



3 & 4/18 Thomas Street, Ferntree Gully, Victoria, 3156 Australia  
Postal Address: P.O. Box 155, Ferntree Gully 3156  
Telephone: (61 3) 9758 7299  
Facsimile: (61 3) 9752 2694  
Email: awn@awn.com.au

State Manager Victoria,  
Terminals Pty. Ltd.,  
70 – 78 Mackenzie Road,  
West Melbourne, 3003

24 July, 2007

Attention: Mr. C. Fasolino

Dear Carlo,

**RE: COMBUSTOR EMISSION MONITORING  
AND AMBIENT AIR QUALITY MONITORING PROGRAMMES**

Please find attached our reports covering:

- 1,3 butadiene emission tests conducted during ship unloading and associated sphere degassing on 24<sup>th</sup> May, 2007 and wharf line purging on 28<sup>th</sup> May, 2007;
- 1,3 butadiene ambient air quality monitoring, upwind and downwind of the combustor, during wharf line purging on 28<sup>th</sup> May, 2007.

During the conduct of emission tests on 24<sup>th</sup> May, 2007 the valve controlling 1,3 butadiene/nitrogen vapour flow to the combustor was indicating 22% open. At this load the combustor exhaust gas velocity was less than the test method limit of detection and consequently could not be determined.

Terminals calculations, based on performance data for the control valve, suggest that a set point of 22% corresponds to a vapour flowrate of 117 m<sup>3</sup>/h (15°C and 101.325 kPa).

Terminals partial pressure calculations, based on the 1,3 butadiene sphere temperature and pressure measurements recorded during the emission monitoring programme, suggest that the sphere contained 51% v/v 1,3 butadiene and 49% v/v nitrogen.

The combustor destruction efficiency has consequently been estimated, based on the following:

- Inlet vapour flowrate 117 m<sup>3</sup>/h (15°C and 101.325 kPa) (estimated);
- Inlet 1,3 butadiene concentration 51% v/v (estimated);
- Exhaust gas flowrate 50 Nm<sup>3</sup>/min (dry) (not detected, test method limit of detection);
- Outlet 1,3 butadiene concentration 0.02 mg/Nm<sup>3</sup> (not detected, test method limit of detection).

The calculations, provided in the attached spreadsheet, suggest a minimum 1,3 butadiene destruction efficiency of 99.99996%, thereby complying with the design value of 99.6%. The outlet load calculation is considered conservative as it assumes that the combustor exhaust gas flowrate and 1,3 butadiene concentration are equal to the measured less than values.

If there are any questions concerning the reports, please contact me on 9758-7299.

Yours sincerely,

Jacinda Houston

**JACINDA HOUSTON,**  
SENIOR ENVIRONMENTAL SCIENTIST

Encl: