OBJECTION RE: SSD 21184278 VEOLIA ADVANCED ENERGY RECOVERY CENTRE

I WISH TO LODGE MY OBJECTION IN RELATION TO THIS APPLICATION FOR THE FOLLOWING REASONS;

- The proposal does not satisfy all policy requirements of the NSW Energy from Waste Policy Statement 2021.
- Does not comply with all requirements of the EU IED 2010/75 BREF 2019 BAT-C.
- Poses a significant risk to the health and economic wellbeing of the residents and agricultural businesses of the Goulburn Mulwaree LGA.
- Does not satisfy all requirements of the SEARS.

Policy requirements:

The proposal does not satisfy the NSW Energy from Waste Policy Statement 2021 (Policy) requirements in a number of important areas. The Policy requires that waste feedstock containing halogenated substances, expressed as chlorine which is greater than one percent (1%) should be operated at a temperature of 1100 degrees centigrade (1100^{o}C) after the last injection of air with a residence time of at least two (2) seconds.

The results of a chlorine content analysis[1] conducted by Veolias' consultant Vanz Appendix L (ii) indicates that one such composite sample of MSW returned a result greater than one percent (1%).This is said to have been caused by a sampling error despite being reviewed by a Veolia representative as typical of waste inputs at the MRF. Further to the abovementioned these results are then averaged over an eight day period to provide a mean result which is not consistent with the Policy and would not derogate from the Policy requirement to operate at the elevated temperature of 1100 ^{0}C during any period such waste feedstock was being incinerated. Veolia propose to operate the incinerator at eight hundred and fifty degrees centigrade (850^{o}C).Whilst this analysis was conducted on waste samples at the applicants MRF, it is noted that this is not the sole source of waste feedstock proposed to be processed at the facility.

The Energy from Waste Policy Statement requires a proponent that proposes to use non eligible waste feedstock, as is the case with this proposal, to nominate a reference facility. The NSW EfW Policy Statement requires that: "*Energy recovery facilities must use technologies that are proven, well understood*

and capable of handling the expected variability and type of waste feedstock. This must be demonstrated through reference to fully operational plants using the same technologies and treating like waste streams in other similar jurisdictions

In appendix L Ricardo Energy and Environment found at 8.2 that "It is important to note that EfW plants operating within a similar regulatory environment in the UK and Europe are designed using BAT-C to the requirements of the IED and not the NSW EfW Policy and as a result the ultimate design requirements are not directly comparable. Therefore, potential reference plants are not currently available to benchmark against *all* the requirements of the NSW EfW Policy as the requirements on energy recovery facilities are different in other regions; notably, the Technical Requirements for emissions standards."

These findings therefore indicates that Veolia has not complied with all requirements of the NSW EFW Policy Statement as it is unable to do so.

The EFW Policy stipulates that proponents shall be required to complete a "Proof of Performance" test to demonstrate compliance with air emission standards. The proponent indicates at table 6.8 and appendix H that sets out its standard commissioning process that demonstrates confidence in the onsite monitoring equipment to be installed.

Demonstrating confidence in on-site monitoring equipment can in no sense be construed as a demonstrating compliance with air emission standards. We may all have confidence in properly calibrated emission monitoring equipment, however, it is the results of such monitoring measurement that is required to demonstrate compliance with the EFW policy statement 2021 emission limits to comply with the Proof of Performance. Further Veolia states at 3.5 appendix H that upon completion of guaranteed performance and reliability tests Veolia will issue an acceptance certificate verifying compliance with these tests. This suggested procedure lacks sufficient independence to provide confidence in the Proof of Performance testing.

The EFW policy requires real time emissions reporting to the EPA. The proponent at table 6.7of appendix L (i) reads this requirement as reporting in near time and only when a secure portal is available. No such condition exists within the policy.

Another area of concern to me is that during the Proof of Performance testing prior to commissioning of the ERF only certain continuously

monitored pollutants are measured against expected ELVs. Types 1and 2 substances, heavy metals, persistent organic pollutants and PAHs which are periodically monitored will not be measured against expected ELVs. This of course means that these highly toxic pollutants may be being emitted into the environment for at least three months before any periodic sampling is required to test whether these compounds are not being emitted in excess of their respective ELVs.

EU IED BREF Requirements:

Whilst on the subject of heavy metals BAT4 of the WID BREF 2019[2] requires that all new plants coming on-line after December 2019 are to continuously monitor for emissions of some of these substances, particularly mercury. Periodic monitoring for this substance is only permitted where the incoming feedstock has proven low and stable mercury content. The proponent's chemical analysis of typical waste feedstock has not determined this to be so, therefore in the absence of such assurance the consenting authority should incorporate a licence condition requiring continuous monitoring for this pollutant. The proponent is not compliant with BAT4 in this instance and therefore not compliant with the EU IED BREF 2019.

For completeness of my objection in this matter, my understanding is that technical equipment applying Fourier transform Infrared Spectroscopy (FTIR) is available with extremely sensitive detection levels capable of performing the continuous monitoring required by BAT 4 and in some European countries is being retrofitted to existing EFW incinerators, with all new incinerators commissioned after December 2019 being required to comply with this monitoring requirement.

I also understand from the applicants' documents that Veolia intends to combine fly ash with APC_r and to then "stabilise" this mixture with cement prior to depositing significant quantities of this toxic and hazardous waste into an encapsulation cell within the confines of the ECO precinct. This site is reported to have a shallow water table, some two (2) metres below ground level and raises significant concern of the possibility of leaching of these highly toxic substances from this concrete mixture and then into the surrounding water table. As this site is within the Sydney water catchment precinct, which enlivens my concerns, and surrounding agriculture relies upon this bore water the impacts of any potential leaching of these substances into this aquifer

is catastrophic. This proposed method of stabilisation is considered by some researchers as being less than optimal[4]

Whilst I acknowledge that Veolia has conducted ground water sampling of various bores at some thirty eight sites, commencing as early as 1996 this, however, does little to alleviate the catastrophic impacts that would arise should these sources of water become contaminated. I am certainly not convinced that a double geomembrane lined encapsulation cell into which these stabilised, highly toxic and persistent organic compounds are intended to be stored, not only, during the expected operational life of the EFW incinerator but are intended to remain indefinitely is adequate or sufficient for the task it is required to perform. Veolia has not referenced any other EfW facility that has successfully applied this method of disposal in similar circumstances for these substances nor has it indicated how it intends to comply with clause 99 (2) (f) (i) (ii) of Part 10 POEO (Waste) Regulations 2014[3].

The abovementioned of course is predicated upon the applicant successfully obtaining a licence and a specific immobilisation approval (SIA) to dispose of these wastes in this manner and in this location. Should the EPA be minded to issues these licences it should, as a consequence, also require the applicant to provide adequate financial assurance, either bond or bank guarantee pursuant to Part 9.4 of the POEO ACT1997. This is to ensure adequate funds are available to effect significant site compliance, decontamination and rehabilitation resulting from this level of contamination of 15,200 tonnes / annum x 30 years = 456,000 tonnes.

The applicant has not anticipated an alternative disposal option for this waste should the waste not be reclassified as restricted solid waste (RSW) from the current classification of hazardous waste (HW) or that the applicant fails to obtain a specific immobilisation approval from the EPA.

As the landfilling of hazardous waste is prohibited within water catchment precincts and the vulnerabilities of the various APC_R stabilisation processes are well known[5] the abovementioned surely is a prudent consideration for the applicant.

I note that Veolias' Four Ashes reference facility in Staffordshire disposes of this waste into its' Minosus[7] salt mine where it is said that

the likelihood of leaching of these toxic wastes due to rainwater coming into contact with the APCr waste is unlikely. This is not the case with the proposed ARC incinerator.

The likelihood of aquifer interference is not remote as a consequence of the proposed encapsulation cell and it is therefore reasonable to consider that an approval pursuant to s. 91 of the Water Management Act is also required for this project. Sub clause 2 of clause 82 of the Environmental Planning and Assessment Regulation 2000 is relevant to this matter.

I acknowledge that the NSW Thermal Treatment of Waste Infrastructure Plan and its' enabling Regulation has been passed by the NSW Government and identifies the Goulburn Mulwaree region as a precinct in which these developments are permitted subject to complying with all regulatory requirements of the consenting authority. I do not, however, believe that the government anticipated that any such proposal would have contemplated the long term land fill storage of either hazardous or restricted solid waste that is generated in the form of fly ash and spent reagent chemicals during this thermal treatment of waste, to occur within the Sydney Water Catchment precinct.

The applicant has acknowledged at ES6 (iii) Environmental Issues that; "The EIS it has assessed all the potential environmental impacts that may result from the project. No substantial impacts have been identified that cannot be appropriately "mitigated through management plans and other measures". The ability of the applicant to mitigate these impacts in these manners is highly questionable given the applicants' abject failure to mitigate their well- known and often complained about odour emissions from their present activities on this site. Despite offending local residents and s.129 of the POEO ACT 1997 these offensive odours have persisted over several years without obvious remedy. In my opinion the local community, indeed the people of NSW, are completely justified in having serious reservations as to the sincerity or willingness of the applicant to satisfy this undertaking in the manner proposed, moreover, the apparent reticence of the regulator, NSW EPA, to take coercive action against the applicant in this matter to enforce the provisions of s.129 of the Act does little to instil any confidence within the community that the regulator would enforce

compliance of any breaches with licence conditions, including “Proof of Performance” or any substantial environmental impacts this project may inflict upon the people of NSW. The project is, therefore, not as claimed, “in the public interest”.

Health Issues

The Human Health Risk Assessment (HHRA) concludes that based upon predicted emissions levels from the ARC and the advances in incinerator technology, including emission suppression systems that the proposed development will present no unacceptable risk to the health of sensitive receptors. Whilst these conclusions are said to be based upon very conservative estimates i.e. worse case scenarios of maximum emissions and extended exposure over periods in excess of the expected operational life of the ARC. That existing research material on the epidemiological impacts of waste incineration is dated and not reflective of more recent technology in incinerator design and emission control.

These findings, however, are reliant upon a significant amount of predictions and assumptions in the consultants’ report which are yet to be established. The most recent epidemiology studies into health impacts of waste incineration has not diminished these earlier findings Peter Tait et al.[6] and that communities have legitimate concerns about the health impacts of waste incineration. The proponent prematurely asserts that the newer technology will produce the improved health outcomes.

As the health impacts from exposure to the emitted toxins from EFW incineration are delayed with extended latency periods, the evidence is none-the-less that these chemicals are known to cause both teratogenic and mutagenic harm in humans. The long latency periods and delayed onset of these conditions is a matter of serious concern as the operators of EFW incinerators are usually long gone by the time these severe medical symptoms begin to emerge.

Sears Requirements:

The following is a sears requirement (see Appendix A Table A1) that has as yet to receive a response from the applicant;

“Identification of any infrastructure upgrades required off-site to facilitate the development and describe any arrangements to ensure

that the upgrades will be implemented in a timely manner and maintained".

As this matter has not been responded to by the applicant it is not, therefore, possible to express a view in relation to any potential infrastructure upgrades.

Colin J Bosworth

References:

1 Appendix L (ii) Chlorine Content Analysis

2 EUR – Lex – 32019D2010 –EN –EU

3 POEO (Waste) Regulations 2014 (Part 10)

4 Shunda Lin, Jiang X, Zhao Y, Yan J. Disposal technology and new progress for dioxins and heavy metals in fly ash from municipal solid waste incineration: A critical review. Environ Pollut. 2022 Oct 15;311119878. doi: 10.1016/j.envpol.2022.119878. Epub 2022 Aug 6. PMID: 35944780.

5 Qiang Tang, Yang Liu, Fan Gu, Ting Zhou, "Solidification/Stabilization of Fly Ash from a Municipal Solid Waste Incineration Facility Using Portland Cement", *Advances in Materials Science and Engineering*, vol. 2016, Article ID 7101243, 10 pages, 2016. https://doi.org/10.1155/2016/7101243

6 PeterTait, James,Angelina Ch,Adam Costanzo,Andrew Danyluk,Meg Davis,Ahmed Khalaf,Kathryn McMahon,Alastair Watson,Kirsten Rowcliff,Devin Bowles

7 Minosus_Brochure_PDF.pdf