means that the proposal is able to deal with a range of wastes according to the waste hierarchy. Rather than outright rejection of loads and sending off site, the flexibility of the site allows materials to be further processed prior to being accepted. This means that they maintain the ability to further process waste streams to capture valuable recycle where feasible.	No comment to be made.	
DPE	19.			The EIS does not adequately describe the sources, availability and composition of the waste residue that is to be used as feedstock for the proposed facility. There is	See previous responses.	

				insufficient analysis of the resource recovery processes that will occur before the waste is used as fuel in the proposed facility (only that much of the feedstock will be sourced from other 'approved facilities'). There appear to be inconsistencies in the EIS about the contribution of feedstock from the existing Genesis facility, and it is unclear whether the maximum operating capacity specified in the approval for that facility has been correctly identified in the EIS for the proposed facility.		
EPA	20.			1. The EIS needs to include detailed descriptions of the classes and quantities of waste that would be thermally treated at the facility;	See previous responses.	
	21.			2. The EIS and associated documents must demonstrate that waste used as a feedstock in the waste to energy plant would be the residual from a resource recovery process that maximises the recovery of material in accordance with Environment Protection Authority Guidelines; and	See previous responses.	
	22.			3. The EIS and associated documents must demonstrate that material received is only from "authorised" waste facilities or collection systems that meet the resource recovery criteria outlined in Table 1.	See previous responses.	
	23.			**Specific comments:**		
	24.			General lack of clarity and detail of the character of waste streams impacts the ability to assess the proposal against the resource recovery criteria of the Energy from Waste Policy. The proponent has identified some waste classifications however further detail of waste materials required to make a full assessment of compliance with the Energy from Waste Policy. Further detail and clarification of points below required.	See previous responses.	
	25.			Appendix J 7.1.1 and the proponent's online video outlines that chute residual waste is uneconomical to recycle. More information required.	Market forces (landfill prices, policies, recycling operating costs and commodity prices) result in waste being recycled or landfilled. The EfW policy is underpinned by the waste hierarchy and states that recycling cannot be canabalised. As the facility complies with the policy, only uneconomical material is recycled.	
	26.			Proponent has provided very limited description of "other"	See previous responses.	

				wastes (organic wood and textiles), no description of the makeup, sources or classification. More information and classification is required.		
	27.			Appendix J Page **40** references a "The Next Generation" report, "Part 1 of 3: An Overview of the Waste Streams that are Recycled at the Genesis Facility" This report was not included in the application, please provide.	Reference has been removed.	
	28.			Chute residual waste is described as sourced from the Genesis facility and landfill (Appendix J Page 40). Proponent's documentation references Section 0 for more information and there is no section 0. The Energy from Waste Policy does not permit materials exhumed from landfills to be used as fuel.	The cross reference has been corrected. The chute residual waste will simply be re-routed to the energy from waste facility via conveyor. No waste has been suggested to be exhumed from landfill.	Waste Management Report Section 3.4.2 & conclusions of Section 5.
	29.			C&I and C&D wastes have a wide range of contaminants, such as treated timbers, where a broad range of treatments and chemicals are used. More detail of the profile of chemicals from waste stream is required.	See previous responses regarding composition of waste and safe guards to remove contaminants and Section 3.4.3. C&D residual specifically addresses treated timber.	Waste Management Report Section 3.4.3
	30.			Online video states biomass will be received as fuel at the facility. No detail on this material has been included in the EIS documentation. SSD Application (page 65) outlines that no eligible waste fuels will be used, but no approval for waste other than EWF will be applied for (Page 72). The proponent must have a clear understanding of eligible waste fuels and document their proposed use.	Video has been updated.	Waste Management Report Table 7 Section 3.4.3
	31.			EPA has not given specific approval for use of shredder floc in the Genesis energy from waste facility.	Shredder floc can be defined as the residual of a C&I resource recovery process. The EPA has also committed to providing guidelines on the use of floc. It is understood that this will have the same threshold as C&D residual (25%). The wording in the WMR has been changed to EPA will will potentially be included in an amended version of the NSW EfW Policy.	Waste Management Report Section 3.4.3
	32.			During a meeting between the EPA and a Consultant working for the proponent shredder floc waste was discussed. However the discussion related to the potential inclusion of shredder floc and potential	See previous response. This is likely to be included in a revised version of the policy.	Waste Management Report Section 3.4.3

				percentages that could be applied to Energy from Waste Policy resource recovery criteria in the future.		
	33.			Proponent has not included classification and descriptions of material non-Genesis sources. EPA recognises that commercial arrangements for the supply of material may not be in place and this detail is not yet available. Details, descriptions and classification of waste from non-Genesis sources will need to be provided for assessment against the Resource recovery Criteria of the Energy from Waste Policy Proponent should include a description and details of the non-Genesis resource recovery processes, recovery and residual waste generation.	Included in updated Waste Management Report.	Waste Management Report Section 3.5
	34.			Proponent needs to demonstrate and identify the tonnes of residual waste from each source that will be received for the Energy Recovery Facility. This is required to determine compliance with Resource Recovery Criteria of the Energy from Waste Policy. Note: EPA will be using weighted averages for assessment of waste streams EPA intends to introduce a compliance program for energy from waste facilities based on risk and will be combined with risk based licensing approach to determine regulatory effort. The compliance program will include internal and external compliance audits.	Included in updated Waste Management Report.	Waste Management Report Section 3.4 Section 7
	35.			***Procedures that would be implemented to control the inputs to the waste to energy plant, including contingency measures that would be implemented if inappropriate materials are identified;*** Require a demonstration of the contingency plan for waste fuel if the waste bunker is full or no waste available Appendix J Waste Management and the SSD Application document state that the facility has 5-7 days of fuel storage. Appendix Y Concept Design states **4** days of waste storage, and the online video states 7 days of storage. Proponent to confirm the correct number of days and tonnes of waste stored in the waste bunker Proponent must demonstrate what the process for waste that is refused due to high lead and nickel content/contamination	5-7 days of fuel storage is correct. The Concept Design states: "*The Facility will need significant storage capacity for at least 4 days of fuel, so that the Facility can continue to operate if there are any short term supply issues and over a Public Holiday weekend".* 4 days is not a reference to storage capacity but a contingency measure. This also answers the questions regarding contingency measures for no waste available.	Waste Management Report Sections 3.3 & 6.3
	36.			***How waste streams will be managed so they do not contain contaminants such as batteries, light bulbs***	All waste streams must be processed through a resource recovery facility (as defined by the	Waste Management

				or other electrical or hazardous wastes? Documentation outlines that small mixed loads would not be included in an unloaded visual inspection. All waste material must have hazardous material removed.	EfW Policy), which will remove all contaminants. In addition, all loads are visually inspected at multiple check points.	Report Sections 3.5.2 & 3.5.3 Appendix B
	37.			Proponent states that waste received as fuel will not include hazardous waste. There is no detail, description or outline of a process that will identify and remove hazardous matter from other waste streams. Proponent needs to demonstrate that waste does not have hazardous material for any further consideration of the proposal.	See previous responses.	
	38.			EPA expects that C&I and C&D wastes will contain hazardous materials and these will require removal.	Noted. See previous response.	
	39.			***Procedures for the management of other solid, liquid and gaseous waste streams:*** Proponent has referred to but not provided detail of the management and handling of bottom ash. The proponent has indicated testing to determine hazardous status. More detail of the frequency, test parameters, responsible parties, and 'reporting requirements.	WMR has been updated and detail is provided Section 3.7.1 and testing results in Appendix A.	Waste Management Report Section 3.7.1 & Appendix H
	40.			Proponent outlines potential use of immobilisation techniques for bottom ash that has high nickel and lead concentrations to meet restricted solid waste classification. More detail and assessment of immobilisation techniques and risk management for the handling and processing of hazardous waste and restricted solid waste is required.	Section 6.6.1 of the WMR outlines measures to minimise the concentration of metals, particularly lead and nickel, in the bottom ash residual waste of the Facility	Waste Management Report Section 6.6.1
	41.			***Identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2007*** This requirement is included to encourage the proponent to demonstrate that the size and function of the facility is required, has considered future waste generation and improved resource recovery and has demonstrated that generating energy form waste in the particular context is appropriate. The proponent should demonstrate how the energy from waste facility fits with broader government objectives and policies and demonstrate how the facility will not undermine current and future resource recovery	Noted.	Waste Management Report Sections 6.8 7.9

				opportunities. For example further plastics recovery and shredder floc recovery. Proponent has demonstrated increasing tonnes of C&D and C&I waste in Sydney and the uncertainty of landfill capacity for waste disposal and ability for an Energy Recovery facility to take the reassure of the existing landfills. Further detail the environmental and human health benefits of energy from waste facility would expand on the facilities ability to meet the policy		
	42.			***Social licence to Operate/Public consultation*** Proponent outlines a stakeholder engagement strategy has been created and actions started in Nov 201 3.	Achieved.	Waste Management Report Section 5
	43.			Proponent's website has a video outlining proposal and details, however this includes incorrect information and it is questionable that this is a fair representation of the facility operations and current regulatory context. Errors and items of note include:	Noted. This video will be superseded by a more detailed video.	
	44.			Statement that C&I and C&D residual meets EPA criteria as an eligible waste fuel, this is not correct Video uses jargon and acronyms that may not be clear to the general public, is not easily accessible language	Noted. This video will be superseded by a more detailed video.	
	45.			Statement that "only clean safe and inert gases released into the stack and "harmless gases" is not accurate. C02 and other emissions have impact	Noted. This video will be superseded by a more detailed video.	
	46.			Video refers to the draft Energy from Waste Policy from NSW EPA this is not accurate as the final Policy was published in March 2014	Noted. This video will be superseded by a more detailed video.	
	47.			Statement in video that scrubbers remove all POPS and heavy metals is not accurate Online video states biomass will be received as fuel at the facility. No detail on this material has been included in the EIS documentation	Noted. This video will be superseded by a more detailed video.	
	48.			***Is there evidence that the facility meets current international best practice techniques in the following areas, process design and control; emission control equipment design and control; and emission monitoring with real-time feedback to the controls of the process?*** Proponent's documentation references Industrial Emissions Directive EU 2010. While this sits within the framework of the EC Waste	The Concept Design Report provides a plain English version of the technical information regarding the project and how it achieves BAT. The project has been designed to comply with the IED and meet the technical criteria established in the EfW Policy Statement.	Waste Management Report Section 5.5 and Table 12 Concept Design

				Incineration Directive. The specific requirements of Best Available Technologies (BATs) have not clearly been addressed in the proponent's application.		Report
	49.			Proponent's online video mentions this but documentation refers to EU Industrial emissions directive 2010. More information and details are required to determine compliance with the European Commission Waste Incineration Directive BATs.	This video has been updated.	
	50.			***Does the facility demonstrate that any heat generated by the thermal processing of waste is recovered as far as practicable? Including use of waste heat for steam or electricity generation or for process heating of combined heat and power schemes.*** Details of heat recovery and use not provided. While final contacts and supply may not yet be finalised however the proponent does not document the scope of potential users, the assessment of local operations or potential future operations, or of any assessments are in progress.	Although markets for heat recovery may exist with Fulton Hogan and Austral Bricks, no commercial agreement is currently in place. Documenting potential users is considered relevant at this point in the approval process.	Waste Management Report Sections 5.6 & 5.7
Air Quality and Human Health						
Arup (DGR)	1.	a quantitative assessment of the potential air quality and odour impacts for the development on surrounding landowners and sensitive receptors under the relevant Environment Protection Authority guidelines;	Section 11.0, Appendix K and L	Quantitative assessment of the potential assessment has been undertaken at the site boundary and sensitive receptors taking into account background pollutant levels, in accordance with EPA Guidelines. The assessment should also consider cumulative impacts of potential future developments, if relevant.	n/a	
	2.	a description of construction and operational impacts, including air emissions from the transport of materials	Section 11.0, Appendix K	A description of construction and operational air quality limit exceedances is provided. Emissions from the transport of materials is described qualitatively; Further information on the transportation of material to site (particularly for material that is not sourced from the Genesis facility) should be provided. No details provided of potential fugitive emissions.	Qualitative assessment completed.	
	3.	a human health risk assessment covering the inhalation of criteria pollutants and exposure (from all pathways i.e., inhalation, ingestion and dermal) to specific air toxics	Section 12.0, Appendix N		-	
	4.	details of any pollution control equipment and other impact mitigation measures for fugitive and point source emissions	Section 11.4, Appendix K	The EIS describes in detail pollution control equipment for stack emissions; further information on construction and transportation emission controls are briefly described in	-	

				Appendix K, but should be presented in the main body of the EIS also. A further description of ongoing management controls (particularly in adverse conditions) and monitoring should be provided.		
	5.	a demonstration of how the waste to energy facility would be operated in accordance with best practice measures to manage toxic air emissions with consideration of the European Union's Waste Incineration Directive 2000 and the Environment Protection Authority's draft policy statement NSW Energy from Waste	Section 11.3 and 11,4,Appendix K	A description of best practice measures to manage air emissions is provided and emissions modelled against criteria of the two described documents.	-	
	6.	an examination of best practice management measures for the mitigation of toxic air emissions	Appendix K	An analysis of best practice management measures applied at a number of similar overseas facilities is provided.	-	
	7.	details of the proposed technology and a demonstration that it is technically fit for purpose	Section 11.3 and 11,4, Appendix K	An analysis of best practice management measures applied at a number of similar overseas facilities is provided.	-	
BCC	8.	A quantitative assessment of the potential air quality and odour impacts for the development on surrounding landowners and sensitive receptors under the relevant Environment Protection Authority guidelines		Air Quality and Greenhouse Gas Assessment Report: • The report is prepared in accordance with the *EPA's Approved Methods for the Modelling and* assessment *of Air Pollutants in NSW, 2005.*	Assessment was completed in accordance with the Approved Methods. This is now stated clearly in report.	
	9.		Section 4.3:	This section sets out proposed emission limits for the facility including limits set by *the Environment Operations (Clean Air) Regulation, 2010 (CAR,2010)* and the *Industrial Emissions Directive (/ED) (2010175/EU).* Subject to the development being approved it is recommended that emission limits these documents be included as conditions in the Environment Protection Licence (EPL) for the facility and require compliance on a continuous basis (1oo" percentile concentrations with averaging time no greater than 1 hour).	Noted	
	10.		Section 4.3	The basis for prescribing emission limits as set out in Table 4-2 and Table 4-3 appears to be identifying limits from *2010175/EU* (Table 4-3) and then replicate *CAR,2010* (Table 4-2) limits for the same pollutants. It is noted however, that *CAR, 2010* includes limits for other pollutants e.g. chlorine (Ciz) and hydrogen sulphide (H_2S). The Human Health Risk Assessment Report also includes	HHRA has been updated.	HHRA Report

				other pollutants e.g. PAHs and ammonia $^{(NH}3$). 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.	Emissions from chlorine, hydrogen sulphide, PAHs and ammonia have been included in the quantitative assessment.	Air Quality Report, throughout.
	11.		Section 4.3:	Table 4-3 should include averaging times for all emission limits not NA. Also the reference conditions noted at the bottom of the table should be checked, in particular the oxygen (02) content	This has been addressed	Air Quality Report, Section 4.3
	12.		Section 6.4.1:	It is stated that the carbon monoxide (CO) criteria of 10 mg/m^3 is an annual criteria, rather this is the 8-hour criteria. Table 6-6, should also include 1-hour CO results.	This has been addressed	Air Quality Report, Section 6.5
	13.		Section 7.3:	Sets out emissions used for modelling. It states that *2010175/EU* are generally more stringent than *CAR, 2010 limits*. In the case of dioxins the *CAR,2010* sets a 1 hour criteria of 0.1 ng/m3 (1 hour) and the *2010175/EU* also sets a criteria of 0.1 ng/m3 but with a longer averaging time (6-8 hours). In this case the *CAR,2010* criteria is more stringent.	Noted.	
	14.		Section 7.3:	Table 7-4 should include emission rates for all pollutants that criteria are outlined (either in *CAR,2010, 2010175/EU* plus those where ambient air quality criteria are specified) as well as including any other pollutants deemed necessary (refer to comments on Section 4.3). It is stated that there are no half hourly limits or Cadmium and Mercury. *2010175/EU* includes 0.5 8-hour criteria for these pollutants. Additionally it is stated that emission rates for Cadmium and Mercury are 0.003 g/s. Using data in Table 7-5, these emission rates are calculated to be 0.0035 g/s.	Emission table updated to include all relevant emissions and annotations where necessary. Review of model inputs confirm that 0.0035g/s was used for Cd emission rate. Value rounded in table for report, this will be amended.	Air Quality Report, Section 7.3.
	15.		Section 7.4	It was stated that "Dispersion modelling was then used to determine what [stack] height was actually needed, based on compliance with ground level concentration. Dispersion modelling found that a stack height of between 80 m and 100m would be required." .No details of this modelling have been provided so it is not possible to verify this outcome.	Table of model results included to demonstrate requirement for 100m stack.	Air Quality Report, Section 7.8
	16.		Section 8.1:	Section 8.1: The modelling is based on meteorological data collected at St Marys by the OEH in 2013. Data from 2013 were used. The assessment should demonstrate that 2013 is a representative meteorological year.	Additional information provided to demonstrate that 2013 is a representative year.	Air Quality Report, Section 5 and Appendix D.

				AERMOD has been used to predict the ambient concentrations of substances emitted to air from the facility. This model is not explicitly listed by the EPA in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC 2005) so it is recommended that the assessment confirm that the EPA is satisfied with the choice of model. Also, there is a high frequency of calm conditions in the Project area (around 30% according to Figure 5·1) and the assessment should confirm that the EPA is satisfied with the model's treatment of calm conditions. Section 8.1: The resolution of the model receptors is noted stated. This resolution is important to make sure maximum potential ground-level concentrations have been resolved by the model.	Additional text provided.	Air Quality Report, Section 8.1
BCC	17.			General: The odour assessment report follows the same assessment approach as the air quality report and in accordance with the *EPA's Approved Methods for the Modelling and assessment of Air Pollutants in* NSW, *2005.* The same comments made with respect to modelling approach on the air quality report apply to the odour report.	Noted. Report reflects outcomes from AQ report.	
	18.		Section 5.2:	In the discussion of existing air quality it is recommended that any complaints data for the Genesis Facility are included and discussed in the context of the odour modelling, which suggests there should be no complaints from the facility.	Details of odour complaints included in report.	Odour Report Section 5.3 and Appendix C
	19.		Section 6:	This section discusses odour emissions rates from the Genesis Facility and the proposed W2E plant. It 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 pressures. 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 from the tipping hall, but it is recommended that ventilation be discussed more fully.	Additional text provided.	Odour Report Section 6
	20.		Section 6:	Table 6-1 is incomplete and in particular it does not include odour emission rates ($OU.m^3/s$) for all pollutant.	Table amended	Odour Report Section 6

				This should be provided so as to enable a comparison of the relative contribution of all sources to be made. Also the area for the four leachate tanks should be stated.		
	21.		Section 8:	**Ozone Assessment Report** The results of odour modelling are presented for both the Project and the Project+ Genesis Facility (i.e. the cumulative impact). It is noted that the results are very similar for both scenarios. That is the Genesis Facility does not increase odours in any material way when compared to the Project. This is despite the total emissions from the Genesis Facility (when calculated from Table 6·1) being 60% of all odours from the Project+ Genesis Facility. In this regard it is suggested the model results are discussed in more detail	Results have been discussed in further detail	
	22.		Section 10.2:	The results of ozone modelling show that the proposed W2E facility will not have any significant ozone impact (less than +/- 1 ppb) in areas of maximum impact. It is recommended the results are discussed in the context of 1-hour and 4-hour EPA ambient air quality criteria for ozone.	N/A results have been discussed in line with the Environ assessment procedure.	
	23.			The EIS contains only discussion on fugitive odour emissions. These are managed mainly through the waste delivery area being maintained under negative pressure. (Risk Analysis pg. 51). There has been no discussion of fugitive dust emissions, and their mitigation.	Text provided in Air Quality Report.	Air Quality Report Section 7.11
	24.	A demonstration of how the waste to energy facility would be operated in accordance with best practice measures to manage toxic air emissions with consideration of the European Union's Waste *Incineration Directive 2000* and the Environment Protection Authority's draft policy statement *NSW Energy from* Waste		The Plant has been assumed to be designed to meet Industrial Emissions Directive 2010, rather than the Waste Incineration Directive 2000. The plant has been assumed to meet the final NSW Energy from Waste policy, not the draft. (EIS pg. 67-72). The Genesis Xero Waste Facility generates uncontaminated wood waste and source separated green waste, but these are not proposed to 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 not be necessary to seek and exemption, as they will be fired in an authorised EFW plant. The auxiliary fuel has been assumed to be diesel. No reason is given for this. It would be preferred to use either	Noted	

				an i "eligible fuel" for start-up / shutdown purposes or natural gas, which is available in the locality.	The auxiliary fuel for start-up/shut down will be gas. The emergency backup up generators will be diesel powered for a faster response.	
	25.	An examination of best practice management measures for the mitigation of toxic air emissions: and details of the proposed technology and a demonstration that it is technically fit for purpose.		Refer above.		
DPE	26.			**Technical appendices** There appear to be errors and omissions from a number of the technical appendices, including but not limited to the appendices related to air quality (including odour and ozone), human health and traffic. These matters are described in the agency, consultant and Council submissions attached to this letter, and they must be fully resolved in the revised EIS.	Noted	
EPA	27.	**1. No information regarding auxiliary diesel generators** *THE EPA requires the Proponent includes in the final EIS further information regarding the purpose and frequency of use of the auxiliary diesel generators. The air quality impact assessment should also be revised to include the auxiliary diesel generators as a source of air emissions. Information regarding the emission performance of the diesel generators is to be included in the air quality impact assessment together with the manufacturer's performance specification for the auxiliary diesel generators to demonstrate the stated level of emissions performance will be achieved.*		Section 3.2 of Urbis (2014) states that the proposed development includes up to two auxiliary diesel generators each up to 4 MWe output. No further information is provided in Urbis (2014) regarding the use of the auxiliary diesel generators. Further, the air quality impact assessment does not include the auxiliary diesel generators as a source of air emissions.	HZI will provide two emergency diesel generators; one for safe shut down, one for black start. Each generator will have a capacity of 2.4MW. Further information is provided in the EIS. Air Quality Report has included the generators as a source of emissions. Generator emissions would typically comprise NOx, CO and PM (PM10 and PM2.5). Other pollutants, such as organic compounds, may also be released.	EIS Section 3.14 Air Quality Report Section 7.6
	28.	**2. No demonstration of suitability of secondary combustion chamber 850°C minimum operating temperature.** The EPA requires the final EIS includes data to demonstrate that the chlorine content of the		The design of the proposed Energy from Waste Facility includes a secondary combustion chamber to optimise flow conditions and temperature profile, reduce CO concentration and improved burnout of the flue gas. In the secondary combustion chamber a minimum flue gas	The matter of chlorine content is addressed in the Waste Report.	Waste Report Section 5.5

		waste will be less than I % at all times and therefore confirm the suitability of the proposed flue gas temperature of 850°C in the secondary combustion chamber.		temperature of 850°C is proposed together with a residence time of 2 seconds. The NSW Energy from Waste Policy Statement specifies a number of technical criteria for energy recovery facilities, including the minimum temperature and residence time of the gas resulting from the process: 'The gas resulting from the process should be raised after the last injection of combustion air, in a controlled and homogenous fashion and even under the most unfavourable conditions to a minimum temperature of 850°C for at least 2 seconds.. ..If a waste has a content of more than I % of halogenated organic substances, expressed as chlorine, the temperature should be raised to I,lOO°C for at least 2 second after the last injection of air. Urbis (2014) does not present any data to demonstrate the chlorine content of the waste will be below 1% at all times and therefore justify the proposed temperature of 850°C for the flue gas in the secondary combustion chamber.		
	29.	**3. Inconsistencies in air quality impact assessment** *The EPA requires the information in the EIS regarding the source of the fuel should be reviewed to ensure it is consistent throughout the document*		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. It is stated that the facility will have a total capacity of I.3 5 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 inconsistent with the main body of the EIS which states that 91 percent of fuel will originate from sources other than the Genesis Xero Waste Facility.	This has been addressed.	
	30.	**4. Meteorological data is not demonstrated to be site representative** *The EPA requires that further information be provided to demonstrate that the St Mary's meteorological monitoring station is the most representative of the proposed Energy from Waste Facility site. Additionally, the year* 2013 *St Mary's meteorological monitoring data must be correlated against a longer duration database to demonstrate it adequately describes the expected meteorological patterns*		The air quality impact assessment uses year 2013 meteorological data sourced from the NSW Office of Environment and Heritage (OEH) monitoring site at St Mary's, approximately 5 kilometres (km) west of the site. Other options for meteorological data includes the Bureau of Meteorology (BoM) Horsley Park Equestrian Centre Automatic Weather Station, located approximately 6 km southeast of the site and the OEH Prospect monitoring station located approximately 6km east of the site. PEL (2014a) states that the St Mary's monitoring station is closest to the site and considered to be the most	This has been addressed.	Air Quality Report Section 5

		at the site and is acceptable for use in the air quality impact assessment.		representative in terms of land use and surface roughness. No further information is provided to support this statement. Additionally, PEL (2014a) does not demonstrate the year 2013 meteorological data adequately describes the expected long term meteorological patterns at the site. The *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* requires site-representative meteorological data to be correlated against a longer duration site-representative meteorological database of at least five (preferably consecutive) years to be deemed acceptable.		
	31.	5. No assessment of ammonia emissions *The EPA requires the final EIS includes a discussion of the risk of ammonia slip from the flue gas treatment system and assess the impact of ammonia emissions from the facility.*		The flue gas treatment system includes selective non-catalytic reduction (SNCR) to reduce emissions of oxides of nitrogen (NOx). SNCR involves the injection of ammonia, at high temperature, to react with the NOx to form nitrogen and water vapour. Emissions of unreacted ammonia ('ammonia slip') can result from the incomplete reaction of the NOx and ammonia. The air quality impact assessment does not discuss the risk of ammonia slip or include an assessment of ammonia at the expected level of emissions.	Risk of ammonia slip has been addressed	Air Quality Report, throughout.
	32.	6. No presentation of PM2.5 assessment results. *The EPA requires the final EIS includes the results of the PM2.5 assessment and review all references to PM and amend to the appropriate size fraction.*		Section 9.1 in PEL (2014a) presents the results of the dispersion modelling, including a discussion of the modelling results. The results of the PM2.5 impact assessment are not presented in Table 9-1 but the results are referred to in the discussion. There are also numerous references to 'PM' throughout the document. The size fraction of particulate matter being referred to should be clarified.	This has been addressed.	Air Quality Report
	33.	7. PAHs are identified as COPC however they have not been assessed. *The EPA requires the AQA be revised to include all potential air pollutants that might be emitted during the construction and operation of the proposed EfW facility.*		The EPA notes: PAHs are identified as air pollutants of potential concern (or COPC) in the *NSW EPA Energy from Waste Policy Statement,* and in the Project HHRA. In addition the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (DEC, 2005) (the Approved Methods) lists PAHs as principal toxic air pollutants and states that they must be minimised to the maximum extent achievable through the application of best practice process design and/or emission controls; however, the	PAHS has been included in the assessment.	Air Quality Report, throughout.

				AQA does not consider or assess potential impacts from the emission of PAHs.		
	34.	8. The AQA should consider impacts during process upset conditions. *The EPA requires the AQA consider and assess impacts associated with process upset conditions and during facility start-up and shut-down periods.*		The EPA notes: the emission rates used in the AQA modelling are estimated based on the proposed EfW facility meeting the higher short term (half hour) limits (where available) in the IED, regardless of the averaging period for the assessment of impact on ground level concentration; the modelled emission rates are expected to be conservative during normal operations; however, the AQA has not considered or assessed potential impacts during periods of process upset conditions, such as the loss of air pollution control, or during facility start-up and shut-down periods where the efficacy of emission controls may be reduced, and emissions may potentially exceed the IED short term limits.	AQ assessment now includes upset conditions, start-up and shut-down periods.	Air Quality Report, Section 7.4, 7.5 , 76
	35.			**9. Other minor issues:** a. Buildings within the adjacent Eastern Creek Industrial Estate and nearby Minchinbury industrial estates should be considered sensitive receptors. The EPA notes: a. the Approved Methods defines Sensitive Receptor as: • "A location where people are likely to work or reside"; • the Approve Methods states the impact assessment criteria for SO2, NO2, 03, Pb, PMlo, TSP, deposited dust, CO and HF (criteria pollutants) must be applied at "the nearest existing or likely future off-site sensitive receptor"; and • the AQA assesses the impacts of each of the chosen Project air pollutants (both criteria and non-criteria pollutants) at the most stringent location - at and beyond the boundary. b. impact assessment criteria with averaging periods below 1 hour exist for SO2 and CO. In addition, HF impact assessment criteria includes 7, 30 and 90 days. The AQA does not include these averaging periods in its assessment of SO2, CO or HF.	Noted. Noted. This has been addressed.	Air Quality Report, Appendix C Air Quality Report Section 4.4 and 9.1
EPA	36.	Additional information and clarification is required to clearly demonstrate all chemicals of potential concern have been considered in the assessment of health risks.		Many hundreds of chemicals including a wide range of volatile organic compounds, metals and inorganic compounds are present in emissions from incineration plants. .	-	

				Chemicals of potential concern (COPC) considered in the Human Health Risk Assessment (HHRA) include those known to be produced during the combustion of waste and which limits have been set under the European Union Industrial Emissions Directive (2010/75/EU), which are included as "toxic air pollutants" in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW, are included in the US EPA Human Health Risk Assessment Protocol COPC database for the assessment of long term effects (Section 2.2). The following COPC have been considered for the purpose of the HHRA: • dioxinslfurans (individual congeners) and dioxin like PCBs; hydrogen chloride; • benzene (representing all gaseous and vaporous organic substance emissions - expressed as total • organic carbon (TOC)); • benzo(a)pyrene (representing polycyclic aromatic hydrocarbon (PAHs) emissions); • mercury and mercuric chloride; • cadmium; • thallium; • antimony; • arsenic; • chromium (Ill, and VI); • lead; and • nickel.		
	37.			*The EPA notes:* that potential pollutants in incinerator emissions may include other metals such as silver, beryllium, vanadium and copper and/or their compounds; it is unclear if asbestos should be a considered as a COPC, as municipal, commercial and industrial, and construction and demolition waste streams can include asbestos as a contaminant;	All pollutants potentially released from the facility are outlined in section 2.1. The COPCs are then identified in section 2.2 which are those released which are known to impact human health. Asbestos firstly is fire retardant and would not burn. However the facility will not accept asbestos containing waste. Therefore no asbestos fibres will be released from the facility and this pollutant has not been considered in the HHRA.	HHRA Section 2.1, 2.2

	38.			*and the HHRA should:* • *identify all chemicals of potential concern (COPC) that are likely to be emitted in significant quantities; and* • *clearly prioritise and justify the chemicals that need to be fully considered in a quantitative risk assessment.*	See above.	
	39.			*The EPA requires the proponent to include in the HHRA additional information and clarification so that it clearly demonstrates:* *all significant species that may be emitted from the facility have been identified and prioritised; and all relevant COPC have been considered in the assessment of potential health risks.*	See above.	
	40.	**2. It is unclear if the conceptual site model has identified all potential exposure pathways, and that all significant exposure pathways have been included in the quantitative assessment of health risks.**		*The EPA notes:* *the HHRA contains only a brief description and flow chart of the exposure pathways and conceptual site model (CSM) used for the Project. Consequently, it is unclear if all potential exposure pathways have been identified and considered; and justification is lacking to dismiss identified pathways as insignificant or unlikely, with respect to exposure scenarios.*	Additional information has been included to fully justify why certain exposure pathways have been excluded.	
	41.			the CSM identifies inhalation (the direct exposure pathway) and various indirect exposure pathways involving ingestion and dermal exposure. Exposure via dermal contact is deemed an insignificant exposure pathway based on the "infrequent and sporadic nature of the events and the very low dermal adsorption factors that may be experienced (when considered over the lifetime of an individual)". (Section 4.1). However, the EPA notes for children that exposure via dermal contact may occur more frequently, and therefore be a more significant exposure route. Consequently the identified receptors and dermal exposure pathway may require re-evaluation or further justification in order for it to be eliminated from the quantitative assessment of health risks; exposure scenarios exist that are not included in the HHRA such as exposure resulting from the use of rainwater tank water (which may be potentially contaminated with Project emissions) to irrigate vegetable	Further justification is provided for those pathways excluded from the HHRA.	HHRA Section 4.2

				gardens (resulting in the accumulation of COPC, and potential exposure via ingestion of deposited, dissolved and/or adsorbed contaminants on or within home-grown produce); and despite the HHRA not considering ingestion of drinking water from surface water bodies, it should be noted that Prospect Reservoir is located approximately 5 kilometres to the east of the proposed facility and is used as a part of Sydney's drinking water supply.		
	42.			*The EPA requires the proponent include additional information and clarification in the HHRA to address the issues referred to above, in particular to demonstrate the assessment identifies and includes all potential and significant exposure pathways*	See above.	
	43.	**3. Health impacts are assessed at the point of maximum impact, however the definition of sensitive receptors should also include nearby locations where people are likely to work.**		*The EPA notes:* *the assessment considers sensitive receptors located at the nearest residential areas at Minchinbury, Erskine Park and Horsley Park; in addition the assessment considers a worst case scenario, based on a receptor being located at the point of maximum predicted impact (which is derived from annual mean process emissions).*	Now noted in section 5 of the report.	HHRA Section 5
	44.			The worst case scenario includes consideration of two receptor types, a general resident, and a farmer. The farmer receptor is assumed to consume a higher fraction of locally produced food; and workers located at the adjacent Eastern Creek Industrial Estate also constitute potential sensitive receptors, however exposure at these locations will not exceed that of the more conservatively assessed worst case farmer receptor scenario, *The EPA requires the proponent note in the HHRA that sensitive receptors are also located within the Eastern Creek Industrial Estate.*	Now noted in section 5 of the report.	HHRA Section 5
	45.	**4. Details of the assessment model are lacking, as are details of the calculations used to derive predicted impacts.**		*The EPA notes:* *the assessment uses the Industrial Risk Assessment Program-Human Health (IRAP-h) model to quantify and evaluate risks and refers to a US EPA website for the equations used to estimate pollutant concentrations and their impacts (Section 6); and however, as the HHRA does not contain details of the model, or equations and calculations used, it is not possible to readily confirm the suitability of the model, or verify the model outputs (such*	The model equations and calculations have now been included as appendices. Previously the source of the model calculations was referenced.	HHRA Appendices.

				as the predicted impacts).		
	46.			*The EPA requires the proponent provide additional information and discussion of the /RAP model, including details of equations, variables, assumptions and calculations used in estimating Project impacts.*		
	47.			The EPA also notes: the concentration of COPC in soil is calculated from the deposition results of the air quality modelling for vapour phase and particle phase deposition; the concentration of COPC in plants is calculated from direct deposition, and air to plant transfer for above ground produce, and root uptake for above and below ground produce; however, the air quality modelling results used to calculate the concentration of COPC in soil and plants are not included in the HHRA.	As above.	
	48.			*The EPA requires the proponent provide details of the air quality modelling results used to calculate the concentration of COPC in soil and plants.*	Now included in the IRAP Appendices.	HHRA Appendices
	49.	**5. Confirmation is required that the toxicity factors use in the HHRA are appropriate.**		The EPA notes: model reference doses and reference concentrations are taken from the USEPA Human Health Assessment Protocol and are based on the USEPA Integrated Risk Information System; and the eHealth Guidelines, *Environmental Health Risk Assessment - Guidelines for assessing human health risk from environmental hazards (2012) (the eHealth Guidelines),* provides guidance on selecting sources of toxicological data and environmental health criteria, and recommend that Australian based toxicity values and health criteria be used where available	-	
	50.			*The EPA requires the proponent provide clarification that the chosen toxicity factors are appropriate for use in Australia, i.e.. are consistent with Australian based toxicity factors and health criteria, as recommended by the eHealth Guidelines.*	Where ever possible Australian based health criteria have been used, for instance the Tolerable Monthly Intake for dioxins is that recommended by the National Health and Medical Research Council (NHMRC). However, as explained in Chapter 3 of the HHRA the NHMRC have noted for other pollutants that the preferred approach (the	HHRA Chapter 3

					Benchmark Dose) has failed to be implemented in Australia and alternative toxicity factors should be sourced. For the assessment USEPA toxicity factors have been applied. As noted in Section 3.2.1.3 of the HHRA in lieu of any Australian specific sources these are considered to be appropriate to use especially as the toxicity factors are based on the effect of the pollutant on human health and do not take into account background sources in the diet.	
	51.	**6. Summary and issues with estimated risk levels.**		The HHRA refers to the NHMRC and USEPA approaches to assess carcinogenic and non-carcinogenic risk.	-	
	52.			Carcinogenic effects (Section 7.3) *The EPA notes:* *the calculated lifetime cancer risks for the project were estimated to be slightly greater than one in a million for the maximum impacted receptors located within the Minchinbury, Erskine Park and Horsley Park residential areas located to the north, west and south respectively (Table 7.4). Lifetime cancer risks for the assessed child scenario were below 1 0-6 and are therefore considered negligible (Section 7.3);*	Updated analysis of the impact now included in the report.	
	53.			the HHRA appears to incorrectly state the data presented in Table 7.4 shows the lifetime cancer risk for all sensitive receptors is less than Lifetime cancer risk value for adults in Table 7.4 are in fact greater than 1 o-~;	Updated.	
	54.			the discussion of acceptable risk levels does not: reference or discuss the relevant NSW Planning Guidelines (2011) such as the "Hazardous Industry Planning Advisory Papers" (HIPAPs), in particular HIPAP 4 and the suggested risk criteria developed for land use safety planning in NSW which for schools and child care facilities is 0.5~o1 -a~n d for residences is 1X oI-~ o;r (?) discuss the implications associated with the use of the NSW risk criteria and the proposed EfW project.	Now references this document and links to the land use type.	HHRA throughout

	55.			*The EPA requires the HHRA to:* *clarify the position of the project with respect to HIPAP risk criteria; and be amended to correctly state that lifetime cancer risks above were estimated for adults.*	Updated as above.	HHRA throughout
	56.			Non-carcinogenic effects (Section 7.2) *The EPA notes:* *the likelihood of adverse non-carcinogenic health impacts is considered highly unlikely as the sum of hazard quotients for all COPC at the maximum exposed existing residential areas are well below 1 (maximum 0.037). In addition, at the point of maximum impact (the worst case scenario), the hazard index is also well below 1 (maximum 0.090); and hazard quotient estimates are provided in a graph in Appendix C of the HHRA. However, as numerical hazard quotient values are not provided, it is not possible to verify the calculated hazard index values that are used to assess non-carcinogenic risks associated with the Project.*	Numerical breakdown for each receptor is now provided in an Appendix.	HHRA Appendix C
	57.			*The EPA requires the HHRA should include tabulated results that include each of the calculated hazard quotients (including the calculated hazard quotients for each exposure pathway and each COPC) and hazard indexes (including the calculated hazard quotients for each scenario).*	Tabulated results now provided.	
	58.			Dioxins and furans (Section 7. I) The EPA notes: IRAP model estimations of the process contribution to dioxin and dioxin-like PCBs are presented in Table 7.1 and compared against the tolerable monthly intake for dioxins the monthly dioxin intake due to process contributions is estimated to be much less than 1% of the mean monthly dioxin intake at the maximum impacted existing residential receptors. When compared to the tolerable monthly intake (TMI), the process contribution to dioxin intake is estimated to be even smaller still; at the point of maximum impact (worst case) scenarios, the estimated maximum process contribution to dioxin intake is still less than 5.5% of the mean monthly intake, and less than 2% of the TMI; and maximum impacts of dioxins in breast milk at existing residential areas are estimated to	-	

				be less than 1% of the TMI, while at the point of maximum impact for the farmer (worst case) scenario, the process contribution to the TMI is around 15%. dl Risk level estimation and methodology		
	59.			The EPA notes: details presented in the HHRA of the methodology, calculations and input data used to estimate risks are generally minimal, referenced elsewhere, or lacking. However the HHRA should be comprehensive, and include sufficient detail so that it can be readily followed and understood. In addition, details of the assessment methodologies, calculations and input data should be provided I so that the findings of the assessment can be verified if required; and I the HHRA states that the raw model outputs which quantify the exposure are contained in Appendix *C,* however Appendix C contains only hazard quotient data for each of the assessed scenarios *The EPA requires the HHRA should include additional information and details of the methodology, input data, and calculations used to estimate and assess Project risks so it is comprehensive and allows each of the assessment findings to be verified if required.*	Report updated to include additional clarifications.	
	60.	**7. Additional clarification is required to demonstrate site specific information used in modelling is appropriate**		The EPA notes: Bureau of Meteorology (BoM) data was used to provide ground type dependent properties for use in calculating COPC concentrations. However the HHRA does not state which data was used, or demonstrate the data used is representative of long term site conditions;	Now revised and a justification for the choice of data is provided.	HHRA Section 6.5.
	61.			BoM 2013 weather data was used to calculate the average site wind speed. However the HHRA does not present any analysis to demonstrate this data is representative of average site wind speeds over a longer averaging period; and a number of assumptions have been made with regard to the deposition of different phases. These assumptions have been applied to the annual mean concentrations predicted using the dispersion modelling undertaken as a part of the Project air quality assessment (AQA) to generate the inputs for the IRAP (risk) modelling. The HHRA does not contain any discussion of the suitability of the deposition assumptions,	As above.	

				or the sensitivity of the model to these assumptions. *The EPA requires the HHRA should include additional details, discussion and justification of the data and assumptions used in the estimation of COPC concentrations.*	Further justification provided in the report.	
	62.	**8. Clarification is required to show how the modelled emission rates were calculated, and how PAH emissions were assessed.**		The EPA notes: the AQA does not model PAH or benzo(a)pyrene emissions. However in order for PAHs to be assessed, the predicted annual mean concentration that is derived from dispersion modelling is needed to generate PAH inputs for the IRAP (risk) modelling (see issue 7); and Table **6.4** lists the modelled emission rates for COPC including PAHs. The HHRA states that it is assumed the facility operates at the Industrial Emissions Directive (IED) Emission Limit Values for its entire operational life. The IED Emission Limit Values are provided for daily **and** half hourly averages for some pollutants. However the HHRA does not specify what Limit Values were used to derive the assessed emission rates for COPC that have both daily and half hourly Limit Values. *The EPA requires the HHRA include additional information to clarify:* *how PAH /RAP model inputs were derived; and which Limit Values were used to derive the assessed COPC emission rates.*	The basis of the emissions now clarified.	HHRA Table 6.4
	63.	**9. Potential health risks associated with process upset conditions should be considered.**		The EPA notes: the HHRA scenarios are based on the conservative assumptions that facility COPC emission concentrations are at IED Emission Limit Values for the entire operational life of the facility, and there are no shut down periods for maintenance or other purposes; however, the HHRA has not considered or assessed potential impacts during periods of process upset conditions, such as the loss of air pollution control, or during facility start-up and shut-down periods where the efficacy of emission controls may be reduced. *The EPA requires the HHRA consider risks associated with process upset conditions and during facility start-up and shut-down periods.*	Periods of up-set / shut down conditions are short-term events which have very little effect on the long term impact of the facility.	HHRA Section 7.5
	64.	**10. Health impacts associated with potential**		The EPA notes the HHRA does not comment on the	The approach used to assess dioxins includes	

		cumulative and background emissions should be considered.		existence of potential nearby significant sources of COPC, or whether background levels of COPC may be elevated, and therefore need to be considered in the HHRA. *The EPA requires the HHRA clarify there are no significant nearby COPC sources, or elevated background COPC levels, that might warrant an assessment of health risks associated with cumulative exposure to these COPC.*	the mean dietary intake for Australians. The risk based approach for other COPCs recommended does not consider existing levels as it is the increased risk associated with the facility only.	
	65.	**11. Other minor issues:**		a. "Eskine" (Erskine) Park is incorrectly spelt throughout the HHRA.	Updated throughout	
	66.			b. Details of the references used in the HHRA are not provided or listed in a Reference Section.	Now includes a reference section. All references were included but as footnotes.	
	67.			c. The source of the IRAP (model) input values provided in Appendix B should be given.	IRAP inputs where not using defaults are stated in the report.	
	68.			d. Table B2 contains repeated data.	Updated.	
BCC	69.	**Human Health Risk Assessment Report** *A human health risk assessment covering the inhalation of criteria pollutants and exposure (from all pathways i.e., inhalation, ingestion and dermal) to specific air taxies*	Section 1.2	The Human Health Risk Assessment (HHRA) Report is generally in accordance with the 2012 eHealth document *Environmental Health Risk* Assessment- *Guidelines for* assessing *human health risks from environmental hazards* with some exceptions as discussed below.	-	
	70.		Section 5:	This section provides very brief discussion of sensate receptors, and indicates that the approach to the assessment is just to focus on the point of maximum impact, and identifies to receptors, a "farmer" and a "general resident". There is no discussion as to the actual location of the point of maximum impact.	Location is included in detailed IRAP output appendix and referenced in the report.	
	71.		Section 6.6: Table 6-4 and Table 6-5	include emission rates used in the HHRA It states that the emission rates assume the facility operates at lED limits, i.e. those set out in *2010175/EU.* It is recommended that more detail be provided ion how these emissions were calculated, and in particular how emissions are prescribed for modelling of inhalation (concentration) and non-inhalation pathways (deposition).	Additional information now provided	
	72.		General:	There is no clearly defied Exposure Assessment as required by *enHealth, 2012.*	The Exposure Assessment is covered in sections 4,5 and 6 of the HHRA, as explained in the introduction.	

	73.		Section 7:	This section sets out the risk characterisation for dioxins and furans, non-carcinogenic and carcinogenic health effects.	-	
EnRisk	74.			For most substances released into the atmosphere from the Facility, inhalational exposure is the only significant pathway for receptors. This applies to oxides of nitrogen, oxides of sulphur, carbon monoxide, hydrogen fluoride, and particulates. The HHRA references the air quality assessment comparing the emission levels of the substances listed above to those listed in the National Environmental Protection Measure for Ambient Air Quality (Ambient Air-NEPM). Comment: This is appropriate for most of the pollutants considered however for particulates the assessment presented has not considered risks to the community from the project. The NEPM provides a criteria/goal for urban air but is not intended to deal with point sources, nor does it enable an assessment of the impact of an individual facility. Given there is no threshold for exposure to particulates it is appropriate that a more robust assessment of particulates (as PM10 and more importantly PM2.5) is presented that is relevant for the facility and the surrounding population, consistent with current requirements for the assessment of risks to the community for projects in NSW. Comment: Note that these standards have set by the Council of Australian Governments (COAG) Standing Council on Environment and Water (SCEW) incorporating the National Environmental Protection Council (NEPC), not the 'Australian Environmental Protection Agency' as stated in the HHRA.	PM is not a pollutant which bioaccumulates within the foodchain and therefore is not included in the HHRA.	
	75.			Other emitted pollutants may accumulate in or impact on environmental media other than air and an assessment of aggregate exposure from all media has been performed using IRAP-h (Industrial Risk Assessment Program – human), a software program for conducting a multi-pathway human health risk assessment. It simultaneously calculates risk values for multiple chemicals, from multiple sources, at multiple exposure locations1. The software (current V4.0) is a proprietary program developed by	TMI approach was used in the assessment, and Australian specific input data used where possible. Dioxin-like PCBs are included in the calculation as stated in the report.	

				Lakes Environmental, and is stated to be based on the United States Environment Protection Agency (USEPA) Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (2005). This model is not transparent and hence the calculations cannot be verified or checked. The HHRA states that emission limits for PAHs "are not currently set", but there is a target value set by the EU as 1ng/m3 (measured as benzo(a)pyrene, 1 year average). The HHRA references guidelines published by eHealth (2012) "Environmental Health Risk Assessment – Guidelines for assessing human health risks from environmental hazards". However it does not appear that the guidance provided in the eHealth document has been properly followed in the conduct of the HHRA. *Choice of Toxicity reference values and RA methodology* Comment: The USEPA has not yet published all the supporting material for its decisions or criteria established. Hence the most appropriate approach to use is that adopted in Australia where the threshold TMI is used for the assessment of dioxins. It is also appropriate to assess dioxins as a TEQ for dioxins/furans and dioxin-like PCBs (based on the WHO 2005 TEFs). Using default US values is not suitable for this assessment. The report is quite confused in how it has addressed dioxins as it lists default USEPA toxicity values for dioxins yet in Section 7.1 presents calculations for using the JECFA TMI. It is not clear if dioxin exposures have been assessed both ways – i.e. included in the cancer risk calculations as well as evaluating the risk using the TMI. In addition it appears the TEQ approach has been considered – this is only apparent when noted in Section 6.6, however it appears the approach does not include dioxin-like PCBs in the calculation.		
	76.			a. Dioxins, furans and dioxin like PCBs: the HHRA	-	

				recommends the use of the Australian TMI (70 pg. TEQ/kg bw/month) and provides calculations of the Mean Monthly Intake for the Australian population (adult and child). These values are derived from the Australian National dioxins Program3 (report 12). The Australian TMI is similar to that set by JECFA and other international agencies with the exception of the USEPA which derived a chronic oral reference dose (RfD) of 0.7 pg/kg-d, equating to a TMI of 21 pg TEQ/kg bw/month; additionally the USEPA derived a very conservative oral slope factor for carcinogenic risk. The JECFA value represents consensus of an international panel of experts that there is a threshold for all effects, including cancer, and as such, a single value (provisional tolerable monthly intake) has been developed to protect both cancer and non-cancer. In contrast, the USEPA concluded that the data did not support the idea that a threshold exists for cancer and, as such, developed a toxicological value for cancer that is substantially more conservative than that developed by the JECFA Committee.		
	77.			b. Table 3.2 in the HHRA provides a list of the Reference Doses (RfDs), Reference Concentrations (RfCs), ingestion cancer slope factors and inhalation unit risk factors for each COPC and exposure pathway. Comment: The table does not provide references for where these have come from. There is no indication that the values have been critically reviewed and determined to be current and robust as is required by eHealth (2012). In addition there is no indication of whether threshold intakes have been adjusted to account for intakes from sources other than the facility. This needs to be considered as outlined in eHealth (2102).	Reference is provided above the table.	
	78.			c. Table 3.2: It appears that the values are taken from the USEPA Human Health Risk Assessment Protocol (HHRAP)4 and are based on the USEPA Integrated Risk Information System (IRIS).	The approach used has been fully justified and is based on the Australian approach where possible.	

				Comment: The approach adopted in Australia (as outlined by eHealth 2012) differs from that in the US particularly in relation to the relevance of assessing a non-threshold dose-response. In addition, in some cases more robust evaluations are available from sources other than the USEPA. Reference should be made to eHealth (2012) for the approach, suitable sources of evaluations and how to determine the suitability of toxicity reference values.		
	79.			d. The use of Hazard Quotient and Hazard Index (sum of the HQs) for assessing risks for COPCs for threshold risk, and the use of CSF and URF for COPCs with a non-threshold (carcinogenic risk) is appropriate. Comment: It is noted that benzo(a)pyrene is considered to have a mutagenic mode of action, and as such, the use of an age-dependent adjustment factor (an extra 3-fold) for this COPC should be considered when calculating the risk for the 2-3 old child5.	This is now included in the carcinogenic risk assessment.	
	80.			e. The HHRA presents a conceptual site model (Chapter 4) in which the exposure pathways are identified. In considering the receptors from these pathways, the receptors and exposure media are identified. Comment: The relevance of these pathways for the site and surrounding population has not been discussed at all so the assessment could not be considered site-specific. It is not uncommon for householders particularly in the area of Sydney evaluated to grow chickens and eat home-grown eggs (and potentially the birds). This pathway should be further considered. The transfer of some of the organic compounds (in particular dioxins and furans) to mother's milk, and ingestion by infants has not been considered. It is noted that assumptions for this pathway are listed in Section 6.4.2 with no explanation of the relevance of this pathway for which contaminants etc. The HHRA argues that dermal exposure via direct contact	Clarification has been provided in the report.	

				is insignificant. This may be reasonable for many of the inorganic compounds however it may be a significant pathway for organics and should be included. A more robust evaluation of the relevance of the pathway should be included. The HHRA argues that the 'surface' drinking water is an insignificant pathway. As contaminant run-off from roofs into rainwater tanks can be significant, in the absence of information about the frequency of water consumption from tanks in the surrounding urban areas (which can be obtained) this assumption should be revisited. There is also no data on the presence of bores that might be used for drinking water sources – or if this is relevant for the population in the area assessed. The potential for farming in the surrounding areas has not been evaluated – there are various farms in the areas surrounding the site – and the type of farming should be identified and discussed.		
Noise						
Arup (DGR)	1.	description of all potential noise sources such as construction, operational, on and off-site traffic noise;	Section 14,0 and Appendix O	Potential sources of construction, operational and traffic noise are described in detail.	-	
	2.	a quantitative noise impact assessment including a cumulative noise impact assessment in accordance with relevant Environment Protection Authority guidelines	Section 14,0 and Appendix O	Potential sources of construction, operational and traffic noise are described in detail.	-	
	3.	details of noise mitigation, management and monitoring measures	Section 14,0 and Appendix O	Detailed noise mitigation, managing and monitoring measures are recommended in Appendix O. The main body of the EIS should confirm which of these measures will be implemented. In particular, it is not clear whether there is a commitment to undertaking noise monitoring.	This has been clarified in the EIS.	Section 14, 23
BCC	4.	*Description of all potential noise sources such as construction, operational, on and off-site traffic noise:*		The noise goals the Eastern Creek Precinct Plan (Stage 3) (BCC 2005) are marginally lower than the INP amenity as construction, operational, on and off site noise goals, but are above the Intrusiveness criteria which sets the limits for the project. The BCC noise goals have traffic noise been omitted from Table 4.6, however this does not affect the adopted project specific noise goals. It is	Additional detail of the selection criteria has been included for receivers in Minchinbury and Erskine Park.	Noise Report Section 4.4

				recommended that an explanation as to why Minchinbury is defined as "Urban" and Erskine Park is defined as "Suburban" in accordance with the INP be included.		
	5.	A quantitative noise impact assessment including a cumulative noise impact assessment in accordance with relevant Environment Protection Authority guidelines:		A quantitative assessment of construction and operational impacts has been undertaken for the proposal. The assessment has considered the cumulative impacts from both existing Genesis Xero Waste Facility and the recently approved but unbuilt Hanson Development, in conjunction with the predicted impacts from the proposed EFW facility. The assessment has not considered the effect of modifying factors e.g.. impulsive, tonal or low frequency noise for the proposal and noise data does not include a spectrum for the sound power levels used in the assessment to determine potential for these impacts. It is recommended that such as assessment is included. There is no assessment of potential noise impacts from non-continuous (intermittent) operational noise sources such as safety valves or circuit breakers for the EFW. While this omission is largely offset by the assessment of operational sleep disturbance impacts which would be in the same order of magnitude as other intermittent noise sources it is recommended that project specific non-continuous noise sources be included. There were no predicted sleep disturbance impacts identified for the proposal when maximum levels were assessed. The construction noise impact assessment has included consideration of both standard and Outside Standard Hours (OSH). The request for works OSH scenarios 1-5 are not sufficiently justified in accordance with ICNG guidance to warrant approval of works during these times. It is recommended that standard construction hours are adopted unless it can be demonstrated that these works would be inaudible at the nearest receiver locations.	Assessment of low frequency noise has been included. Additional detail, including octave band noise levels is included as an appendices of the revised report. The sleep disturbance assessment has been updated to include a pressure release safety valve noise source. The construction noise assessment has been updated to include justification for out of hours work and revised working times.	Noise Report Section 4.4 and Section 6.5, 6.6 and Appendix E Noise Report Section 6.7 Noise Report Section 5
	6.	*Details of noise mitigation, management and monitoring measures:*		Construction noise management discussion details general measures for limiting noise impacts. Possible noise reduction benefits outlined Table 5-8 are considered to be overly optimistic.	Noise management measure recommendations have been updated.	Noise Report Section 5.5

				It is recommended that operational noise impact mitigation measures outlined in the report should be adopted for the proposal. In addition to the report details, it is further recommended that a noise management plan be developed for the site outlining measures and protocols for minimising noise emissions. Specific noise monitoring measures for operational compliance were noted in the report, which detailed initial quarterly monitoring. This section of the report also outlined monitoring procedures, record keeping and investigation of non-compliances. Construction monitoring is mentioned, however, detailed monitoring recommendations for this phase of work are not included in the report.	Additional recommendations for construction noise monitoring have been included.	Noise Report Section 5.5
EPA	7.			The proposed construction hours for Saturdays (proposed to be 7am-5pm) are not in line with the EPA's *Interim Construction Noise Guideline,* which recommends Saturday work be restricted to 8am- 1pm. If the proponent requires construction to occur outside of the recommended standard hours, the proponent must clearly justify why this is needed, apart from convenience.	The construction noise assessment has been updated to include justification for out of hours work and revised working times.	Noise Report Section 5 Construction Environmental Management Plan Section 7.1
Soils and Water						
Arup (DGR)	1.	description of the water demands and a break down of water supplies	Section 15.3.6	Operational water demand and supply breakdown is provided. Construction requirements should also be detailed.	A construction programme has been prepared by HZI. It is estimated that construction will be completed within 43 months, with civil works being undertaken between months five and thirteen. The plan includes an estimate of town water use by month during the construction period. The average monthly water use is estimated to be 546 m3, with a maximum of 1836 m3 and minimum of 12 m3 . The total water demand for the construction phase is 23,464 m3 or 23.4 ML. 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.	
	2.	description of the measures to minimise water use	Appendix P	Measures to minimise potable water are proposed (i.e. use of rainwater and reuse of water from bio-retention basin); further information on water efficiency could be provided.	No response required. No reuse of water from bio-retention basin in EfW process currently foreseen by HZI due to water quality requirements.	
	3.	a detailed water balance	Appendix P	Details on water demand and discharges are provided in Appendix P.	-	
	4.	description of the construction erosion and sediment controls	Section 15.4.2	A high level description is provided (including provision of a temporary bioretention basin), and a commitment to providing a more detailed ESCP is made.	-	
	5.	a description of the surface and stormwater management system, including on site detention, and measures to treat or reuse water	Section 15.3.4, Appendix P	A description of the existing and proposed surface and stormwater management system is provided in detail in Appendix P.	-	
	6.	an assessment of potential surface and groundwater impacts associated with the development including the details of impact mitigation, management and monitoring measures	Section 15.4, 22.0. Appendix P	Potential impacts to surface and groundwater are assessed in Appendix P and described briefly in Section 15.4. Although significant impacts are not identified, the ecological implications of potential changes to groundwater should be considered, particularly in relation to the Threatened Ecological Community on site and the riparian corridor. Appendix P indicates that further investigations into groundwater contamination is occurring, although significant problems are not anticipated. If available, this work should be included in the EIS for completeness. Reference is made to a Stormwater Management Plan that has been prepared by AT& L in 2014. This Plan should be appended to the EIS (not available in the copy provided for review - this may be a reference to the Civil Infrastructure Report in Appendix E, but it is not clear). Section 22.0 references a flood report, however it does not appear too appended; this should be included if available. The design measures to control surface water runoff and potential contamination are well described. Further Information on management controls and monitoring should be provided.	Stormwater management has been assessed within the AT&L Civil Infrastructure Report and Plan. Monitoring measures are summarised in the EIS Section 15. A water-quality monitoring programme has been detailed within the Soil and Water Report. The Brown Floor Report has been appended to the EIS.	Civil and stormwater Report and Plans EIS Section 15 Soil and Water Report Section 5.2, Table 5.1 EIS Appendix AA
	7.	an assessment of any potential existing soil contamination	Section 15.3.3, Appendix P	Appendix P provides an overview of historical soil contamination investigations undertaken in relation to minor levels of contamination associated with the nearby Asphalt Plant. These investigations should be attached if	The most recent soil contamination investigation conducted by ADE (2014) concluded “no contamination of the site from potential contaminating practices undertaken	

				available. Further assessment is recommended in Appendix P; the main body of the EIS should describe the extent of this further work and provide a description of treatment measures proposed during construction.	both on and off site, had occurred prior to the time the investigation took place". ADE further concluded that the site is deemed suitable for commercial/industrial land use and the proposed development. This assessment included an evaluation of potential impacts from the adjacent asphalt plant. The Brookfield Multiplex Construction Environmental Management Plan contains an 'unexpected finds protocol' that will be implemented as required.	Construction Environmental Management Plan
BCC	8.			<u>Council noted concerns:</u> The EIS fails to reference the stormwater management controls in Council's adopted precinct plan for this area (SEPP59 Eastern Creek Precinct 3). It is noted the 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. This information is to be rectified and the correct information provided.	Aneesh Singh (BCC) confirmed that OSD is to comply with UPRCT. It is noted that this is not the case. AT&L has amended Civil and Stormwater Report to comply with SEPP59 EIS has provided summary of compliance with SEPP59.	EIS Section 8 Civil and Stormwater Report Section 3.2 EIS Section 8.18
	9.			Concerns are also raised with 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 Browns Consulting Ply Ltd or Council as the information used was provided in the context of legal proceedings and general information for review of draft 894 contributions plans for this area. The flood assessment should also include modelling of the PMF as the proposed project can be classed as critical and sensitive infrastructure in relation to flooding impacts	The flood report was provided from council to DADI. This flood report was written in 2010 and is the most current flooding information we have for the area.	
	10.	*Description of the water demands and a breakdown of water supplies:*		The plant water demands are 25.6 m'/h or 205,000m^3/ann. (Concept Design pg 25). This is based on a "typical" EFW facility however it does not consider specific demands of the TNG plant. EIS (pg 29) differs with a water demand of 153,000 m'/ann, but the consumptions only sum to 137m^3/ann.	The plant designers, HZI, advise that only high-quality water is to be used in the Water/Steam Cycle. As such there is no potential for the use of stormwater runoff in the EfW plant without treatment were to be undertaken. No such treatment is contemplated in the current design and the	

				The water supplies are mostly from on-site detention, roof water, with the balance from Sydney Water 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. The ash water consumption (Concept Design p21) is between 35 to 64 MUann, but the Soil and Water assessment concludes dry ash handling will be used with a consumption of only 21 MUann.	use of stormwater in the plant has not been considered in this report. In summary, the total water supply requirements are as follows: • Plant water: 160.8 ML/yr plus staff amenities of 1.0 ML/yr)r; • Staff amenities potable water: 1.00 ML/yr • Staff amenities non-potable water: 0.43 ML/yr; • Total water use: 162.23 ML/yr. Rain water will be collected from the roof of the EfW plant for reuse in the plant. Predicted average rainwater reuse is summarised below: • 9.15 ML/yr or 5.63% of water demand in the driest year (1980); Reports have been updated to for consistency.	
	11.	*Description of the measures to minimise water use:*		• Air cooled condensers have been assumed in the Concept Design to reduce the plant water consumption. • Slowdown heat recovery has been suggested (Concept Design pg 10), but without a heat balance it is not certain whether this is included in the plant design. • Water consumers are the water treatment plant, boiler makeup, facility ablutions, general hose down and maintenance requirements, lime injection.	Boiler blow down heat recovery is included in the design but not used to increase the make-up water temperature as described by Fichtner in the Concept Design Report but to increase the condensate temperature.	
	12.	*A detailed water balance*		No water balance has been provided.	Water balance has been provided in EIS and Soil and Water Report	Soil and Water Report Section 7.2 EIS Section 3.16
	13.	*Description of the construction erosion and sediment controls:*		Results of previous contamination investigations undertaken by ADI P/L (1995) indicated contamination of soils and sediments in the eastern area of the site and		

				within direct drainage pathways due to the adjacent asphalt manufacturing plant. Recent Phase 1 and 2 contamination investigations (ADE Consulting P/L 2014) conclude that no contamination of the site from potential contaminating practices undertaken on and off site have occurred and that concentrations of potential contaminants with soil, sediment and surface water samples were below the applied criteria. ADE Consulting conclude that the site is deemed suitable for the commercial/industrial land use and the proposed development. 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). Vegetation appears to have prohibited access and for inspection and assessment at many areas on site. The relatively shallow depth of assessment (0.5 meters Below ground surface) does not allow for an opinion on the potential depth of contamination. Ecological investigation levels have not been applied to soil samples for all of the soils assessed. 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.	The Brookfield Multiplex Construction Environmental Management Plan contains an 'unexpected finds protocol' that will be implemented as required.	Construction Environmental Management Plan
	14.	*A description of the surface and stormwater management system, including on site detention, and measures to treat or reuse water:*		Brookfield Multiplex state that they operate under IS014001 accredited environmental management system (EMS), including regular inspections, audits and reporting requirements. Under the application, a Construction Environmental Management Plan (CEMP) has been submitted. The CEMP nominates environmental management strategies to form the key controls under the CEMP., including: • Risk registers to identify aspects and impacts and risk workshops; • Environmental management plans and environmental work method statements; • Environmental site inspections.	Specific details on sediment and erosion control are contained within the AT&L Civil and Stormwater Plans The volume of water generated by groundwater inflow is expect to be considerably less than that due to rainfall and it is considered unlikely that a formal groundwater dewatering system will be required.	Civil and Stormwater Plans

				Key erosion and sediment controls are to be contained in the Erosion and Sediment Control Plan (CEMP Appendix C). No details regarding any specific erosion or sediment controls are contained in Appendix 6. Detailed erosion and sediment control plans and systems are required. Specific development area is approximately 20 hectares. Earthworks associated with general site construction activities, including: Bulk earthworks and piling; Internal roadways, underpass connection between TNG Facility and Waste Facility; • Staff amenities; • Staff car parking • Water detention and treatment basins, • Sewerage, water supply, communication and power supply services. Dewatering from groundwater wells is proposed to lower water levels to facilitate construction activities. Direct discharge to stormwater and the Ropes Creek Tributary is proposed. 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 to facilitate excavations below the water table. Detailed investigations to support dewatering and the disposal of pumped/collected water is required		
	15.	*An assessment of potential surface and groundwater impacts associated with the development including the details of impact mitigation, management and monitoring measures:*		CEMP Water Quality Management Sub-plan includes objectives, targets and KPI's associated with surface and groundwater quality. Assessment of potential surface and groundwater impacts is contained within Proposed Energy from Waste Facility, Eastern Creek (SSD6236) Soil and Water, IGGC P/L June 2014. Key features associated with stormwater management include: • Majority of site surfaces will be impervious, with open gutters pits and underground pipes to an on-site detention basin located in south west corner of development area; • EfW, lay-down areas substation and roadways linked	AT&L Civil and Stormwater Plans have been amended to show adequate separation of potentially contaminated areas.	Civil and Stormwater Plans

				by piped stormwater drainage systems to the bio-retention basin. Tipping hall design floors are higher than roadway levels and containment systems are proposed to deliver all drainage to an internal drainage containment system. Volumes of leachate and/or contaminated process water generated as part of the EfW process are stated to be small and be collected and evaporated via he thermal treatment process. Effective separation of stormwater drainage from potentially contaminated areas is required to ensure the stormwater drainage system is protective Proposed re-use of stormwater run-off on site is expected to require 100% of available collected water. Discharge of excessively high peak flows leading to increased erosion and flood risk has been identified in the EIS. Inadequate treatment or characterisation of discharged stormwater or groundwater could impact on the receiving aquatic environment. Risks to groundwater quality are considered low, based on the proposed impermeable surfaces over the majority of the site and the proposed surface water collection and containment systems. Further investigation of salinity conditions should be undertaken to identify high risk salinity areas close to drainage lines and monitoring programs designed to establish baseline and operational water quality values.		
	16.	*An assessment of any potential existing soil contamination*		Potential for the EfT process to result in contamination of stormwater drainage system if effective separation of stormwater drainage from potentially contaminated areas is not undertaken. These areas include: • Tipping hall • Flue gas treatment and energy recovery system • Residue handling and treatment area • Areas/systems used for handling, treatment and disposal of contaminated process water, including any leachate generated in the tipping hall Laydown area pads no 1 through 5 are all up-gradient from Ropes Creek Tributary. The bio-retention basin is	Additional information has been provided.	Soil and Water Report Section 3.8

				directly adjacent to and up-gradient to the Ropes creek Tributary. These areas pose a significant risk to water quality and the local catchment, if not managed appropriately. Measures to prevent contamination of stormwater include: • Etw process to be undertaken within roofed buildings, limiting the potential for leaching of contaminants from incoming waste or process residue; • Design floors, internal drainage systems grated drains wash-down areas Tipping hall design floor and related infrastructure is designed to be contained within a closed system to allow collection and reuse of stormwater Proposed development includes excavations of up to 15 meters below ground surface. CEMP Water Quality Management Sub-plan includes incomplete information regarding the proposed abstraction of groundwater for construction purposes. Water demand for the EfW plant is understood to be provided by collection and storage of rainwater runoff from roof areas, re-use of stormwater from bio-retention basin and top-up from Sydney Water mains. Previous land usage has altered the flow regime and water quality of the riparian corridor and Ropes Creek Tributary. Further information is required regarding surface water quality and groundwater quality. Additional baseline monitoring should be undertaken to allow appropriate pre-development and operational monitoring requirements		
EPA	17.			The EIS does not include a water balance for the proposed facility and operations. Section 3.3.2 of the EIS mentions that the proposed facility may treat and discharge liquid effluents into a local foul drain or it may be "zero discharge". The EPA's strong preference is that the proposed facility is a zero discharge facility. Further clarification on this should be provided in the EIS prior to public exhibition.	Water Balance has been provided in the EIS. I	EIS Section 3.4.2 and 3.18
Traffic and Transport						

Arup (DGR)	1.	details of traffic types and volumes likely to be generated during construction and operation	Section 16.3.2	Details of traffic types and volumes provided for operations only. Details of construction not provided. As details of the sources of feedstock other than from the Genesis facility is not provided, there is no assessment of potential routes	Section 6.2 provides some detail regarding the distribution of traffic onto the surrounding road network, in the absence of detailed information regarding specific feedstock locations. The feedstock locations would be expected to change over time and, given the minimal number of hourly truck movements, is not considered critical to the assessment of the application from a traffic perspective. Indeed, RMS has raised no objection to the application.	Traffic Report Section 6.2
	2.	an assessment of the predicted impacts of this traffic on the safety and capacity of the surrounding road network and a description of the measures that would be implemented to upgrade and/or maintain this network over time	Section 16.3 and Appendix Q	An assessment of the predicted impacts of traffic on the surrounding road network once the project for operations is provided. Information on construction traffic volumes and management should also be included.	Refer to the amended report (Section 7) which provides information with respect to construction traffic impacts. Notwithstanding, it is expected that preparation of a Construction Traffic Management Plan (CTMP) would be included as a standard condition of consent, as is standard practice.	Traffic report Section 7
	3.	details of key transport routes, site access, internal roadways, infrastructure works and parking	Section 16.3 and Appendix Q		-	
	4.	detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian standards	Appendix Q		-	
RMS	5.			While the RMS does not raise any objection, they would like further clarification on the total capacity of the site and associated traffic impacts. The traffic impact should be based on the previously approved 2 million tonnes per year plus an additional 500,000 tonnes per year for the new facility (2.5 tonnes total). The Traffic consultant should revise their report.	This appears to be a misunderstanding. Additional commentary is now included in the Traffic report (see new Table 3) which provides a summary of the source material for the new facility.	Traffic report Section 6.1.2
Hazards and Risk						
Arup (DGR)	1.	Preliminary Hazard Analysis (PHA) in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard*	Section 17.0 and Appendix V		-	

		Analysis and *Multi-Level Risk Assessment* and details of fire/emergency measures and procedures				
	2.	detail contingency plans for any potential incidents or equipment failure during the operation of the project	Section 17.0 and Appendix V	Design measures are recommended; there is limited information on operational contingency plans in the event of incidents or equipment failure. A full review of drawings has not been undertaken, but it would be useful to provide text on whether the measures recommended in Appendix V have been included in the design.	A Preliminary Hazard Analysis (PHA) assesses the potential impacts (radiant heat, over pressure, toxicity, etc.) of an industrial facility on the surrounding land uses to determine whether the fatality risk of the facility exceeds the acceptable criteria published in the Hazardous Industry Planning Advisory Paper (HIPAP) No. 4 – Risk Criteria for Land Use Planning. The PHA does not take into account emergency response planning or management of equipment failures/systems. These contingency plans are assessed in other risk studies such as a Safety Management System (SMS) or an Emergency Response Plan (ERP). The preparation of these studies is dictated by the Secretary of the Department of Planning and Environment (DPE) following review of the EIS, the Work Health and Safety Regulations or both. In addition, contingency plans in the ERP and SMS are reviewed during a Hazard Audit (this requirement is also dictated by the Secretary) which is generally conducted after the first year of operation and every three years thereafter (although a different frequency maybe requested by the Secretary).	
Ozzy	3.	The study is generally prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis*.		The level of risk assessment appears to be appropriate for the proposed operations. A number of measures to minimise or eliminate the risks are identified and appropriate actions are recommended. However not all recommendations summarised in *Section 7.2* ***Recommendations*.** The document also contains details on the fire measures and procedures to be implemented on-site. The information on the emergency measures and procedures	All recommendations have been included in Section 7.2 and executive summary.	Hazards and Risk Report Section 7.2

				and the contingency plans is very limited, but it is considered appropriate for this early stage of the development. Please note, that if the development is to be approved, a number of hazard-related conditions of consent will be imposed, including Fire Safety Study and Emergency Plan. ***Findings*** The Preliminary Hazard Analysis and Fire Risk Assessment generally address the DGRs. However, *Section 7.2 Recommendations* should be updated to include all recommendation made in the study.		
Flora and Fauna						
Arup (DGR)	1.	including an assessment of the potential impacts to threatened species, populations and communities, and their habitat(s)	Section 18.0, Appendix G	An assessment of the direct impacts of the project on threatened species, populations and communities and their habitat has been made. There has been no assessment of any indirect impacts however, including noise, water quality, changes to hydrology, introduction of weeds or light impacts. In particular, further assessment of indirect impacts on the ecology of the flora and fauna of the Roper Creek tributary corridor and the 9ha of the critically endangered Cumberland Plain Woodland within the study area is warranted. Should indirect impacts be identified, the project may require referral under the *Environmental Protection and Biodiversity Conservation Act 1999*. It is acknowledged that the 0.2ha patch of Cumberland Plain Woodland to be removed does not meet Conservation Advice published by the Commonwealth Government, however there is no discussion on whether any offsets are still warranted at a state level. Despite this patch not meeting the significance criteria, further discussion on protection and ongoing management of this area in accordance with the conservation advice should be provided. Further information on the long-term monitoring and management of revegetated areas and fauna protection measures e.g. bat boxes, would be beneficial.	Indirect impacts are detailed in Flora and Fauna Report.	Flora and Fauna Report Section 8.3
	2.	if required describe how the principles of “avoid, mitigate, offset” have been used to minimise the impacts of the proposal on biodiversity	Section 18.0, Appendix G	The EIS does provide measures to mitigate, and to some extent, offset potential impacts where they have been identified. Further discussion on whether these impacts could have been avoided should be included. For example, could removal of the critically endangered	Some areas of remnant indigenous vegetation have been retained and thus clearing has been avoided. Approximately 1.29 ha of River-flat Eucalypt Forest will be retained south of the proposal footprint.	Flora and Fauna Report Section 8.1, 9.3

				ecological community be avoided?	However an area of approx. 0.27 ha of Cumberland Plain Woodland and 2.89 ha of River Flat Eucalypt Forest will be cleared for the proposal. Clearing on these areas has not been avoided, but will be offset.	
OEH	3.	The Director General Requirements (DGRs) state that the proposal must 'describe how the principles of "avoid, mitigate, offset" have been used to minimise the impacts of the proposal on biodiversity'		There is no discussion in the Ecology Assessment or in the EIS of the alternatives that have been considered to avoid biodiversity impacts, and there is no proposal to offset impacts. As such, OEH does not consider that the proposal meets the requirements of the DGRs. Impacts on biodiversity should be appropriately offset. OEH considers the measures listed in section 8.5 ('Offsets') of the assessment to be mitigation measures, not offsets.	See above.	
	4.			Section 5.2.3 of the Ecology Assessment states that there is approximately two hectares of River-flat Eucalypt Forest (RFEF) on site, whereas elsewhere in the document (e.g. the Executive Summary) it states the extent of the community is 1.5 ha.	This has been corrected.	Flora and Fauna Report Section 8.1
	5.			The 'Native Vegetation of the Cumberland Plain, Western Sydney' (OEH 2002) mapping identified a patch of remnant vegetation in the south-east of the site of approximately 3 ha in size. This patch was mapped mostly as Cumberland Plain Woodland (CPW), with some RFEF. However, the Ecology Assessment has mapped this as being all RFEF and states it is approximately 1.5 or 2 ha in size. The assessment also states that there are a number of patches of RFEF spread over an area of four hectares, and that the areas in between the patches are 'pasture and weeds'. It would be useful if the assessment included plot data or other quantifiable data to demonstrate the level of weed infestation, to justify that the patches mapped as pasture and exotic vegetation are not degraded remnant vegetation. Since only one combined flora species list is provided, it is difficult to confirm the classification of the vegetation communities and pasture areas.	This report has been amended to state consistently that “Approximately 2.89 ha of River-flat Eucalypt Forest will be removed for the proposal, comprised of approximately 2.43 ha of forest and approximately 0.46 ha where the flora species are dominated by pasture species and will retain approximately 1.29 ha of River-flat Eucalypt Forest.” Two quadrats, namely quadrat 3 and quadrat 5 provide plot data from areas that are dominated by pasture and weeds. An additional four quadrats provide plot data for the vegetation within other areas where the quadrats are dominated by canopy species. The detail of all quadrats is provided in Appendix 4 of the Flora and Fauna Report.	Flora and Fauna Report Section 8.1, Appendix 4.
	6.			There is a record in the Atlas of NSW Wildlife of a Cumberland Land Snail adjacent to the site. According to the Ecology Assessment, less than one hour in autumn	The suitable habitat for this species was low in this area. Thus only a short period of survey for the snail was considered necessary.	Flora and Fauna Report Section 8.1

				was spent undertaking searches for this species. OEH considers this is unlikely to be an adequate level of survey effort for this species, given the size of the remnant on site. Further targeted surveys are likely to be required pre-clearing.	However, Further surveying and suitable movement to the Ropes Creek Tributary can be undertaken during the pre-clearance survey or also earlier as required by the consent authority.	
	7.			The mitigation measures listed in section 10 include the recommendation that if any fauna are located prior to clearing, that they are translocated to the Conservation Area of Cumberland Plain Woodland adjacent to the M4. If such a proposal was to be undertaken, a Translocation Plan in accordance with the "Policy for the Translocation of Threatened Fauna in NSW" (OEH 2001) will need to be prepared.	The proposal has been modified to include the retention of indigenous vegetation along the Ropes Creek Tributary. If any fauna are located in a pre-clearing survey they will be relocated to the existing remnant vegetation along the Ropes Creek Tributary. It is assumed that most, possibly all fauna that may be found will most likely be common rather than threatened species. The only threatened fauna likely to be resident in the area are Cumberland Plain Land Snails or perhaps threatened microbats may be roosting temporarily in one of the hollows. Other threatened fauna may use this area but are likely to be transient and thus are unlikely to be encountered during the pre-clearance survey.	Flora and Fauna Report Section 8.1
	8.			The mitigation measures also include the recommendation to install nest boxes in the Conservation Area. However, there is no description of the Conservation Area provided in the Ecology Assessment, or how the installation of nest boxes may impact on resident fauna. Also, no information is provided on the maintenance of these nest boxes, so it is unclear whether their installation is likely to offset fauna impact in the long term.	This information is provided.	Flora and Fauna Report Section 8.1
	9.			The Ecology Assessment states that the proposal does not require a species impact statement (SIS); however an SIS is never required for State Significant Developments.	The report has been amended to state that Species Impact Statements are never required for State Significant Developments.	Flora and Fauna Report Section 8.1
Visual						
Arup (DGR)	1.	an assessment of the proposed building height, scale, signage and lighting, particularly from nearby public receivers and significant vantage points of the broader public domain	Section 19.0, Appendix H	Provided in Appendix H. Some photo montages within the main body of the EIS would be beneficial.	Montages are provided within EIS.	EIS Section 3, 19
	2.	Details of design measures to ensure the	Section 3.6.4,	No mitigation measures detailed in Section 19.0, although	EIS has been updated.	EIS Section 19.

		project has a high design quality and is well presented, particularly in the context of the broader Western Sydney Employment Area	Section 19.0 and Appendix H	options are presented in Appendix H. The main body of the EIS should confirm if these recommended mitigation measures will be implemented. A description of the design is provided in Section 3.6.4; a description of the design objectives, process and quality would be beneficial in this location, particularly in relation to the broader Western Sydney Employment Area.	Visual Impact Assessment includes summary of design intents.	Visual Impact Assessment Section 5.
	3.	consideration of any impact on flight paths		No information on potential impacts to flight paths was located within either the main body of the EIS or Appendix H.	This matter has been addressed separately. Refer to Consultation section within EIS.	EIS Section 6.
	4.	a detailed photo-montage based analysis of the visual impacts of development and emissions stacks	Appendix H	Detailed photo-montages provided, including emissions stacks	-	
BCC	5.			The Visual Impact Assessment lacks sufficient details on views within the Blacktown Local Government Area. Three viewpoints is not sufficient and as such additional viewpoints are required to be undertaken to address the visual impact of the proposed development on vehicles utilising the road network and impacts on the wider residential areas of the LGA. In this regard the additional viewpoints indicated on the map attached should be included in an amended Visual Impact Assessment.	The TZVI analysis is a worst case scenario that does not take into account the screening effects of vegetation or built form within the landscape. Viewpoints were selected on the basis of their sensitivity (land use and user experience dependant) and radius from the Project. Within 2.5km, residential uses are deemed to be of a high sensitivity. Beyond this distance the level of sensitivity falls and, commensurate with this, the visual modification level or visual prominence level also falls. Additional assessed viewpoints within this area beyond 2.5km would be determined as having a lower level of impact due to residential visual sensitivity reducing to moderate. The 2 closest viewpoints (4 and 5) have a low to non-apparent visual impact due to the screening effect of foreground built form and vegetation. Any of the suggested viewpoints further away from the Project are likely to have a similar level of impact due to the same screening elements being present within the landscape and the topographic form which, as demonstrated in the TZVI, indicates that there are a number of areas where the topography alone block views to the Project.	Already included within Section 4.1.2 Additional text added to Section 4.2 Additional text to Section 6.

					With regard to additional viewpoints identified by Blacktown City Council, the following responses are provided: *Views from M4 Western Motorway north west of the Project* – The carriageways are visually screened from views of the Project by a combination of vegetation and rising topography. A berm approximately 15 m in height, which incorporates the existing landfill operations, is located along the edge of the Project boundary. The simulation in VP1 – Roper Road Overpass - indicates that even from an elevated location, views are significantly screened. Therefore, from less elevated locations there will be no, if any, views. *The Rooty Hill Visual Corridor north east of the Project* – Council identifies the need for a number of additional viewpoints to be assessed along this corridor running north east from the Project towards the vicinity of The Rooty Hill. The TZVI analysis indicates that views of the Project along this corridor will generally not be possible as topography screens views. Taking into account the screening effects of vegetation and built form, as indicated in the simulations for VP4 and 5, views to the Project will generally not be possible. With regards to views from the Rooty Hill within the sub-regional setting, the Project will be viewed as a distant element in the context of adjacent large scale, industrial built form and it will be visually compatible within this context. The visual impact of the Project will therefore be low. *M4 Western Motorway / M7 Westlink Tollway Interchange* – From this slightly elevated location within the sub-regional setting, foreground views will be primarily of large scale industrial built form. The simulation for	Additional text to Section 6. Updated text to Section 4.1.1

					VP7 – Old Wallgrove Road, is indicative of the context of the development with adjacent existing large scale built form. The resulting visual impact of the project will be low.	
	6.			Concerns are raised regarding the accuracy of these visual impacts; Officers are concerned how these can be testing for adequacy. It is recommended that testing be undertaken by balloon testing at a height of 50m and 1OOm.	3D model views of the Project were prepared by Race Cottam, Orbit and Urbis. These models all portrayed the Project at the same scale or proportion within the field of view for each of the selected viewpoints. The vertical location of the 3D model within the photo was calibrated by Urbis using a number of elements of known height within the visual setting. These were: -The HV pylons, where the height was determined using software that calculated height based on length of shadow for a given time of day. -Mobile phone towers where Urbis has a data base of specification (and height) of all telco towers in Australia. We are confident of the accuracy of the work.	
Greenhouse Gas						
EPA	1.	*The EPA requires prior to the Environmental Impact Statement being put on public exhibition:* • *the OIA should be revised to include additional information and clarification to demonstrate the chosen assessment methodology and framework is appropriate, and has been applied correctly and rigorously; and the issues identified below are addressed.* • *The EPA requires the OIA should be revised to provide details and discussion of the model performance assessment, in particular ozone predictions, for the Oakdale evaluation site.*		The Ozone Impact Assessment ("OIA) predicts NOx emissions from the proposed EfW facility will result in very minor or insignificant additional ground level ozone impacts. The OIA also predicts it is unlikely any additional exceedances of the assessment criteria will result due to the operation of the facility. However, a number of issues have been identified with the assessment methodology and model performance and these should be addressed prior to public exhibition of the Project Environmental Impact Statement (EIS).	Consulted with EPA and OEH to address all outstanding issues associated with modelling approach and results interpretation.	

	2.	**1.Details of the model performance at the critical Oakdale evaluation site have not been provided in to OIA** *The EPA requires the OIA should be revised to provide details and discussion of the model performance assessment, in particular ozone predictions, for the Oakdale evaluation site*		Data from several OEH air quality monitoring sites are assimilated within the modelling undertaken by Pacific Environment Limited, with two stations' data not being assimilated due to these stations being used as evaluation sites for model performance assessment purposes (refer to Table 5-1). Oakdale and Earlwood are the evaluation sites selected. Statistical evaluations of predictions and predicted ozone concentrations are presented for the data assimilation stations in the main text, and for Earlwood station in the Appendix B.	Included in analysis in Ozone Impact Assessment.	
	3.			However, no information is provided on the ozone predictions for Oakdale. This is a critical oversight given that Oakdale is one of the evaluation sites, and that the highest ozone concentrations are often measured at the Oakdale station, including on 6 and 8 February 2009. It is noted that correlation statistics are given for Oakdale for meteorology, with the model shown not to perform well in terms of wind speed and the percentage of calm wind periods for the Oakdale site.	Included in analysis in Ozone Impact Assessment.	
	4.	**2. The methodology used to calculate the "maximum ozone increment" is critical in determining whether the "maximum allowable increment" in EPA's proposed ozone assessment framework is exceeded.** T*he EPA requires:* • the proponent to address issues outlined in item 4) below; and • the OIA should be revised so that it is informed by the ENVIRON (201 I) approach to calculating the "maximum ozone increment".		The manner in which the "maximum ozone increment" is calculated for comparison with the "maximum allowable increment" of 1 ppb within the OIA is open to question. In the assessment the maximum ozone increment is calculated by comparing the maximum 1 hour and 4 hour average ozone concentrations predicted across the modelling grid for the Base Case and Test Case scenarios. However, based on the ENVIRON (201 1) report, the maximum allowable increment of I ppb was selected taking into account: "Prevention of Significant Deterioration" increments in ozone concentrations used in US modelling practice, given as being in the range of 1 to 6 ppb; and 1 ppb concentrations being a "measureable: change using conventional ambient monitoring instrumentation. This indicates that the increment is location specific and does not necessarily coincide with the time or place of peak ozone concentrations.	Consulted with EPA and OEH to address all outstanding issues associated with modelling approach and results interpretation.	
	5.			To demonstrate this within case studies ENVIRON (2011) calculates the maximum ozone increment first by calculating the highest ozone increment for each model	As above	

				grid cell, and then finding the maximum increment across grid cells and days modelled.		
	6.			Based on the information presented in Section 10.3 it is evident that the maximum ozone increment, based on the ENVIRON (2011) approach, would be greater than Ippb (refer to Table 10-2). This finding is however based on having access to the ENVIRON (201 1) report which demonstrates the implementation of the EPA's proposed ozone assessment framework. It is not clear whether PEL had access to this report at the time of the assessment.	As above	
	7.	**3. Further details should be provided to justify the use of the chosen boundary concentrations.** *The EPA requires that the OIA include further detail on the boundary concentrations, and reference to the work underpinning the sample boundary file.*		The OIA indicates that model boundary concentrations for species other than ozone were based on a 'sample boundary file provided by CSIRO'. Based on subsequent discussions with Martin Cope of CSIRO this is considered to provide a reasonable indication of background concentrations of other species (refer to Section 5.4).	-	
	8.	**4. Clarification and details of the assessment framework used is required. This information must be sufficient to demonstrate:** • **The assessment framework is a robust one** • **the chosen framework will ensure emissions from the proposed EMI facility, when combined with existing air-shed air pollutants and pollutant precursors, will not result in any additional or exacerbate adverse regional photochemical smog impacts.** *The EPA requires the ENVIRON (2011) assessment framework document be made publicly available, or that sufficient details of the assessment framework document be included in the OIA to allow scrutiny of:* • the framework and its appropriateness for use in the assessment; and • the assessment methodology and		The OIA states the assessment framework is based on the document *Tiered Procedure for Estimating Ground Level Ozone Impacts from Stationary Sources* (ENVIRON, 201 1). However this document is not publicly available and the OIA provides only a brief overview of the framework (Figure 3-1). In addition, values derived in the framework for screening ozone impacts and the maximum allowable ozone increment (Section 4) are provided with no details of their derivation or justification for their use.	Consulted with EPA and OEH to address all outstanding issues associated with modelling approach and results interpretation.	

		outcomes				
	9.	**5. Additional information and details of the chosen assessment methodology should be provided. The methodology must also be clearly justified and be demonstrated as robust and fit-for purpose.** *The EPA requires CSIRO's review of the method paper (if completed) should be included with the OIA in* 8 *order to demonstrate the method has been rigorously scrutinised by appropriate TAPM and photochemical pollutant modelling experts.*		The EfW facility proposes to employ best available technology in the form of selective non-catalytic reduction to reduce emissions of NO, the dominant ozone precursor generated and emitted at the facility. Nevertheless the ENV facility will still emit a significant amount of NOx into the Sydney air-shed.	Noted.	
	10.			The OIA results suggest the EfW facility will have only a minimal or insignificant impact on GMR ozone levels. However only limited information is provided on the assessment methodology, including: • details justifying the choice of methodology and parameters and variables used in the methodology; and • details qualifying and quantifying the strengths, weaknesses and sensitivity of the assessment methodology.	Consulted with EPA and OEH to address all outstanding issues associated with modelling approach and results interpretation.	
	11.			The EPA notes: • ground level ozone levels continue to be a problem in Sydney during summer months and unlike many other pollutants are not decreasing; • the Project OIA implements **g** new methodology and framework for the assessment of ground level photochemical impacts from an EfW facility in NSW; and • during consultation, OEH (Climate and Atmospheric Science Branch) (Table 1-1) suggested the proponent prepare a method paper for CSIRO's review. The EPA notes CSIRO's extensive experience and role in developing and undertaking photochemical pollutant modelling (in particular, with TAPM).	Consulted with EPA and OEH to address all outstanding issues associated with modelling approach and results interpretation.	

	12.	*The EPA requires the proponent to provide: additional information and clarification in the OIA to address each of the above issues; and a quantitative comparison of NO, emissions against those from other major GMR NO, emission sources, to assist in the evaluation of the magnitude of NO, emission from the proposed facility.*		The EPA also notes the OIA: • acknowledges (Section 6.0) that model predictions may be particularly sensitive to variations in biogenic emission estimations, and an evaluation of the model performance is provided in Section 9; • does not include any sensitivity analyses, comparisons with other models, or detailed discussion of. model variations, or model uncertainties, weaknesses and strengths; and • does not contain details of the emissions database used in the model, or verification of the TAPM-CTM model for GMR conditions.	As above.	
	13.	**6. Use of Bureau of Meteorology (BoM) weather station data in the refinement of the meteorological model should be considered.** *The EPA requires the proponent:* • *provide further clarification, discussion and justification for the meteorological model used in the assessment; and* • *consider the use of BoM weather station data to further refine the meteorological model.*		The EPA notes: • the TAPM meteorological model has been used in the assessment with surface observational data included to improve the accuracy of the model; • the surface data was obtained from OEH monitoring stations only, and does not include any data obtained from BoM meteorological stations; • the correlation between predicted and observed wind speeds and wind direction was poor or average for Earlwood and Oakdale (the evaluation sites); • predicted temperatures at both evaluation and assimilation sites were slightly under predicted, however no further details or discussion on this issue or its implications is provided (Section 8.3);	Justification provided in Ozone Impact Assessment.	
	14.	**7. The model tends to over predict ozone concentrations when ambient concentrations are low, and under predict peak ozone concentrations.** *The EPA requires the proponent to provide further clarification, discussion and justification that the model outcomes are robust and fit for use in the assessment of project impacts.*		The EPA notes: • the OIA states that ozone concentrations generally correlated well at a screening level; ' • there is generally little difference between predicted ozone concentrations for the base case and test case; and • the data appears to show the predicted base case ozone concentrations are consistently lower than the observed concentrations. However the OIA does not discuss or investigate in detail the potential causes of this difference between observed and predicted	Additional text provided in Ozone Impact Assessment.	

				ozone concentrations.		
	15.	**8. An emissions scenario/s during potential upset conditions should be considered. Details of contingencies that will be implemented to prevent, during upset conditions, emissions of NOx which may exacerbate adverse regional photochemical smog impacts should also be provided.** *The EPA requires the proponent consider impacts associated with emissions during upset conditions; and provide clarification and details of the contingencies that will be used to prevent the EfW facility from more significantly contributing to regional NOx and ozone levels.*		The EPA notes: • emissions used in the test case assume worst case operation of the E M facility, such that NOx is continuously emitted from both stacks at the short term emission limit (Industrial Emissions Directive half hour averaging period of 400mgl~m~); • NOx emissions at a facility in London (which the EPA presumes is similar to the EN facility at Eastern Creek) are typically around 50% of the short term emission limit; • the assessment of a scenarios during upset conditions has not been considered; and • details of contingencies that will be implemented under upset conditions to mitigate or prevent the release of elevated concentrations of NOx have not been provided.	Noted. Text provided where relevant in Ozone Impact Assessment.	
	16.			**9. Other minor suggestions and errors:** *a. Suggest if the framework adopted for the assessment is that used in Figure 3-1, the path used is highlighted.*	Addressed in Ozone Impact Assessment.	
	17.			b. Section 12 References: ENVIRON (2001) should be 2011.	Addressed in Ozone Impact Assessment.	
	18.			c. Section 4: (QLD EPA, 2010) is not included in Section 12 References.	Addressed in Ozone Impact Assessment.	
	19.			d. Section 5.2: Sentence 2 error: "where' should be "were'.	Addressed in Ozone Impact Assessment.	
	20.			e. Table 6-1: The molecular weight of NO is incorrect (it should be 30 not 300).	Addressed in Ozone Impact Assessment.	
	21.			f... Section 7.2.2: Sentence 2 error: Illawarra is a part of the GMR.	Addressed in Ozone Impact Assessment.	
	22.			g. Section 8: Evaluation of Meteorological Modelling: This section should clearly state the meteorological data (observations) obtained for the model is between January and February 2009.	Addressed in Ozone Impact Assessment.	
	23.			h. Section 10: error: ENVIRON (2012) should be ENVIRON (2011).	Addressed in Ozone Impact Assessment.	

	24.			i. Section 10.4: Apparent error in text: "However, this does not relate to periods of time or **locations** ... “Note that contrary to this, Section 10-3 discusses incremental ozone concentrations predicted to be greater than lppm at the same locations.	Addressed in Ozone Impact Assessment.	
	25.			j. Section I I: suggest wording change. "additional impacts should be "additional exceedances'.	Addressed in Ozone Impact Assessment.	
Arup (gnl)	26.	The abatement equipment proposed is well established and emission modelling indicates emissions will be in line with the European Incineration Directive. No details are provided on fugitive emissions. No assessment is made of emissions during equipment failure or abnormal conditions.			This has been addressed in the Air Quality Report.	Air Quality Report Sections 7.4, 7.5, 7.6
Arup (DGR)	27.	a full greenhouse gas assessment (including an assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the project, and an assessment of the potential impacts of these emissions on the environment		An assessment of Potential Scope 1 and 2 emissions only has been made; an assessment of Scope 3 emissions should be provided.	This has been addressed in the Air Quality Report.	Air Quality Report Section 10.3
	28.	a detailed description of the measure that would be implemented on site to ensure that the project is energy efficient		No specific information on energy efficiency of the project is provided, although some potential measures are described generally in Section 3.0. It is acknowledged that the purpose of the project overall is reduce the energy intensity of energy supply in NSW.	This has been addressed in the Air Quality Report.	Air Quality Report Section 10.3.2
BCC	29.	The ozone impact assessment was an EPA requirement and not specifically required by the DGRs. As such only brief commentary is provided as part of this review.		The approach of providing both Level 1 and Level 2 ozone assessment is consistent with EPA policy as set out in EPA's Approved Methods for the Modelling and assessment of Air Pollutants in NSW, 2005 and the document Tiered Approach for Estimating Ground Level Ozone Impacts from Stationary Sources (Environ, 2011).	Noted.	
	30.		Section 8:	**Ozone Assessment Report** The results of odour modelling are presented for both the Project and the Project+ Genesis Facility (i.e. the cumulative impact). It is noted that the results are very similar for both scenarios. That is the Genesis Facility does not increase odours in any material way when compared to the Project. This is despite the total emissions from the Genesis Facility (when calculated from Table 6·1) being 60% of all odours from the Project+	Addressed in Ozone Impact Assessment.	

				Genesis Facility. In this regard it is suggested the model results are discussed in more detail		
	31.		Section 10.2	The results of ozone modelling show that the proposed W2E facility will not have any significant ozone impact (less than +/- 1 ppb) in areas of maximum impact. It is recommended the results are discussed in the context of 1-hour and 4-hour EPA ambient air quality criteria for ozone.	Addressed in Ozone Impact Assessment.	
BCC	32.		Section 9.1:	**Air quality and greenhouse gas Assessment Report** This section appears to show the results of modelling based on emission rates determined from the most stringent emission limits i.e. emission limits with the lowest numeric value, applied to the lowest averaging time. If this is a correct interpretation, this would be a plausible approach in the event emission limits prescribed for the facility were set in this manner that is the emission limits are applied on a continuous basis and are 1OOth percentile limits with an averaging time of no greater than 1 hour. But if emission limits were to merely state that both the CAR, 2010 and 2010n5/EU limits need to be complied including their respective averaging times which differ in some cases, then some scenarios may not be adequately assessed. For example in the case of Cadmium which is stated to present impacts at 79% of the ambient criteria, it has an emission rate of 0.003 g/s (or 0.0035 g/s) based on an emission limit of 0.05 mg/Nm^3 as set out in 2010n5!EU. But if the emission rate was determined from the CAR,2010 limit of 0.2 mg/Nm^3 the emission rate would be dour times higher, of the order 0.012 – 0.014g/s, and may result in exceedance (more than 100%) of the ambient air quality criteria.	This has been addressed in the Air Quality Report.	
	33.		Section 10.3:	This section sets out greenhouse gas (GHG) emission estimates. 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, but from our review it appears to be from the Fichtner Concept Design Report and is based on the proposed fuel mix. 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	This has been noted and addressed where relevant in the Air Quality Report.	

				assumption has been made that the residue (i.e. what is left post removing recyclable material) is similar, but this is not explained 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 clarity on the source and accuracy of the waste composition data is provided.		
	34.		Section 10.3.	The report considers the avoided emissions from electricity generation and export and avoid from landfill. For electricity generation as the facility will operate for some years, it would be considered prudent may to assume a reduction over time in the carbon intensity of grid electricity. Additionally no comparison is made between the carbon intensity of NSW grid and the carbon intensity of the electricity that will be generated from the TNG facility (or the potential intensity of exported heat). For landfill, no link is 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, and it suggested that this is corrected. It is 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 stream according to the Fichtner Concept Design Report (subject to the issues noted above).	This has been addressed in the Air Quality Report.	
	35.		Section 10.3:	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 has been addressed in the Air Quality Report.	

				this exceeds the proposed life of the TNG facility, then the potential annual offset may be overestimated. 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, then this should be used in its entirety (with all defaults for carbon contents and waste composition).		
	36.		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 recoverable materials, there is potentially a degradable component that would support methane capture (wood, textiles, paper and card, vegetation). This should be considered to ensure that the emissions offset from landfill are not overestimated.	This has been addressed in the Air Quality Report.	
	37.		Section 10.3:	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 (1,350,000 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.	Updates have been made accordingly in the Air Quality Report.	
	38.	*Details of any pollution control equipment and other impact mitigation measures for fugitive and point source emissions*	Section 7.1.2	**Air Quality and Greenhouse Gas Assessment Report:** outlines arrange of emission control technologies that can be used for Ef\N facilities and provides a list of facilities and the controls they have in place. It does not specifically commit this facility to any/or all of the control measures discussed but it is noted in the Concept Design Report that the EFW plant will use advanced means of air pollution control, with particulate filtration, and sorbents to remove pollutants.	Noted.	
Aboriginal and Non-Aboriginal Cultural Heritage						

OEH	1.			The EIS states that the Aboriginal Cultural Heritage Statement follows the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC), which are the standard guidelines used for preparing assessments for SSD/SSI. However, the Aboriginal Cultural Heritage Assessment Report (ACHAR) presented here has been prepared in accordance OEH's guidance material for obtaining Aboriginal Heritage Impact Permits (AHIPs) and OEH's 2010 Aboriginal community consultation requirements. These documents pertain to Part 6 of the *National Parks and Wildlife Act 1974* only and not the *Environmental Planning & Assessment Act 1979.* The ACHAR and EIS would benefit from justification for this approach and some articulation of where this approach conforms to Department of Planning and Environment's requirements for this project.	As a SSD project, under Part 4, Division 4.1 of the EPA Act, consultation can be undertaken in accordance with the Department of Environment and Conservation (now OEH) *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005*. However the *Aboriginal cultural heritage consultation requirements for proponents 2010* was used as a guideline for best practice.	Aboriginal Cultural Heritage Assessment Report Section 3. Page 10.
	2.			Further, the ACHAR states that the project will be assessed as a State Significant Development (SSD) and will not need an Aboriginal Heritage Impact Permit (AHIP), but also states that it has been prepared to support a DA, which implies that an AHIP will be necessary. This needs to be clarified.	This comment refers to the ACHAR prepared by GML (2014). The Test Excavation Report provided by Artefact Heritage (2015) outlines the need for the ACHAR to be updated in order to outline the results of the additional assessment, test excavations and proposed impacts to Aboriginal heritage values. These details are outlined correctly within the final ACHAR document	Test Excavation Report Exec Summ pg iii & Section 12 Recommendations: 31 Aboriginal Cultural Heritage Assessment Report Section 1.5 Page 5
	3.			The ACHAR presented in support of the EIS comprised a surface survey of the proposed development area and recommends that sub-surface assessment should take place in order to fully identify what Aboriginal objects are present within the proposed development area and consequently, what the best management of those Aboriginal objects will be. It is unclear why the assessment here did not include some form of sub-surface assessment	GML identified one area of moderate archaeological potential and two areas of high archaeological potential (2014a:40). However only one of these areas of archaeological potential will be directly impacted by the proposed works. The area is known as EFW South, and is located on an elevated area at the confluence of three waterlines in the	Artefact Heritage (2015) Energy From Waste Facility, Eastern Creek: Aboriginal

				in order to allow archaeological management and mitigation options to be presented in the EIS.	southeast corner of the subject site. The Test Excavation Report provided by Artefact Heritage (2015) provides further assessment of EFW South and addresses archaeological management and mitigation options for Aboriginal heritage identified at this site	Heritage Test Excavation Report.
	4.			The ACHAR recommends that sub-surface testing should be undertaken in accordance with OEH's Code of Practice for Archaeological Investigation of Aboriginal objects in NSW. It is unclear why this recommendation has been made as the Code of Practice is specific to Part 6 of the NPW Act and obtaining an AHIP, not SSD/SSI.	This comment refers to the ACHAR prepared by GML (2014). The Test Excavation Report provided by Artefact Heritage (2015) provides further assessment of EFW South and addresses archaeological management and mitigation options for Aboriginal heritage identified at this site. As the project has been declared to be SSD by a State Environmental Planning Policy (SEPP); use of the Code of Practice is not required. However, the test excavation was completed in accordance with the Code of Practice; as a large number of previous archaeological test excavations in the region have been completed under the Code of Practice therefore it is an applicable framework to use for comparative analysis of archaeological findings. It also adheres to the recommendation provided by GML (2014a).	Artefact Heritage (2015) Energy From Waste Facility, Eastern Creek: Aboriginal Heritage Test Excavation Report.
	5.			The ACHAR further states that some of the sites in the northern part of the site will be protected in a conservation offset area, but no further details have been provided about this, particularly the purpose of the conservation offset area (is it for cultural or environmental reasons) and about the mechanisms for protecting the conservation offset area in perpetuity.	This comment refers to the ACHAR prepared by GML (2014). Has been outlined in final ACHAR.	Aboriginal Cultural Heritage Assessment Section 6.4.1 Page 22
Arup (DGR)	6.	*No specific requirements requested.*	Section 21.0			
Plans and Documents						
BCC	1.			The design of the building lacks architectural merit and has an appearance of a series of 'boxes'; the design does not include any innovative or contemporary elements. The	The building elements have been redesigned to respond to the architectural merit assessment provided by Blacktown City	

				design should include elements to provide an improved facade such as use of masonry elements, the use of innovative metal work techniques such as perforated metals, and more glass elements. A variety of materials will provide a building of architectural merit and assist to reduce and break up the bulk and scale of the proposed 50m high walls.	Council. At the conclusion of consultation and presentation with them, Council's acknowledgment of the revised scheme as an acceptable, well articulated and contemporary architectural form was achieved. Reference is made to email correspondence from Council.	
	2.			The proposed flat roof form lacks architectural merit; elements including saw tooth elements, cantilevering components, roof overhangs should be incorporated into the design to ensure the building does not have an appearance of a series of 'boxes'.	The roofs have been redesigned and now feature a series of contemporary skillion forms with deep eaves overhang. The roof forms are an integral part of a well coordinated series of built forms that achieve an underlying consistency and a cohesive composition.	
	3.			A revised schedule of materials is required to be submitted -this shall be a true representation of the proposed colours. The elevations are not reflective of the external materials colour sample. Copies of the manufacturer's brochures are required to be submitted.	A revised materials, colours and finishes schedule and sample board has been prepared and forms part of the revised design submission. High quality materials, finishes and colours have been selected for there aesthetic appeal and longevity.	
	4.			Details of any proposed fencing including elevations and details of materials of construction.	Details of various fencing types have been included as part of the revised dxesign submission.	
	5.			**Council comments:** Concerns are raised regarding the extent of cut and fill over the site, which is unclear, un-dimensioned and appears excessive. The submitted plans provide limited details on levels to fully assess the full extent of any proposed cut and fill over the entire development site. Limited information is provided on retaining walls to assess the visual impact including the bulk and scale of these walls. The submitted Civil drawings fail to provide the heights of these retaining walls and materials of construction, therefore no assessment can be undertaken to determine the true impacts. The plans are required to be amended to show all heights of retaining walls. Any retaining walls which are over 3 metres in height are required to be stepped with a 1.5m wide terrace (as per the Precinct Plan) which will assist to reduce the bulk and scale of these walls.	Additional details have been provided as part of the revised design submission	
	6.			Landscaping plans are considered to lack vital details	A landscape design package has been	

				regarding the height of proposed species. The landscaping plan is required to be amended to clearly show all proposed plant species and the height of the species.	prepared by Site Image landscape architects to complement the revised design submission. A variety of hard and soft scape is used to enhance presentation of the built form and its relationship to the surrounding environment.	
	7.			The proponent shall clearly demonstrate on the site plans that no works are proposed within 40m of the creek. All works near the creek shall be stabilised and details of measures to be applied to ensure the on-going stabilisation and maintenance of this area shall be submitted for review. All plans submitted to Council shall be at a legible scale and shall be submitted atA1 or AO size.	Details are provided within the revised design submission demonstrating compliance.	
DPE	8.			Both the Department and Council are concerned with the architectural presentation of the building. In its submission, Council states that the building lacks architectural merit, has the appearance of a series of boxes, and does not include any innovative or contemporary elements. The Department suggests that consideration be given to a more contemporary architectural character when revising the building design.	The concerns raised by Council have been comprehensively addressed through consultation and subsequent presentation, after which Council acknowledged that the revised scheme is an acceptable, well articulated and contemporary architectural form. Reference is made to email correspondence from Council.	
	9.			Finally, the Department has observed that the main report of the EIS appears to present the actual impacts of the proposal in summary form only and by way of a cut and paste from the technical reports. The Department requires the main report of the EIS to be revised so that it is a stand-alone document with an appropriate level of impact analysis and discussion for each issue and which is targeted to a wide audience. To avoid any further delays, the Department suggests that an independent peer reviewer be engaged to review and benchmark the revised EIS before it is resubmitted.	Ramboll and ENVIRON Australia have been engaged to conduct an independent peer review of the EIS and key technical reports. The peer review comments have been taken on board and the EIS and reports have been revised accordingly. It is of the opinion of Ramboll and ENVIRON Australia that the EIS is of adequate detail and quality for resubmission.	
Consultation						
DPE	1.			The EIS does not analyse the issues that were raised during the community and agency consultation that was carried out. The issues are not fully described and the EIS does not indicate that any iterative design process occurred to respond to such issues. In addition, NSW Health does not appear to have been consulted, and the consultation with the Civil	Further detail has been provided in the Consultation section of the EIS. NSW Health and CASA have been consulted.	

				Aviation Safety Authority does not appear to contemplate the location of a future second airport.		