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Mr Daniel Sheedy
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Dear Mr Sheedy

SETTING NATIONAL FUEL QUALITY STANDARDS – NATIONAL STANDARD FOR BIODIESEL

Further to the recently released discussion paper on National Standard for Biodiesel, pleae find feedback from the South Australian Department of Transport and Urban Planning (DTUP).

The use of biodiesel in Australia is at infancy and DTUP has limited experience in operating one public transport bus on a B20 blend of biodiesel and are about to trial operation of this vehicle on neat biodiesel.

The benefits of biodiesel must not be underestimated. Biodiesel has excellent lubricity properties and has been used in petroleum diesel for this purpose. This will become more important as sulfur levels in petroleum diesel are progressively reduced. More importantly biodiesel also has the potential to reduce particle and carbon dioxide emissions. However, biodiesel use will result in an increase of oxides of nitrogen and some toxics such as benzene and formaldehyde. Given potentially significant differences with petroleum diesel, biodiesel will require appropriate labelling. In terms of storage, our experience indicates that the addition of biocide is important in maintaining fuel quality.

With the Commonwealth Government support for biodiesel, the interest in this fuel is steadily gaining momentum. Given the potential variability of the fuel, especially in terms of its operability, it is imperative that a national standard be developed as a matter of urgency. The standard is necessary for a variety of reasons, including consistency in performance, vehicle reliability, warranty issues and value for money for biodiesel users.

DUPT is keen to ensure that the use of biodiesel does not compromise the newly gazetted exhaust emissions ADRs. It is therefore of concern that the CSIRO report on Life-cycle Emissions Analysis of Alternative Fuels for Heavy Vehicles (Reference 1 of the biodiesel discussion paper) identifies a possible compliance problem in relation to PM emissions for Euro 3 and NOx emissions for Euro 3 and 4 standards (ADR80/00/01).

Given that the majority of diesel vehicles operating in Australia are produced overseas, harmonisation with existing international biodiesel standards is essential. Although European and US biodiesel specifications are similar, recent harmonisation with European motor vehicle standards suggests that the European specification should be adopted however, the choice should primarily be driven by the fuel specification that results in reduced environmental impact.

Information has also been received by the Department which indicates that fuel producers are likely to source feedstock from a variety of sources and they intend to blend the fuel depending on availability. According to the discussion paper, biodiesel produced from different feedstock exhibits a wide range of properties which impact on engine performance, such as emissions and operability. This is undesirable from the user perspective and it is therefore preferable that the biodiesel standard addresses all those fuel characteristics and compositions that impact on this performance. Although the discussion paper identified several fuel parameters that may form part of the standard, the impact of these parameters on the specific emissions they affect and to what extent was poorly defined.

The potential producers of biodiesel advocate using the fuel in its neat form primarily due to excise exemption and to maximise demand. However, the majority of manufacturers void engine warranty above B20 blend. The warranty issue will remain a significant issue for vehicle owners (including DTUP) and is likely to provide a significant barrier to the uptake of the fuel. Conversely excise exemption for biodiesel proportion of biodiesel blend is likely to motivate biodiesel use.

DTUP bus trial experience indicates that B20 blend results in some reduction in particle emissions, increase in oxides of nitrogen and similar power and torque performance. It is worth noting that, based on engine manufacturer's recommendations, the bus required modification to operate on B20. It is also our understanding that, due to biodiesel burning characteristics, some fuel pump optimisation will be required to ensure long term engine durability for operation on neat biodiesel.

Use of low percentage blends (up to 20%) is therefore feasible and has minimal impact on the operation of the engine. Blends approaching neat biodiesel require more specialised treatment, void manufacturers' warranty and require changes to engine settings that potentially impact on optimum petroleum diesel operation.

I trust you will find these comments of benefit and ask that you keep my Department informed on the progress of this matter.

Yours sincerely

Tim O'Loughlin
CHIEF EXECUTIVE
DEPARTMENT OF TRANSPORT AND URBAN PLANNING