Federation of British Historic Vehicle Clubs "to uphold the freedom"

The FBHVC is a grouping of almost 500 Clubs and Museums together with some 1,500 Trade and Individual Supporters. The aim of the Federation is to uphold the freedom to use old vehicles on the roads without any undue restriction and to support its member organisations in whatever way it can. The MG Car Club is a member of FBHVC.

Fuel News

In the January 2011 issue of the FBHVC Newsletter there is the latest news on bio fuel in motor fuel and the implications for owners of historic and classic vehicles.

The Federation has been monitoring the progress of The Motor Fuel (Composition and Content) and Merchant Shipping (Prevention of Air Pollution from Ships) (Amendment) Regulations 2010; Statutory Instrument 2010, No. 3035 that will increase the uptake of renewable fuels in the UK as part of the European campaign to slow climate change. In addition, air quality concerns have been responsible for progressive reductions in sulphur in heavier fuels such as diesel. The net outcome of these EU directives is the inclusion of bio-ethanol in petrol, and inclusion of components such as vegetable oils in diesel fuels, in addition to the reduction in sulphur content. We sent a representative to the Stakeholder meetings held at the Department for Transport last year and raised **concerns about the increased biofuels content and the effect that it would have on historic vehicles**. The DfT commissioned a report from QinetiQ which was eagerly awaited and finally published in the public domain in January 2011.

Report Recommendations

The report is a weighty document of 54 pages and the Federation would like to thank all those members who submitted data which we passed to QinetiQ for inclusion.

The report found that:

- The majority of vehicles 10 years old or older will not be compatible with E10 due to fuel system material incompatibility issues.
- Carburettor vehicles and powered two wheelers will suffer problems due to material incompatibility, corrosion, and driveability issues.
- Field experience has demonstrated that vehicles and petrol fuelled equipment fitted with glass fibre fuel tanks may suffer catastrophic failure due to the incompatibility of the glass fibre resin with petrol ethanol blends.
- Based on vehicle age, approximately 8.6 million vehicles will be unable to run on E10. Based on average vehicle life of 13 years very approximately half these vehicles will still be in use when the proposed phase out of E5 takes place in 2013.

The report also has a recommendations section which makes interesting reading.

- Vehicles ten years old or older, carburettored vehicles (including powered two wheelers) and first generation direct spark ignition vehicles should not be fuelled on E10 unless the manufacturer can state the vehicles are compatible with E10.
- E5 should not be phased out in 2013, its widespread availability should continue for the foreseeable future.
- Consideration should be given to maintaining a specification for E0 fuel for historic and vintage vehicles.

The Legislation

Again this is a lengthy document but we have included some of the important points below.

- **In parallel with increasing the maximum permitted ethanol content of petrol to 10% the Directive requires that Member States ensure that supplies of 5% ethanol content petrol are maintained until 2013**. This is intended to support operation of older cars some of which are not compatible with 10% ethanol content. In practice we do not expect fuel suppliers to switch to 10% ethanol content in petrol until after 2013, but Member States are required to transpose this provision. The UK fuel supply infrastructure is currently only able to handle two grades of petrol, 'Premium' and 'Super' (the latter accounts for about 4% of petrol sales). In order to ensure widespread availability of 5% ethanol petrol, but minimise constraints on fuel suppliers, should they switch to 10% ethanol content petrol earlier than expected, the regulations require Super grade petrol sold at high throughput petrol stations prior to 2014 to contain no more than 5% ethanol.

  The requirement for provision of information to consumers on the biofuel content of petrol is already implemented by regulation 3 of the Biofuel Labelling Regulations. This requires pumps dispensing petrol containing more than 5% bioethanol to be labelled "Not suitable for all vehicles: consult vehicle manufacturer before use".

- As the increases in ethanol and oxygen contents are permissive rather than mandatory, the provision of fuel to consumers would not necessarily change in the UK.
- Vehicles sold in the UK and in EU markets have only recently (since around 2006) carried manufacturer's warranties covering use of petrol containing 10% ethanol. However, the Department is not aware of general vehicle operability or reliability problems being created on modern (closed loop control, electronically fuel injected) vehicles by running on ethanol content up to 10%. Direct injection petrol-engined vehicles

manufactured prior to 2006 appear to be an exception to this and may not be compatible with petrol with more than 5% ethanol content. Older (pre-1993) vehicles are also unlikely to be compatible with petrol containing in excess of 5% ethanol without modifications, (rejetting of carburettors and changing of fuel hoses and seals) though these are a small and decreasing part of the fleet.

- **In order to support continued operation of these vehicles the Directive obliges Member States to ensure that suppliers continue to provide some petrol containing no more than 5% ethanol by volume** (with corresponding 2.7% maximum oxygen content by mass) until at least 2013. This date is subject to review and potential extension. However, based on current projections bioethanol content of UK petrol is not expected to exceed 5% until 2015 at the earliest.

Summary and Recommendation

- The Regulations will implement those elements of directive 2009/30/EC which specify new or revised requirements for fuel components which have an environmental impact. This will help reduce air pollutant and greenhouse gas emissions from road and off road transport.

- The former objective will be achieved principally by the requirement to reduce the amount of sulphur in gas oil ('red diesel') supplied for non road mobile machinery and recreational craft to 10 parts per million (virtually 'sulphur free'). The latter objective will be achieved by increasing the permitted levels of ethanol in petrol and of biofuel in diesel.

- Sulphur-free fuel is required for the reliable operation of the emission control technology needed to meet the latest emission standards for non-road mobile machinery and tractors. This technology will bring significant reductions in emissions of NOx and particulates. These would not be realised however without the use of the new fuel because high levels of sulphur will poison the emission control system.

- Increasing the permitted levels of ethanol in petrol is, in practice, a partial enabler to fuel suppliers for meeting the greenhouse gas targets for their fuels contained in Article 7a of the Directive and the transport biofuels targets in the Renewable Energy Directive, 2009/29/EC. These targets are being implemented by separate regulations. Provision is made in the Regulations for continuance of a supply of low ethanol petrol for older vehicles.

- Most of the requirements are already met by fuel suppliers or are permissive and no additional costs are envisaged for these elements. Costs will be incurred however by gas oil suppliers and users as a result of the requirement for this fuel to be 'sulphur free'. These are attributable mainly to increased costs for refining, for red dye marking facilities where road diesel is supplied instead of gas oil, the need in certain cases for users to provide separate storage facilities, and, where FAME is contained in the fuel supplied, the need for additional measures by users to minimise microbiological contamination risks. The Regulations have adopted the derogation available under the Directive for fuel intended for rail engines but has not been able to do so in respect of agricultural tractors because of the appearance of new, sulphur-intolerant, emissions control technologies in this sector from the beginning of 2011. The Regulations also allow minor contamination in the supply chain as permitted in the Directive. The Department has been engaged in close consultation with stakeholders to raise awareness of the need for precautionary measures so as to minimise the impact of the measure.

The SI is not just concerned with the biofuel; there are a number of other changes to fuel composition included in the legislation.

- Reduction in leaded fuel sales volume (this still exceeds actual sales in the UK so is not thought to be too draconian).

- Restriction of MMT (manganese-based lead replacement) octane booster additive use in pump fuel. This is not really a concern as it has never been used in the UK. It is the active ingredient in one of the products available under the approved FBHVC scheme for those that wish to use it.

- Volatility will not be altered from existing levels (this was discussed at some length in the Stakeholder Meetings). Oil companies will be obliged to adjust volatility to compensate for the acknowledged adverse effect of adding ethanol, but only to bring the volatility of petrol-ethanol mixes back in line with the previous limit, so that in effect the vapour forming characteristics remain the same. The theory of this is sound, however there may be problems in practice.

Our conclusions

One area where there seems to have been a softening of attitude is in the life of E5; at the Stakeholder meetings the position was quite firm, E5 only until 2013 and then it would be phased out to be replaced by E10. The statement that E5 is likely to be around until at least 2015, backed up by the suggestion of provision of low ethanol (whatever that is) fuel for historic vehicles is a positive development and one in which we feel the FBHVC can claim to have made an impact.

For off-road diesel there were no real surprises, and there is lots of information about good housekeeping, blocked filters etc. However the report does indicate that some 50% of farm storage tanks may need to be replaced – at considerable expense.

Source: as always the FBHVC encourages its member clubs to reprint extracts from this newsletter in their own newsletters with credit given to the Federation.