Linfox Transport Fuel Review

Emissions Testing Conducted for Linfox Transport

Gas Technology Services is one of the acknowledged leaders in the supply of support services to the Australasian energy industry. We operate a NATA accredited and ISO9001 endorsed laboratory and educational facilities, which set the industry standard.

Services range from, field and laboratory testing to consulting, training and information research. Our expertise is built on more than 150 years of gas industry experience with a staff who collectively represent the greatest concentration of gas technology knowledge in Australia.

A full description of Gas Technology Services and accreditation is contained in Section 2 of this report.

Gas Technology Services were commissioned to conduct a range of independent emissions testing on two trucks owned and operated by the Linfox Group of Companies. The vehicles upon which the testing has been conducted are two 1994 FLC 112 Mercedes Benz prime movers, using diesel, which pull B-Double trailers. These vehicles, identified as Fox 781 and Fox 783, are dedicated to full time use on the Coca-Cola contract services provided by Linfox. The vehicles operate from the Linfox Clayton site in Victoria.

The emissions testing was conducted as part of an independent study to determine the effects of a fuel technology known as Dipetane Fuel Treatment. We understand that the study was being undertaken by Linfox in order to assess the capabilities of Dipetane to reduce both fuel consumption and emissions.

The study was conducted over a period of 8 months (April 2000 to November 2000). Our involvement in the study has consisted of two stages, which have been conducted on the following basis:

Stage 1 – April 2000.

Sampling and on-line analysis of exhaust gases – prior to the addition of Dipetane

Stage 2 – November 2000.

Sampling and on-line analysis of exhaust gases – after the addition of Dipetane for 8 months

The fully detailed independent findings from the study show a significant reduction in emissions between Stage 1 and Stage 2. Testing was completed at 0 RPM and 2000 RPM. The test results are summarized as follows:

Emissions Type	Max % Reduction Achieved
Carbon Dioxide – CO_2	23.0%
Carbon Monoxide – CO	9.5%
Nitrogen Oxides – NO_x	35.4%
Sulphur Oxides – SO_x	26.8%
Smoke Density - Opacity	61.5%

The study also showed an increase in the level of Oxygen output between Stage 1 and Stage 2 up to 4.8%.

A detailed description of the test results is contained in Section 1 of this report.

The emission tests performed on the Linfox prime movers, Fox 781 and Fox 783, showed a significant reduction in emissions due to less fuel being used in the testing period. It is only a measure of emissions from the amount of fuel being combusted. Any reduction in fuel consumption over the testing period (not taken into account in this report) would also result in a corresponding reduction in emissions.

The reduction in emissions suggests that, with all other parameters remaining constant, Dipetane would be producing an improvement and efficiencies in the combustion chamber.

The reduction in emissions would be considered a flow on effect from a more efficient combustion process. Greater efficiency in the combustion of fuel will result in a reduction in consumption and therefore greater fuel economy.