



11 August 2008

**ADVICE TO THE WA AUTOGAS INDUSTRY REGARDING THE TYPES OF
HOSES PERMITTED AS PART OF VEHICLE LPG INSTALLATIONS**

Summary

This Information Bulletin deals with a change to the Prohibition Order issued on 16 May 2008, in respect of the type of hoses that may be used as part of vehicle autogas installations, so as to limit the leaching of plasticiser which has been shown to damage converters.

In practical terms, the existing Prohibition Order (the enforcement of which had been delayed to allow industry to adjust) has been cancelled. Concurrently a new Prohibition Order with the commencement date of 1 December 2008 has been issued. This Order is similar to the previous but it has a later date for coming into effect.

This means industry now has a much longer time to adjust its work to the new hose standards. The prescribed limit on plasticiser content in each vehicle's hose installation will be firmly enforced from this new date.

Notwithstanding this change to the enforcement date, EnergySafety strongly recommends that autogas installers use the information previously published about tested hoses and their plasticiser levels, and carry out installations using either a very low plasticiser hose, or a combination of copper pipe and rubber hose, in such a way that each overall installation complies with the limits of the Order even before 1 December 2008.

This Bulletin also outlines:

- more detail about how vehicle autogas installations may be carried out prior to 1 December 2008;
- the liaison that EnergySafety is undertaking with the WA's LPG suppliers such as BP and Kleenheat Gas, so as to mitigate the possibility of vehicle converter damage due to plasticiser leaching from LPG fuel dispensing hoses in the supply chain; and
- information about how during the coming months EnergySafety hopes to identify (and subsequently deal with) other possible sources of converter problems such as fuel contamination.

New Prohibition Order

The new Order was published in the Government Gazette on Friday 8 August 2008 and is very similar to the one published on 16 May 2008, which it revoked. The new Order notifies that the terms of the Order (which limit the plasticiser content of hose installed in a vehicle as part of an autogas installation) come into effect on 1 December 2008.

This date has been selected in liaison with the ALPGA and the MTA. The extra time will allow industry to source stocks of low plasticiser hose and fittings as required and adapt related work practices, while maintaining services to clients with existing stocks.

Does this mean the hose problem has disappeared?

No, *EnergySafety* is quite satisfied with the accuracy of the investigation work which through "chemical finger printing" by the WA Chemistry Centre identified on-board rubber hose plasticiser as the main source of the converter problems that some vehicles have experienced.

However, the ALPGA and MTA-WA industry associations have advised *EnergySafety* that they believe some converter problems may have arisen due to fuel contamination. This will be further investigated as explained below. The plan is to deal with the problems one by one (the on-board hoses, and the supply chain hoses) and ultimately also any fuel contamination sources.

The industry associations are of the view, and *EnergySafety* has accepted that view, following communication with them during the week commencing 28 July 2008, that the safety concerns associated with some malfunctioning autogas installations are outweighed by the problems for industry arising from a rapid change in the hose specification as required by the previous Prohibition Order.

For this reason *EnergySafety* has allowed a longer period to phase in the new hose specification in WA. This change is also expected to be reflected in the national technical standards AS/NZS 1869, in the future.

What types of hoses may be used between now and 30 November 2008?

EnergySafety's position is that it strongly recommends autogas installations comply with the Order even if fitted into vehicles before 1 December 2008. That is, it is recommended that autogas installers use the information previously published about tested hoses and their plasticiser levels, and carry out installations using either a very low plasticiser hose, or a combination of copper pipe and rubber hose, in such a way that each overall installation complies with the limits of the Order.

Why? Because this ensures the best and safest outcome for the client. Furthermore, if there are no installation work defects or equipment manufacture defects, but a client has converter problems, the source of that problem can be assumed to be somewhere in the supply chain (i.e. due to dispensing hoses or fuel contamination).

Notwithstanding this recommendation, the new Order does not come into effect until 1 December 2008 and it is permissible until then to carry out installations in the traditional way, using the various brands of hose that currently comply with AS/NZS 1869. But if an engine malfunction problem arises with such an installation, the onus will be on the autogas fitter to rectify the problem, unless a fuel contamination problem is evident.

Rubber hoses in the “supply chain”

EnergySafety recently received advice from BP Australia that it supports the work that EnergySafety has done in collaboration with the WA Chemistry Centre to identify that the leaching of plasticiser from rubber hose is relevant to the malfunction of the autogas installation in some vehicles.

The company also advised that it will be accelerating its normal program of replacing LPG dispensing hoses, using only low plasticiser hose, so as to effectively eliminate the hose plasticiser issue within the BP supply chain.

EnergySafety will be asking other autogas suppliers and vendors to also undertake such accelerated hose replacement and this will be actioned during the next few weeks.

Identifying any autogas fuel contamination

Once the hose plasticiser issue has been dealt with by the use of low plasticiser hose in both the “supply chain” and autogas vehicle installations, the remaining possible concern – other than defective manufactured parts or workmanship – is fuel contamination. Anecdotal information from industry strongly suggests that some autogas fuel contamination has occurred on past occasions, causing converter damage and/or blockage.

EnergySafety is prepared to assist industry in the identification of the source and frequency of autogas fuel contamination, but to do this, EnergySafety needs the cooperation of autogas installers.

EnergySafety plans to establish an arrangement under which autogas installers can notify its Gas Inspection Branch when a vehicle with a low plasticiser hose installation¹ has been returned for remedial work to the converter, even though the vehicle’s gas installation meets the published hose plasticiser limit. Subject to operational constraints, EnergySafety will then have an Inspector attend at short notice to inspect the vehicle’s converter and collect a sample of any converter contamination.

Through chemical analysis at its own cost, EnergySafety will then endeavour to determine the source of that vehicle’s problem (this will take some time and is not intended to delay the repair work that may be required). Once a range of such investigations has been completed, a picture should emerge on the source and frequency of fuel contamination.

Concurrently as part of the analysis work it may be possible to identify certain physical characteristics (such as colour, consistency, smell etc) of converter deposits due to fuel contamination, which will also assist the industry in its dealing with this problem.

Naturally, if fuel contamination problems are identified, EnergySafety will also be taking this up with the relevant fuel supplier (if able to be identified), stressing the need for action to avoid a recurrence.

¹ This means that the amount and type of hose used on that vehicle meets the specification published by EnergySafety (i.e. it complies with requirements applicable from 1 December 2008)

Concluding comments

I trust you have found this information bulletin to be useful and I look forward to your cooperation so we may deal constructively with the issues.

EnergySafety will be providing further information on the arrangements for autogas fitters to notify EnergySafety on incidents of potential autogas fuel contamination, once these matters have been discussed with the ALPGA and the MTA.

To review the information about plasticiser levels in hoses tested by EnergySafety, please visit the EnergySafety website at www.energysafety.wa.gov.au.

A handwritten signature in black ink that reads "Albert Koenig". The signature is written in a cursive style with a large initial 'A' and 'K'.

Albert Koenig
DIRECTOR OF ENERGY SAFETY