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The Secretary
Senate Select Committee on Climate Policy
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3.4.2009

Ref- Submission on how to maintain optimum new engine exhaust emission standards.

Winchester Global P.L. (WG) respectfully propose that Law be introduced to require all imported machinery to operate with fuel filtration that performs to better than 1.6mg/kg of the USA Fuel Standard and engine oil filtration that performs to better than Nas6 Standard and for the use of standard mineral oil to be phased – out to a complete ban. That engine air intake temperature is legislated to require a verified approved system for optimum emission standards.

Dear Sir,

While the Select Committee on Climate Policy inquiry into policies relating to climate change has particular reference to (a) the choice of emission trading as the central policy to reduce Australian carbon pollution, this proposal meets the stated inquiry needs of Clauses (a) (i), (ii), (iii) and (f).

Increasingly in the world today, innovators lead the way with research and development of green building design, bio diesel, solar power, wind power, cradle to cradle building and item design etc. Where as this submission puts forward the compelling case for Australian Legislation to address one of the totally overlooked green issues of maintaining new engine exhaust emission standards at optimum OEM Standard for optimum time.

While engine design is driven by USA & EEC Exhaust emission standards the reality is that the common 250 hr engine oil change with the use of mineral oil (without the necessary thermal stability it breaks down with heat) and commonly used oil & fuel filters (that are not designed to remove moisture in emulsion) has been left over from the 1930s. The sad fact is that it is this common practise that is responsible for the deterioration of new engine emission standards.

The reduced life and deteriorated emission standards of lubricated machinery is almost totally determined by the amount of contamination of the fuel and lubricant.

Clearly when the reciprocating piston engine is the second largest contributor to green house pollution, then good governance requires that best available practice should be required.

Australia has the opportunity to lead the world to achieve the new National Bench Mark of excellence of low engine emission outcomes by the enactment of Law to require the use of BEST AVAILABLE PRACTISE of engine oil and fuel filter standards with engine air intake temperature control.

Specific benefits:

- Carbon emissions are reduced by over 50% having national health benefits.
- Up to 16% improved fuel economy, dependent on fuel quality.
- Extended engine oil change of up to 5,500 hours, reducing production of used oil by a factor of 20 – 1 drum of oil per yr instead of 20 drums significantly reducing oil pollution of the water table.
- All Australian machinery to operate with new Benchmark of Excellence in machinery availability, reliability, performance, reduced down time, optimum fuel efficiency and all achieved at 50% less cost to the consumer of the existing service regime.
- Most engine and parts are imported and as machine wear is almost totally determined by the amount of contamination of the lubricant this is positive on National Balance of Payments.
- Materially vast generation of carbon credits.
- Maintaining new engine exhaust emission standards at the optimum standard for the longest time – assisting Kyoto Treaty obligations. Indeed good governance calls for serious consideration of the fact that the entire world machine inventory lubricating oil is changed as frequently as it is because standard spin-on and centrifugal oil filters are not designed to remove moisture in emulsion, when oil is hydroscopic. This issue is compounded by oil companies not supplying fuel and oil to any cleanliness standard and by the use of mineral oil.
- Achieve optimum fuel efficiency.

The technical issues that support this proposal are specified in the USA National Tribology doc.

“ After selection of the correct lubricant, the most critical factors to long machine and lubricant life is to keep the lubricant “clean and dry””. Water and particulate contamination have devastating effects on machine and lubricant life. The presence of wear metals alone cause oxidation rates to increase to five (5) times the normal rate, while the presence of water can increase the oxidation rate ten (10) times. Combined, water and metal catalysts can increase the oxidation rate fifty (50) times or more.” – Ref USA National Tribology.

As all commonly used oil & fuel filters are not designed to remove moisture in emulsion, the reality is the entire machine inventory in the world has its oil changed because the oil & fuel filters dont work. The other contributing fact is there is not one oil company that supplies machine oil or fuel at any cleanliness standard.

Deterioration of New Engine Exhaust emission standards starts with water and particulate contamination when delivered in fuel & engine oil. In fuel this reduces the Cetane causing reduced combustion for reduced fuel economy and reduced standard of engine emission standard. The sulphur in the diesel chemically combines with moisture to form sulphuric acid and it is mostly acid and carbon that wear out the engine. WG have proven that the acid cycle can broken to allow as an example the 5,500 hour extended oil change that our client MG Kailis (the largest trawler company in Australia) has done for 10 years.

In brief, water and particulate contaminated fuel then causes wear and deterioration of the OEM design function of the fuel pump and injectors, resulting in deteriorating spray pattern. As a standard mineral oil has a poor thermal stability, it breaks down resulting in resin, lacquer and carbon build up around the piston rings to impair their design function, all contributing to deteriorating emission standards.

This submission proposes that the government of Australia can easily justify a credible impartial organisation such as CSIRO to investigate this Submission with Winchester Global P.L. to quantify the improved emissions standards. When justified, to then legislate that –

- All new machinery must be fitted with fuel filtration that has a particulate standard of 1.6mg/kl and zero moisture in emulsion.
- All new machinery must be fitted with Oil filtration must perform better than Nas6 Standard and as a result of CSIRO testing, phase out the use of standard mineral oil lubricants.
- All imported machinery must be fitted with a verified approved system for engine air intake temperature control.

This product combination combines to address most issues to maintain New Engine Emission Standards at the highest Bench Mark of Excellence and meets the Triple Bottom Line standards.

These are turbulent times with the global credit crisis caused by lack of legislative regulation of the world banking system and Australia government has again been seen as a world leader. The comparison can be made to the anomaly of new engine design meeting USA and EEC Emission Standards but there is NO legislative control at all, to ensure that those Engine Emission Standards are maintained. The global warming crisis absolutely justifies legislative control by Australia and presents a remarkable opportunity to again be seen as a decisive world leader for other governments to emulate.

WG foresee with said Legislation the original equipment manufacturers (OEM) will not be pleased because of the effect on their profitability but can readily supply product to said specification but under the legislation, their product price remains comparably competitive. This cannot be left to the OEM or other vested interests as they have not changed the standard oil change since the 1930s.

WG for 3 years have privately funded our work to convince governments to follow our proposed Legislative Program for the benefit of humanity and the environment. Suffice to say, WG have no concern when this submission becomes public as this proposal is part of the WG Oil Whole of Life Program. - attached.

Yours Sincerely,



Philip Wheatley
Director
Winchester Global Pty Ltd