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28 February 2019

Karen Marler Director, Hunter NSW Environment Protection Authority PO Box 488G NEWCASTLE NSW 2300 By email: <u>karen.marler@epa.nsw.gov.au</u> <u>lisa.richards@epa.nsw.gov.au</u> <u>Emma.Barnet@planning.nsw.gov.au</u> <u>Kelly.McNicol@planning.nsw.gov.au</u>

Re: Weston Aluminium Pty Limited – DA 86-04-01 MOD 12

Dear Karen,

I refer to your correspondence and advice of 26 February 2019 to Ms Emma Barnet of NSW Department of Planning and Environment regarding our proposed Development Consent Modification for the proposed thermal processing of pharmaceutical and illicit drug wastes in our rotary furnaces. With specific reference to *Attachment 1: Recommended modification to Environmental Protection Licence conditions*, the following comments are offered:

1. Operating Condition

Weston Aluminium accepts that 'the quantity of illicit drugs and pharmaceutical wastes being processed per batch should not exceed 5% by mass of the total wastes being processed per batch'. This reflects the process followed during the earlier 2015-17 Trial for solid-based inputs.

However, this operating condition does not acknowledge the protocol followed during the Trial when processing liquid wastes. As outlined in our 2017 Trial Monitoring and Verification Report, liquids within waste inputs present a particular safety hazard in the presence of molten aluminium (potential for explosion), and accordingly, such wastes (e.g. cough mixtures, saline solutions and other liquid-formulation wastes) are charged to an empty furnace (i.e. in absence of molten aluminium) to eliminate this hazard.

It is proposed that the Operating Condition be amended to also state that 'pharmaceutical and illicit drug wastes containing (or suspected of containing) liquids may be processed in an empty furnace'.



2. Concentration limits

It is understood that the EPA are recommending amendments to Stack 1 (Point 1) air emission concentration limits currently defined in our Environmental Protection Licence. A comparison between existing and recommended concentration limits are summarized in **Table 1**. An appraisal of historical monitoring data (**2015-17 Trial** and **conventional non-Trial events**) is also tabulated for comparative assessment.

Table 1: Current and EPA-recommended air emission concentration limits & historical control performance (Stack 1)

Pollutant	Units	100 percentile limit		2015-17 Trial Emissions performance / 2017-18 conventional; non-Trial	
- onutum		Existing	Recommended	Min	Мах
Total solid particles	mg/m ³	25	25	1 / 1.5	8.7 / <mark>9.4</mark>
Sulfuric acid mist	mg/m ³	100	100	<1.6 / <1.8	<1.5 / 2.5
Hydrogen chloride	mg/m ³	400	50	<1 / <0.088	<9.3 / <0.098
Heavy metals	mg/m ³	10	1	0.087 / 0.0074	0.121 / 0.0120
Oxides of nitrogen	mg/m ³	2500	200	2 / 6	12 / <mark>9</mark>
Carbon monoxide	mg/m ³	115 ^{*1}	125	1 / 3	87 / <mark>33</mark>
Dioxins and furans	ng/m ³	NL	0.1	0.0002 / -	0.0053 / -
Gaseous fluoride	mg/m ³	2	2	0.02 / <0.0087	0.14 / 0.94
Cyanide	mg/m ³	0.5	0.5	0.22 / 0.29	0.38 / 0.43
NOTES NL *1	Not Listed Expressed	in current EPL in units o	f ppm. 100 percentile limit h	as been converted to mg/m ³ fo	r comparison

No context or rational for the amendment of pollutant concentration limits is offered in EPA's correspondence, and feedback regarding these changes would be greatly appreciated. Regardless, Weston Aluminium's historical Stack 1 (EPL Point 1) emissions control performance has satisfied the recommended limits, and we are confident that compliance with such limits can be achieved on an ongoing basis. Accordingly, these recommended limits are acceptable to Weston Aluminium.

Further, the inclusion of a regulatory limit for dioxins and furans is also acknowledged. An extension of the monitoring scope to include dioxins and furans, and accordingly apply a regulatory limit of 0.1 ng/m³, was proposed in our original EPL Variation Application. This is acceptable to Weston Aluminium.



3. Monitoring and Recording Conditions

Weston Aluminium is concerned with recommended monitoring and reporting conditions proposed for gaseous fluoride, oxygen, oxides of nitrogen and carbon monoxide. A comparison of monitoring and recording conditions defined for these pollutants in our existing EPL, and that recommended by the EPA, are summarized in **Table 2**.

Table 2: Comparison of existing and EPA-recommended monitoring and reporting conditions (Stack 1).

Pollutant	Units	Exis	sting EPL uirement	EPA-recommended requirement			
ronutant		Frequency	Sampling Method	Frequency	Sampling Method		
Gaseous fluoride	mg/m ³	Continuous	In line instrumentation	Continuous	Special Method 1 *1		
Oxygen	mg/m ³	Not defined *2	Not defined *3	Yearly	CEM-3		
Oxides of Nitrogen	mg/m ³	Yearly	TM-11	Yearly	CEM-2		
Carbon monoxide	mg/m ³	Yearly	OM-1	Continuous	CEM-4		
NOTES *1	Method proposed by licencee and agreed to in writing by the EPA						
*2	Monitoring performed on Yearly frequency						
*3	NATA accredited Sampling Method applied is USEPA Method 3A						

The following comments are made:

- Weston Aluminium has operated and maintained continuous gaseous fluoride monitoring
 instrumentation in Stack 1 since the commencement of the original Dross Processing
 operation, and note that the recommended sampling method has been amended from
 'In line instrumentation' to 'Special Method 1'. Special Method 1 seeks agreement in
 writing for the proposed methodology. If this new reference is to be reflected in a varied
 EPL, and for completeness of our records (for Auditing purposes), Weston Aluminium
 seeks written concurrence from the EPA regarding the existing methodology applied to
 the continuous monitoring of gaseous fluoride; and
- Continuous Emissions Monitoring method references are given for Oxygen, Oxides of Nitrogen and Carbon Monoxide. Weston Aluminium has maintained full compliance with both existing and recommended 100 percentile limits (refer **Table 1**) for all of these parameters, and in this context, cannot understand why the application of alternative methodology has been sought. Furthermore, the frequency of monitoring defined for Oxygen and Oxides of Nitrogen (yearly) and Carbon Monoxide (continuous) are inconsistent, the basis of which is not readily understood.

It is believed that defining alternative frequencies and monitoring methodologies for Oxygen, Oxides of Nitrogen and Carbon Monoxide adds no value and may have been an oversight, and suggest that the existing monitoring requirements (refer **blue type**; **Table 2**) are appropriate, and should be maintained.



Furthermore, Weston Aluminium can appreciate that combustion efficiencies associated with the destruction of pharmaceutical and illicit drug wastes are paramount, and operating conditions, destruction efficiencies and emissions compliance has been demonstrated and verified via the 2015-17 Trial process. Supplementary detail provided throughout 2018 has further supported operating conditions (furnace and ventilation configuration, process temperature, residence times) and combustion efficiencies, providing further confidence in the robustness of the process.

Beyond the above, monitoring and recording conditions recommended for other, remaining parameters are acceptable to Weston Aluminium.

I trust the above meets your requirements, and welcome the opportunity to meet with EPA and DPE representatives to discuss. Should you require additional information in the interim, please do not hesitate to contact me on 4936 2166.

Yours sincerely,

Weston Aluminium Pty Ltd

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Christopher McClung Plant Services Manager