

**Supplementary
Submission
No 173a**

INQUIRY INTO 'ENERGY FROM WASTE' TECHNOLOGY

Organisation: Jacfin

Date Received: 17 August 2017

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17 August 2017

The Hon Paul Green MLC
Planning and Environment Committee
NSW Legislative Council
Parliament House
6 Macquarie Street
Sydney NSW 2000

Dear Sir

**NSW Parliamentary Inquiry - 'Energy from Waste' Technology
Supplementary Submission on behalf of Jacfin Pty Ltd**

We refer to Submission No. 173 by Jacfin Pty Ltd (**Jacfin**) to the Committee dated 28 May 2017.

Jacfin was invited by the Committee to make a supplementary written submission after notice was given that Richard Lancaster SC could not appear on behalf of Jacfin at the public hearing on 7 August 2017.

The supplementary submission follows.

Terms of Reference

- 1 The Terms of Reference dated 6 April 2017 state that the Committee is to inquire into and report on matters relating to the waste disposal industry in New South Wales, with particular reference to 'energy from waste' technology. Jacfin's submissions focus on:
 - *factors which need to be taken into account within regulatory and other processes for approval and operation of 'energy from waste' plants – term of reference (d)*
 - *any other related matter – term of reference (e)*

Jacfin Pty Ltd

- 2 Jacfin is a family owned Australian proprietary company that owns and develops land in Western Sydney.
- 3 Jacfin owns land immediately adjacent to the site of the proposed Next Gen energy from waste facility at Eastern Creek (**Proposed EfW Facility**). The Proposed EfW Facility was referred to in the Honourable Penny Sharpe MLC's media release dated 6 April 2017 regarding the Inquiry. The relevant land owned by Jacfin and the location of the Proposed EfW Facility is shown on the map in the Attachment E, p 2.
- 4 Jacfin made a submission to the Committee on 28 May 2017 (Submission No 173), which attached earlier submissions Jacfin had made to the Greater Sydney Commission (about land use planning in the Western Sydney Employment Area) and to the Department of Planning (about the Proposed EfW Facility). For convenience, that submission and its annexures are reproduced at Attachment A.

Our Ref JHKS:120533997
jhks A0140254192v2 120533997 17.8.2017

- 5 The other attachments are identified and explained in this submission, for the assistance and information of the Committee.

Summary

6 In summary:

- (a) The NSW statutory assessment process and regulatory framework for 'energy from waste' facilities is deficient by international standards. The potential for serious environmental harm from such facilities warrants extreme caution. Approval of such development would be premature before the introduction of an appropriate statutory framework.
- (b) Careful identification of areas appropriate for energy from waste plants is required to avoid serious land use planning conflicts. In the case of the Proposed EfW Facility at Eastern Creek, the location is inconsistent with decades of careful planning for the use of this part of Western Sydney as employment lands.
- (c) In particular, the Proposed EfW Facility:
 - (i) is prohibited development in the IN1 General Industrial zone under the State *Environmental Planning Policy (Western Sydney Employment Area) 2009 (WSEA SEPP)*;
 - (ii) would be inconsistent with the objectives of the WSEA SEPP and with long-standing land use planning in the Eastern Creek area;
 - (iii) is of unprecedented scale in Australia and proposes the use of feedstock for which there is no precedent;
 - (iv) the assessment reports upon which the Next Gen proposal relies are inadequate; and
 - (v) has consistently been opposed on environmental, health and planning grounds not only by concerned individual and corporate neighbours, but also by the Environment Protection Authority and Health NSW.
- (d) Jacfin submits that the Committee should consider making recommendations for the implementation of the following planning controls:
 - (i) specific prohibition of energy from waste facilities in residential, commercial and employment land zones;
 - (ii) specific prohibition of energy from waste facilities within a certain distance of the boundary of any existing residential, commercial and employment land zones;
 - (iii) restriction of energy from waste facilities to areas zoned for 'Heavy Industry' (IN3 Standard Instrument) or, alternatively, allow such facilities only in special use zoning areas outside of the Sydney air shed that may be more appropriate for waste to energy facilities; and
 - (iv) requiring a Level 3 Preliminary Hazard Analysis under SEPP 33 to be undertaken in all applications in relation to any energy from waste facility.

Energy from Waste Technology

- 7 The term 'Energy from Waste' is a generic descriptor for industry which extracts energy from waste utilising different technological processes. The technologies differ in terms of age, efficiency and environmental impact. The impacts of each vary significantly.

- 8 The technologies currently employed in EfW facilities worldwide include: gasification; pyrolysis; anaerobic digestion; incineration; and landfill.
- 9 Incineration is the process to be employed by the Proposed EfW Facility. Incineration is not novel and has long been associated with unacceptable environmental impacts capable of significant harm to human health. Of the available technologies, incineration has a low energy recovery rate of around 30%, being only marginally better than that achieved by landfill.
- 10 The scale of the Proposed EfW Facility is very significant and of itself a cause for concern. It will have a capacity of approximately 1,105,000 tonnes per annum, making it by far the largest such facility in (or proposed for) Australia and approximately equal in capacity to the largest waste incinerator in the world (the AEB facility in the Netherlands).
- 11 The Proposed EfW Facility intends to operate by accepting and incinerating waste from a unique and untested combination of waste sources. That is, the “feedstock” for the facility is unlike that utilised by any other energy from waste plant referenced by the proponent: see the summary in the GHD report at [Attachment I, pp 7-8](#).
- 12 The GHD Report (Table 1 on p 7) shows that unlike the 11 reference sites used for analysis by Next Gen’s consultants, the Proposed EfW Facility has a very different mix of sources of waste. Many of those other sources of waste have, for example, higher concentrations of chlorine than municipal solid waste. GHD concludes in section 3.5.2 on p 8 that *“there is no common link between the feedstock of the reference sites and the proposed facility. Concentration estimates for the proposed facility are based on stack testing data for existing reference facilities. This is not an ‘apples to apples’ assessment as indicated by the table above. This is considered a major downfall in the assessment.”*
- 13 In other words, because of the unique feedstock mix, there is no reliable international reference point from which one can reliably predict the actual emission concentrations of chemicals from the exhaust stacks. In the face of such uncertainty and given the potential injury to the environment and human health, no sound planning process could allow the development of the Proposed EfW Facility to proceed at the present time.

Environmental Assessment Regime – Prohibited Development

The current regime

- 14 For the purposes of environmental impact assessment in New South Wales, energy from waste plants, such as the Proposed EfW Facility, are assessed as (potentially) offensive or hazardous industries. Under the current planning controls, detailed assessment of these activities is necessary to determine whether classification as offensive or hazardous industry is appropriate.
- 15 Offensive industries and hazardous industries are prohibited development in the majority of the land use zones established under environmental planning instruments (LEPs and SEPPs) across NSW. It has long been acknowledged that offensive and hazardous industries should not be proximate to residential areas, commercial areas, retail precincts and any other area in which significant numbers of people live or work.
- 16 This general assessment regime applies in the case of the Proposed EfW Facility at Eastern Creek. Offensive and hazardous industries are prohibited in the IN1 General Industrial Zone of the Western Sydney Employment Area, being the zoning applicable for the site of the Proposed EfW Facility. Jacfin considers that it is very important to acknowledge and respect the Aims of the *Western Sydney Employment Area SEPP* and the zoning controls for “*General Industrial*” employment lands: see [Attachment C, pp 2-5](#), which shows:

- (a) The Aims of the WSEA SEPP are set out in clause 3 (p 2). Clause 3(1) states that the aim is to “*protect and enhance*” the land to which the SEPP applies “*for employment purposes*”;
 - (b) Clause 3(2) sets out six important particular aims. The WSEA SEPP aims to promote economic development and the creation of employment “*by providing for development including major warehousing, distribution, freight transport, industrial, high technology and research facilities*” (clause 3(2)(a));
 - (c) The Land Use Table for zone IN1 General Industrial is set out on pp 4-5. The six bullet-point objectives are important, emphasising the need to ensure the development and sustainability of other land uses and the environment. Item 3 of the land use table shows the uses that are permitted with consent, which include “*Industries (other than offensive or hazardous industries)*”. “*Industry*” is defined on p 20 of Attachment C. Item 4 on p 5 states that development not specified in Item 2 or 3 is prohibited;
 - (d) Accordingly, “*offensive or hazardous industries*” are prohibited in zone IN1; so too are types of industry that do not fall within the SEPP’s definition of industry.
- 17 The relevant definitions in the WSEA SEPP (Attachment C, pp 19-20) reflect the definitions in *State Environmental Planning Policy No 33—Hazardous and Offensive Development (SEPP 33)* (Attachment C, p 3). These are the definitions:

hazardous industry means development for the purpose of an industry that, when the development is in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), would pose a significant risk in the locality:

- (a) to human health, life or property, or
- (b) to the biophysical environment.

and

offensive industry means any development for the purpose of an industry that would, when the development is in operation and when all measures proposed to reduce or minimise its impact on the locality have been employed (including, for example, measures to isolate the development from existing or likely future development on other land in the locality), emit a polluting discharge (including, for example, noise) in a manner that would have a significant adverse impact in the locality or on the existing or likely future development on other land in the locality.

Problems with the current regime

- 18 Under the current regime, deciding whether an energy from waste facility is defined as a hazardous or offensive industry requires an assessment of the proposal and what its impact will be when “*all measures proposed*” by the proponent are taken into account. This requires a complex, time consuming and expensive assessment of a proposal before it is known whether or not that proposal is prohibited. Usually particular land uses are prohibited by reference to the description of the land use, precisely because it is much more straightforward, clear and predictable for regulators, developers and members of the community.
- 19 The current regime also means that any person who wishes to object to an energy from waste proposal on the ground that it is prohibited must undertake a full assessment of the proposal. Such a requirement is neither realistic nor feasible for a person or company of ordinary means, particularly because it requires an assessment by a range of scientific and technical experts. It is also wasteful of public resources to require government regulators to undertake a full assessment simply to determine whether the proposal is prohibited.

- 20 Regulation of energy from waste facilities should acknowledge that they are known to involve a particularly intense use of land that is offensive and potentially hazardous accordingly to ordinary community standards. It is not an appropriate way to plan for the development of energy from waste facilities simply to include them in a catch-all 'industrial' category, which includes a very wide range of development.
- 21 Energy from waste facilities should be specifically regulated and should be expressly prohibited in or near employment lands, commercial land and residential land.

Proposed EfW Facility

Proposed EfW Facility at Eastern Creek – inconsistent with land use planning

- 22 The Eastern Creek area of Western Sydney has for a long time been earmarked for urban development as employment lands – that is, a variety of land uses that can satisfy demand for job-generating developments.
- 23 The area was included within the area of *State Environmental Planning Policy No 59—Central Western Sydney Economic and Employment Area (SEPP 59)*, which was introduced in 2000. SEPP 59 has since been repealed – it was replaced in 2009 by the WSEA SEPP.
- 24 It is useful to understand the broader context of the land on which the Next Gen facility is proposed. The maps at Attachment E show the area of the Western Sydney Employment Lands and nearby areas of Western Sydney, as follows:
- (a) Page 1 is the map of the area of the area of the Western Sydney Employment Lands. It is divided into 11 precincts. Precinct 2 is the Eastern Creek, which has its northern boundary at the M4 Motorway and its eastern boundary at Wallgrove Road;
 - (b) Page 2 is the zoning map for the northern precincts of the WSEA. As marked on the map, each of the Proposed EfW Facility and Jacfin's land is zoned IN1 General Industrial;
 - (c) Page 3 is a land zoning map published under the *Blacktown Local Environmental Plan 2015*. That LEP does not apply to Eastern Creek, but the map shows the close proximity of very substantial areas of residential development (zone R2 – Low Density Residential) and areas zoned B5 Business Development immediately to the north of the motorway in Minchinbury and Mount Druitt;
 - (d) Page 4 is a land zoning map published under the *Penrith Local Environmental Plan 2010*. That LEP does not apply to Eastern Creek but, again, it shows the close proximity of very substantial areas of residential development (zone R2) in Erskine Park and St Clair; and also public recreation land (zone RE1) and environmental conservation land (zone E2).
- 25 Under SEPP 59 planning for the Eastern Creek Precinct was described in an "*Employment Lands Precinct Plan – Eastern Creek Precinct*": Attachment D. The area is shown in Figures 3 and 4 of the Plan. That document also describes the development of the area for employment uses in stages (including after rehabilitation of quarry sites): see section 2.4. The economic context and employment focus is emphasized in section 3.1 of the Plan.
- 26 The WSEA SEPP further developed those plans in and after 2009, as set out in the Aims and zoning controls referred to above.
- 27 The location of the Proposed EfW Facility at Eastern Creek would be inconsistent with many years of careful planning for use of this part of Western Sydney as employment lands. Contrary to the objectives of the IN1 General Industrial zone, an energy from waste facility would prejudice the development and sustainability of other employment-generating enterprises in the area. One objective of the zone is to "*minimise any adverse effect of industry on other land uses*", which clearly

- indicates a hierarchy in which industrial uses in the area are permitted only if entirely consistent with other employment-generating development.
- 28 No energy from waste plant should be permitted in an employment lands precinct because of the likelihood of land use conflict and prejudice to other forms of urban development. The community, developers and regulators have all come to expect some level of predictability and certainty in the planning and development of this part of Western Sydney. The Proposed EfW Facility is a wild card that will defeat the careful planning of the region over the last two decades.
- 29 Land that is set aside and intended to be used for urban development must be protected from present and future incursions by development that is incompatible with environmental and human health and contrary to years of planning. The Proposed EfW Facility is a prominent and concerning example. The land in Eastern Creek has been specifically set aside as employment land, recognising the need to address the growth in the population and workforce in the future development of Western Sydney.
- 30 Many people live and wish to work in Western Sydney and they deserve well-planned development that does not pose unnecessary risks to environmental and human health.
- 31 However, facilities such as the Proposed EfW Facility are still proposed to be developed within close proximity of residential and employment areas. The inadequacy of the current regulatory framework is demonstrated by the Proposed EfW Facility, which, despite the sustained objection of local councils and the NSW Environment Protection Agency and NSW Health, remains under consideration and assessment. Jacfin notes the evidence given by representatives of the Department of Planning and Environment to the Committee in response to Questions on Notice, that the Department has not recommended a development for approval where the EPA and NSW Health have maintained objections – those bodies maintain their objection to the proposal.

Environmental Planning and Assessment Act 1979 – Draft Bill

- 32 Jacfin understands that notice of a Bill to amend the *Environmental Planning and Assessment Act 1979* (NSW) has been put forward in the Legislative Council. We have not reviewed the Bill, but understand that it proposes the imposition of a 15 kilometre buffer between energy from waste facilities and residential development. Jacfin considers that the intent of the Bill – separation of energy from waste facilities from urban residential development – is necessary and appropriate.
- 33 However, Jacfin respectfully submits that a 15km buffer is not sufficiently targeted so as to manage the risks associated with these facilities. Rather, Jacfin submits that the Committee should consider making recommendations for the following controls:
- (a) specific prohibition of energy from waste facilities in residential, commercial and employment land zones;
 - (b) specific prohibition of energy from waste facilities within a certain distance of the boundary of any existing residential, commercial and employment land zones;
 - (c) restriction of energy from waste facilities to areas zoned for 'Heavy Industry' (IN3 Standard Instrument) or, alternatively, allow such facilities only in special use zoning areas outside of the Sydney air shed that may be more appropriate for waste to energy facilities; and
 - (d) requiring a Level 3 Preliminary Hazard Analysis under SEPP 33 to be undertaken in all applications in relation to any energy from waste facility.

Proposed EfW Facility – size and components

- 34 Jacfin's previous submission addressed the extravagant bulk and scale of the facility, which will be over 60m high in parts, with exhaust stacks over 100m high. It will be prominent and clearly visible from many locations in the region.

- 35 Two particular matters are added in this submission.
- 36 First, the components of the facility are shown in two pages at Attachment F that have their source in documents of the proponent. It clearly should be regarded as a form of heavy industry, with the added challenge of the 'product' for incineration being a wide range of waste, including plastics and general building and construction waste.
- 37 Secondly, Jacfin has retained a consultant to examine the visual impact of the Proposed EfW Facility. A series of visual montages has been prepared from the perspective of Jacfin's land: Attachment G. Even though the visual montages are from a perspective that is hundreds of metres away, the proposal looms very large and would visually dominate the locality.
- 38 During the preparation of the visual montages, it was revealed that Next Gen's montages are very inaccurate in many respects. Examples of the proponent's inaccurate and unreliable montages are included in Attachment H. As the legends in the montages indicate, the orange forms are the outline of the proposed development in montages prepared for and submitted by Next Gen. The green forms are the montages prepared by Urbaine for Jacfin, which are aligned to the site plan and verified to prominent local trees and landmarks. There are very substantial differences, with the images submitted by the proponent consistently erring in a way that significantly understates the visual effect of the proposal.

Proposed EfW Facility – environmental and health impacts

- 39 Jacfin considers that its objection to the Proposed EfW Facility is soundly based on impartial advice from expert consultants. The particular example at Eastern Creek also provides more general information about the risks to the environment and human health from such facilities.
- 40 Jacfin provides for the Committee's consideration the assessments of the following independent experts which assess the impacts of the Proposed EfW Facility to:
- (a) human health risk – **GHD HHRR report** at Attachment I, including:
- (i) the air modelling carried out by the proponent's consultants is based on assumptions about the process and input of waste that are drawn from overseas reference sites that operate very differently, in particular because the 'feedstock' is so different (pp 1-2 and 8-9).
 - (ii) Because of the "*substantially different profile*" of waste to be incinerated in the Proposed EfW Facility, with potentially more chlorine, the production of dioxins and furans in the omissions could be higher than presently estimated (p 2 and see the table on p 7 and analysis on pp 8-9);
 - (iii) modelled deposition rates (from stack emissions) appear to have been underestimated by Next Gen's consultants by a factor of 365 (pp 2 and 11-12);
 - (iv) there should be a revised health risk assessment prepared by Next Gen (pp 18-19) if the application is to go forward.
- (b) hazards risk (including fire and explosion) – **Systra report** at Attachment J, including:
- (i) applying the Department of Planning's multi-level risk assessment methodology, and given the location and nature of the Proposed EfW Facility, the proposal should be assessed after a Level 3 – Quantitative Risk Analysis has been undertaken (see Conclusion [1] on p 3 and the Conclusions at pp 33-34);
 - (ii) the proponent's consultants have only prepared a Level 2 analysis, which is insufficient because "*all potential risks ... have not been considered, let alone quantified*" (p 10);

- (iii) there are serious risks and hazards that are not addressed at all, or not considered sufficiently, in the consultant's work (pp 3-4) including waste stockpile fires (see p 5);
 - (iv) there are key risks that are unacceptable and require the proposal to be rejected on risk grounds (see pp 4 and the section at pp 30-32), including
 - (A) individual fatality risk;
 - (B) heat flux risk (waste fires on the hardstand areas); and
 - (C) toxicity risk from waste stockpiles.
 - (c) odour emissions – **GHD Odour report** at Attachment K:
 - (i) GHD undertook its own odour dispersion modelling;
 - (ii) GHD predict exceedance of the NSW EPA odour criteria at numerous sensitive receptors (see pp 7-9, in particular, the shaded boxes in Table 3 that show where the exceedances occur). The location of the receptor numbers in the Table is shown on the marked-up aerial photograph on p 9. For example, receptors 15, 16 and 17 are on the boundary of Jacfin's land and each of those receptors will have one or more significant odour exceedances;
 - (iii) GHD concludes that "the Next Gen Facility (if approved) would not achieve compliance with the odour impact assessment criteria" (as set out in the second last paragraph on p 10)
 - (d) visual impact – visual montages at Attachments G and H.
- 41 In summary, the expert assessments show that:
- (a) the risks associated with the Proposed EfW Facility are very serious, but not fully or accurately assessed by the proponent;
 - (b) those risks are incapable of being 'managed', such that the proposal presents an unacceptable risk to human health and the environment; and
 - (c) the development is prohibited as an offensive or hazardous industry.
- 42 In the broader context, the expert assessments also highlight the inadequacies of the current statutory assessment regime and evince the need for regulatory reform.

Jacfin thanks the Committee for its consideration of its submissions.

Yours faithfully

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Atts.

Attachment A – Submission No. 173 to the Parliamentary Inquiry dated 28 May 2017. Comprising 89 pages.

Attachment B – *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (NSW). Comprising 23 pages.

Attachment C – *State Environmental Planning Policy No 33 – Hazardous and Offensive Development*. Comprising 5 pages.

Attachment D – Blacktown City Council Employment Lands Precinct Plan – Eastern Creek Precinct (extract only). Comprising 28 pages.

Attachment E – Maps of the Western Sydney Employment Area and surrounds. Comprising 4 pages.

Attachment F – Site Layout Plans of the Proposed Eastern Creek EfW Facility. Comprising 2 pages.

Attachment G – Visual Montages of Proposed Eastern Creek EfW Facility by Urbaine. Comprising 6 pages.

Attachment H – Analysis of Visual Impact Assessment for Proposed Eastern Creek EfW Facility by Urbaine. Comprising 7 pages.

Attachment I – Human Health Risk Review by GHD (3 August 2017). Comprising 37 pages.

Attachment J – Hazards Risk Review by Systra Scott Lister (3 August 2017). Comprising 42 pages.

Attachment K – Odour Review Addendum by GHD (3 August 2017). Comprising 17 pages.