Appendix M:
Advice from CASA

Australian Government

Civil Aviation Safety Authority

Air Navigation, Airspace and Aerodromes

File Ref: OP17/11-10
Your Ref: Email 6 December 2017

18/12/2017

Ewen McKenzie

Capital Recycling Solutions
Benedict
11a Narabang Way,
Belrose, NSW 2085
By Email:
Ewen@benedict.com.au

Dear Mr. McKenzie,

PLUME RISE AT PROPOSED CAPITAL RECYCLING SOLUTIONS FACILITY 16 IPSWICH STREET FYSHWICK – RE-ASSESSMENT FOR RECYCLING FACILITY

On 11 August CASA assessed 2 furnace type stacks (120°C) at the site. This assessment applies to one venting type stack at Capital Recycling Solutions Waste Processing Plant at 16 Ipswich St Fyshwick, ACT.

Location:
Latitude: 35°19' 37" S
Longitude: 149°09' 55" E

Aviation Facilities in vicinity:

Canberra Aerodrome: 3km to north east of recycling facility and approximately 2m higher than recycling facility.

Parameters:

Exit velocity = 20 m/s

Stack diameter = 2.7 m

Stack height = 21m AGL

Exit temperature = Ambient °C (The minimum exhaust temperature that can be entered into the CASA screening tool is 50°C)

Using the CASA screening tool, the plume (at 50°C) reduces to 6.1 m/s at approximately 39m (128 ft) AGL and will not infringe the Inner Horizontal Surface of Canberra Airport.

Using the CASA screening tool, the plume (at 70°C) reduces to 6.1 m/s at approximately 39m (129 ft) AGL and will not infringe the Inner Horizontal Surface of Canberra Airport. The 50°C and 70°C comparison was run to indicate that the

temperature makes negligible difference. It is expected that the plume (at 30°C) would reduce to 6.1 m/s at approximately 38m.

It is assumed that the worst case scenario has been assessed.

Advisory Circular 139-5(1) advises that the Critical Plume Velocity will depend on a number of considerations. The AC is intended to be amended in due course to reflect the use of the 6.1m/s benchmark which has been chosen as it represents the top level of "light turbulence" as categorised by the Bureau of Meteorology. A Critical Plume Velocity of 6.1m/s is the velocity at which a vertical plume rise may affect the handling characteristics of an aircraft in flight such that there may be momentary changes in altitude and attitude.

Based on the information presented, the plume as proposed will not be hazardous to aircraft operations.

In this recycling venting case, there is no requirement for plume symbol to be included on the aviation charts.

Please do not hesitate to contact me if you require further information.

Yours sincerely,

David Alder

David Alder
Aerodrome Engineer

Capital Recycling Waste Canberra Fyshwick 6.1m sec 70 deg

Project:	Capital Recycling Waste Canberra Fyshwick 6.1m sec 70 deg
Date created:	18/12/2017 09:45:00
Number of Stacks:	1
Stack Diameter:	2.70 m
Temperature:	70.00 Deg.C
Exit Velocity:	20.00 m/s
Stack height:	21.00 m
Critical velocity:	6.1
Critical height:	39 m (129 ft) AGL 18 m (61 ft) Above stack top