Health
Western Sydney
Local Health District

TRIM 15/1364-1

Mr David Mooney
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Dear Mr Mooney

Public Exhibition – Energy from Waste Proposal, Eastern Creek – SSD-6236

Thank you for your email of 25th May 2015 to the Director, Centre for Population Health, Western Sydney Local Health District inviting comments on the Environmental Impact Statement and associated documents for the proposed Energy from Waste Proposal, Eastern Creek.

The Western Sydney Local Health District, Centre for Population Health has reviewed the Human Health Risk Assessment and provides a summary of our concerns in the attached document.

Based on concerns about the information provided in the Human Health Risk Assessment the Western Sydney Local Health District is unable to fully determine the proposed facilities actual or potential impact on human health and as such does not support the approval of the proposal in its current form.

If you would like to discuss any of the issues raised in the attached submission please contact Helen Noonan, Manager Environmental Health on 9840 3603.

Yours sincerely

Danny O'Connor
Chief Executive

Date: 31/8/15

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Commentary on potential Health Impacts of the Next Generation NSW Pty Ltd Energy from Waste Facility, Eastern Creek

Introduction

Next Generation NSW Pty Ltd is intending to construct an Energy from Waste (EFW) Electricity Generation Plant in Eastern Creek. This site sits close to borders with both Nepean Blue Mountains and South Western Sydney Local Health Districts.

The NSW Environment Protection Authority (EPA) recognises in the NSW Energy from Waste Policy Statement (EPA, 2014) that the recovery of energy and resources from thermal processing of waste has the potential, as part of an integrated waste management strategy, to deliver positive outcomes for the community and for the environment. These outcomes include reductions in the need for waste to landfill and potential net reductions in the amount of greenhouse gases released to atmosphere.

The scale of this proposed facility, its proximity to residential areas, and placement within the metropolitan area, requires that potential impacts of emissions from this plant on human health be closely scrutinised.

As part of the Environmental Impact Assessment the proponent has commissioned a Human Health Risk and Air Quality Assessment (HHRAQA). The EPA has had these documents reviewed by an external consultant. Officers from Western Sydney Local Health District, South Western Sydney Local Health District and Nepean Blue Mountain Local Health District Public Health Units have reviewed these assessments and the EIS, and have consulted with the EPA.

The Facility

This facility will be the first large scale waste to energy facility in Sydney. It is in proximity to a number of densely populated areas. The proposed volume of waste to be used as feedstock is approximately 1.3 million tonnes annually. The plant to be built in Eastern Creek is a replica of a currently operational plant in the United Kingdom.

Emission from the Facility

In chapter 2.1 of the HHRA a list is provided of chemicals of concern generated from the combustion of waste including;

- Nitrogen dioxide, sulphur dioxide, particulate matter, carbon monoxide and ammonia
- Acid gases - hydrogen chloride and hydrogen fluoride
- Total organic carbon
- Metals – mercury, cadmium, thallium, antimony, arsenic, lead, cobalt, copper, manganese, nickel and vanadium
- Dioxins and furans
- Dioxin like PCBs
- Polycyclic Aromatic Hydrocarbons

The National Environment Protection Council has set limits for each of these pollutants under the National Environmental Protection Measure for Ambient Air Quality (Ambient air NEPM)

The Ozone Impact Assessment (section 10.2, page 56) showed the maximum predicted increase in ozone concentration to be greater than the NSW EPA threshold value of 1ppb as set out in the NSW EPA 'Tiered procedure for Estimating Ground Level Ozone impacts from stationary sources'. Unless these emissions can be offset by other means, such as reductions in pollution from other sources, this plant would represent a significant increase to ground level ozone.

The mix of emissions from a waste incinerator such as this will depend both on operational parameters and the nature of the feedstock. There are likely to be important differences in the feedstock used by the sister plant in the UK to that which will be used at Eastern Creek. The impact that these differences will make to the emissions is not well articulated in the documents under review.

Additional chemicals of concern that may be emitted in significant quantities as identified by the NSW EPA include beryllium, silver, hydrogen fluoride, and asbestos.

Although the facility will not knowingly accept asbestos waste, it is still possible that asbestos contamination (including friable asbestos) may exist in waste brought into the facility for processing which is not identified and removed at the time of sorting.

The Environmental Impact Statement (Urbis-April 2015-Page 32) states that construction and demolition (C&D) waste is expected to represent almost 29% of the Phase 1 feedstock, comprising construction and demolition processing residual obtained from authorized construction and demolition processing facilities.

A proportion of this material will be from external transfer stations and recycling facilities which will be delivered to the facility.

Robust mechanisms (including multiple barriers) need to be in place to ensure asbestos containing materials, which can be comingled with C&D waste and difficult to detect, are not inadvertently transferred to the mixed waste feed hopper of the facility for incineration, should the facility be approved.

Health Risk Assessment

The consultants who prepared the HRA used the Industrial Risk Assessment Program – Human Health (IRAP-h) to model the predicted health impacts due to the operations of this facility. Whilst the most significant potential effects on human health are likely to arise from inhalation of these toxicants, some pollutants such as dioxins and furans accumulate in the environment and can contaminate food and drinking water. Accordingly a comprehensive assessment of the health effects of these persistent pollutants is mandatory.

Some of the assumptions which underpin the IRAP model may not be appropriate in an Australian context.

Non carcinogenic effects of Criteria Air Pollutants

In general the impacts on human health from exposure to inhaled pollutants can be gauged by the impacts of emissions on ambient air quality. The aforementioned predicted impacts on ozone formation in the Sydney basin are of concern.

The HHRA also omits any discussion of the potential impacts of increments to particulate exposure in the basin as a direct consequence of the operation of this facility.

Carcinogenic Pollutants

The risks of carcinogenic pollutants are assumed to be mainly secondary to ingested pollutants from food, soil and water, which have been contaminated by the plume from the incinerator. Whilst the consultant has gone to some lengths to quantify risk from a number of exposure routes, there are a number of methodological and conceptual issues which make the HHRA a flawed document. They include:

- Not all chemicals of potential concern are included
- Use of the wrong toxicity references
- In their evaluation of cancer risk they have presented annual rather than lifetime cancer risks by dividing estimates of risk by an average 70 year lifespan. This is inappropriate.

Conclusion

WSLHD concurs with the EPA that some aspects of the forecast performance of this waste incinerator proposal could represent a significant risk to health for the people of Greater Western Sydney. This is particularly true for the impact on background levels of ozone in the region.

The assessment of carcinogenic hazards such as dioxins and furan is methodologically flawed. Our belief is that the Health Risk Assessment needs to be revised in light of the critique from both NSW Health and the EPA.