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Fuels and Crown Resources Group
Ministry of Economic Development
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Reviewing aspects of the Engine Fuel Specifications regulations 2008
Discussion Paper December 2010

Thank you for the opportunity to provide feedback and comment on the MED review of the Engine Fuel Specifications Regulations 2008 (EFSR 2008).

The discussion document prepared by the MED is a helpful paper which addresses many of the current issues under consideration in other jurisdictions. The intention of the document as detailed in the scope will ensure that the New Zealand Regulations continue to ensure the fuels available in New Zealand are fit for purpose without being overly constrained.

Greenstone Energy Limited (GEL) believes that having fuel specifications that are fit for purpose and aligned with international specifications is critical for New Zealand. Aligning fuel specifications with International requirements provides benefits in aligning with other jurisdictions and suppliers for both fuel and also automotive technologies. We also strongly support the concept of ensuring that the New Zealand fuel regulations do not move further in advance of other countries within this region.

Fuel specifications that are more constraining than commonly available in the region will (and do) expose New Zealand consumers and the oil industry to supply security and price premium issues.

Technically, increasing the number of constraining properties has an impact on the volume of product that can be produced from a given crude type or crude mix. In some cases meeting tighter fuel constraints will result in changes to the energy required to produce the product – for example decreasing the sulphur content of a product will result in an increase in the energy use and greenhouse gases (GHG) produced at the refinery.

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The fuel available in a country does need to be matched with the fleet of vehicles in the country. Often an older car fleet cannot obtain any benefit (either in operability or in exhaust emissions reductions) from a more constrained fuel. In this situation the increased GHG emissions at a refinery will not result in any significant improvement in overall air quality, as the increased refinery emissions will cancel out any potential improvement from the vehicle emissions.

Greenstone Energy imports around 15% of our diesel demand and around 30% of our petrol demand. This imported product is supplied to terminals as finished product but we also import petrol blendstock and supply this to the New Zealand Refining Company (NZRC) as petrol blending component.

New Zealand regulated fuel specifications are already some of the most advanced in the Region. The New Zealand fuel specifications are quite closely aligned with the European specifications and indeed a number of specifications are more constrained for critical properties – for example in petrol there is a limit of 1% max MTBE while in Europe the maximum MTBE concentration is 15%vol. This constraint has implications on New Zealand petrol volatility limits, octane, aromatic content, vapour pressure.
New Zealand is a relatively small market and requiring tightly specified highly constrained fuels requires specific manufacturing and/or blending.

3 Petrol Specifications Review:

3.1 E70

E70 is an important petrol specification that controls the distillation profile of the fuel. This specification is important for the cold operability performance of older carburetted vehicles especially in low ambient temperatures. Research conducted by the Shell Group and other agencies overseas (CONCAWE) has shown that E70 is less critical for vehicle cold operability for modern fuel injected vehicles and that vehicle performance is not adversely affected even if the fuel has very low E70 (<18%).

The European petrol specifications have various distillation profiles and vapour pressure controls depending on the season and the ambient temperature. New Zealand summer conditions align well with the EN228 class B requirements. These volatility specifications specify E70 of 20% min for summer.

Reducing the petrol specification for E70 to 20% for both grades of fuel for summer will not have any negative impact on vehicle performance. For simplicity and to align with the current European fuel specifications we would

support the reduction in petrol E70 to 20% vol. minimum for both U91 and U95 fuel in the summer season, with the E70 remaining at 22% for the remainder of the year.

3.2 Regular petrol MON

MON specifications for petrol do have an impact on vehicle operability. Vehicles are designed to operate on a minimum octane requirement. This is sometimes expressed as the mean octane number (RON+MON)/2.

We would not expect any negative impacts for vehicles operating on regular petrol if the specification minimum for MON was reduced from 82 to 81. The great majority of vehicles operating on regular petrol in New Zealand are quite capable of running on 91/81 fuel. The Australian sourced vehicles all can run on 91/81 fuel and Japanese sourced vehicles generally only require 89 RON petrol.

Generally, vehicle OEMs design vehicles using the assumption that the octane sensitivity is 10. This means that the MON is 10 numbers less than the RON. Setting the MON at 81 for U91 petrol will align New Zealand petrol specifications with Europe and Australian specifications for U91 grade petrol.

This should result in regular petrol being easier to source from refineries in the Asian region. Meeting the MON 82 current specification is often the constraining specification for supplying refineries and therefore the relaxation to the standard 81 MON will help with securing economic imports.

Reducing the MON to 81 should not have any impact on the fuel produced by NZRC.

3.3 Ethanol blends Vapour Pressure Waiver.

Ethanol when added to petrol will result in a significant increase in the blended fuel vapour pressure. The increase in vapour pressure will depend on the amount of ethanol blended into the petrol and also the vapour pressure of the base hydrocarbon fuel. The lower the vapour pressure of the base fuel the higher the increase in the ethanol blended fuel. For low vapour pressure base petrol the size of the pressure increase can be as much as 8 kPa.

New Zealand currently has limited waivers in place for ethanol blended fuels vapour pressure. The current waivers only apply for summer and transition seasons. However addition of ethanol to winter grade petrol will still result in an increase in the blend fuel vapour pressure. To enable the introduction of

ethanol blended fuels and to ensure ethanol blended fuels will be compliant in all seasons the vapour pressure waiver needs to be extended to apply for the whole year. If suitable waiver variations are not allowed then special base fuel blendstocks will need to be manufactured and stored. This will lead to significant price impacts as well as potential supply reliability impacts.

GEL supports the proposal to extend the vapour pressure waiver to include all seasons.

GEL would also support increasing the waiver from 7kPa to 8kPa.

Ethanol blended into petrol will also have an impact on the distillation parameters, E70 and E100. Again, to ensure that a special low volatility base fuel is not required the waiver for E70 should apply for all seasons and should be up to 20% for E10 blends. The waiver required for E100 distillation parameter should be up to 5% for E10 blends.

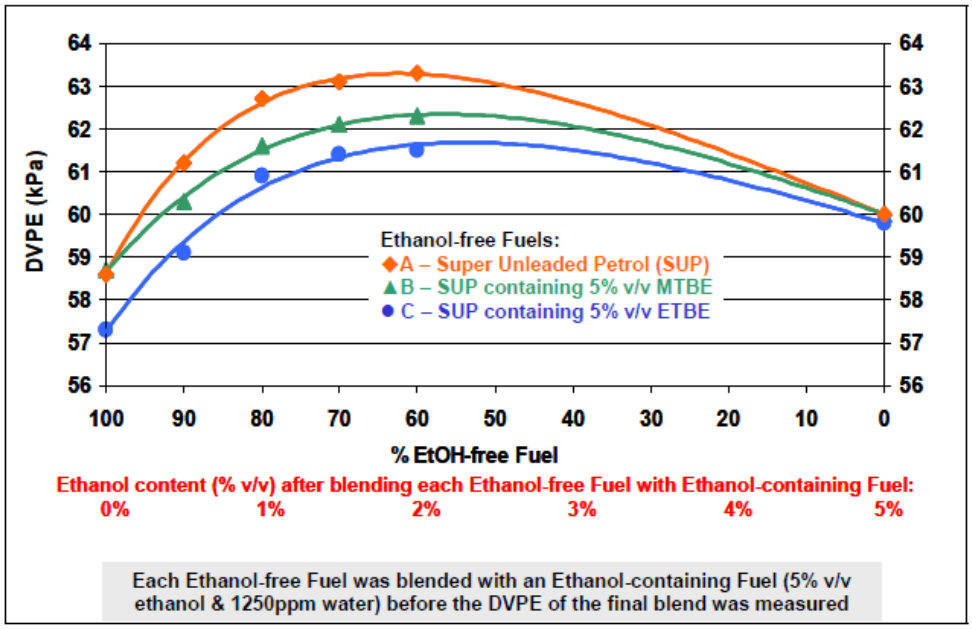
In addition the calculated FVI parameter should have a waiver (again for all seasons) of up to 20 for E10 blends.

These waivers would only apply if the petrol base fuel meets all Engine Fuel Specifications Regulations and the ethanol meets all Engine Fuel Specifications regulations.

We also note that the vapour pressure increase observed when ethanol is blended into petrol does not increase linearly with increasing ethanol content. In fact the majority of the VP increase occurs when up to 1% ethanol is added to the base fuel.
The attached graph shows that even at 0.5% ethanol addition the VP can increase by 2kPa.

If ethanol is present in petrol at less than 1%, there is still an increase in petrol VP, which may result in the petrol having a VP above the specification maximum, if the base petrol is right at the specification maximum. This situation could occur in a tank if for some reason mineral petrol was added to a E10 tank thus diluting the ethanol concentration to below 1%.

Figure 2 Dry Vapour Pressure Equivalent (DVPE) of Blends of Ethanol-free and Ethanol-containing Motor Gasolines



Source: DGMK [7]

Reference:
Concawe report 03/08
Guidelines for blending and handling motor gasoline containing up to 10% v/v ethanol

Extending the waivers will not result in any vehicle operability issues. Until the recent vapour pressure reductions in the specifications petrol was supplied to the New Zealand market with vapour pressure at least as high as that expected from E10 blended petrol. In addition the New Zealand car parc is changing with most new vehicles fitted with fuel injection. The proportion of carburetted vehicles is reducing. Fuel Injected vehicles are less susceptible to operability issues as a result of high volatility fuels.

We request that an extension to the ethanol blends VP waivers is applied for petrol containing ethanol at less than 1% vol. this could be a waiver of 4 kPa for up to 1% ethanol and 2 kPa for up to 0.5 % ethanol.

3.4 Timing of introduction of zero sulphur petrol.

New Zealand fuel regulations currently set the maximum sulphur content in both grades of petrol at 50 mg/kg. This is one of the lowest petrol sulphur contents within the region. Australia currently has regular petrol sulphur content of 150 mg/kg and only the premium grade petrol has sulphur set at 50 mg/kg.

Sulphur content of petrol can have an impact on the performance of exhaust catalysts used in late specification vehicles. The expectation was that 10 mg/kg sulphur petrol would be required for lean burn direct injection technology vehicles to ensure NOx limits were met. However, it does appear that both current technology vehicles and the newer vehicles fitted with direct injection petrol engines can operate satisfactorily with 50 mg/kg sulphur petrol fuels, with no significant negative impact on catalyst performance.

NZRC manufactured petrol is not constrained by sulphur content. This is an outcome of the way NZRC manufactures petrol. However, NZRC can not produce enough petrol to satisfy the demand for petrol in New Zealand. The extra volume is met from direct imports of petrol manufactured or blended in other locations in the region.

In addition blendstocks (such as catalytic cracked gasoline, reformate, and alkylate) are imported direct to NZRC, from the same locations within the region, for use as blending components with NZRC produced petrol components.
These imported petrols and blendstocks would also need to contain less than 10 mg/kg sulphur if New Zealand moved to zero sulphur petrol specification. Choices for procuring low sulphur components are few and will have effects on both the supply availability and the price for New Zealand petrol. Currently there are only two locations in the region that can reliably produce 10 mg/kg sulphur petrol components, Exports from these two markets (Japan and Korea) represent only a small percentage of the total regional petrol supply and the volumes can reduce significantly during seasonal maintenance periods of refineries. Zero sulphur New Zealand petrol could be manufactured by blended with other components that are not as commonly available in the region. However, this would significantly increase the price of the petrol, and the petrol blends would be harder to produce. In the region there is currently limited incentive for refiners to upgrade units to be able to manufacture 10 mg/kg sulphur petrol as the export demand for this zero sulphur product is very low. Generally Korea will export to the US west Coast (30 ppm sulphur petrol) if they have surplus capacity. There is no expectation that other Asian countries will, in the medium term, require zero sulphur petrol and the market would need to see the demand for extra 10 mg/kg petrol before investment occurs at the refineries to upgrade to 10 mg/kg petrol.

Due to limited reliable supply options we would expect that zero sulphur petrol will command a price premium above the current 50 mg/kg petrol. This price premium could range from 0.3 c/l to 1.4 c/l. However the premium is volatile and will be significantly affected by market factors (ie refinery shutdowns etc)

In summary:

GEL agrees that no reduction in petrol sulphur is required at the moment. The car parc in New Zealand does not require zero sulphur petrol and new technology vehicles appear to be able to operate satisfactorily on 50 mg/kg petrol. Producing zero sulphur petrol at a refinery requires capital investment for the significant upgrades to units. Operating the upgraded units will result in an increase in energy consumption that results in an increase in refinery sourced CO_2 emissions.

The supply availability of zero sulphur petrol in the region is low at the moment and in the medium term is not expected to improve. This situation will only improve when other countries in the region move to 10 mg/kg petrol.

Australia is scheduled to review the sulphur limits for petrol. Australia will not require zero sulphur petrol until at least 2015, and it is most likely that Australia will not move all grades of petrol to zero sulphur and instead will continue with the two tier sulphur requirements for PULP and ULP.

To ensure adequate supply and supply reliability as well as reducing the expected increase in supply price for zero sulphur petrol New Zealand should not move to reduce the petrol sulphur content until Australia introduces zero sulphur petrol.

Prior to introducing zero sulphur petrol, a thorough review of the New Zealand car parc and vehicle technologies should be completed to confirm if zero sulphur petrol is required for both regular and premium grade fuels. A move to 10 mg/kg premium petrol only would be easier to manage due to lower demand volumes.

3.5 Manganese.

GEL agrees with the MED proposal to maintain the status quo with regard to the EFSR2008 manganese content.

There is still significant concern from vehicle OEMs on the impact of metal additives on the emission control equipment. Concerns remain with OEMs in relation to damage and reductions in performance to vehicle exhaust catalysts as well as spark plug and engine sensor fouling.

4 Ethanol

4.1 Inorganic chloride limit and test methods.

After some in field vehicle operability issues inorganic chloride in ethanol was identified as a possible cause of the corrosion issues observed. To reduce the risk to vehicle fuel system corrosion the inorganic chloride content in fuel grade ethanol overseas was reviewed and reduced.

GEL supports aligning the New Zealand regulations with International specifications and also supports the reduction in regulated ethanol inorganic chloride content from 32 mg/l to 10 mg/l to ensure that the product is fit for purpose.

Two test methods have been approved by ASTM for testing inorganic chloride in ethanol – ASTM D7328 and ASTM D7319. GEL supports replacing the inorganic chloride test method in the current EFSR schedule 4 for ethanol with ASTM D7328 and ASTM D7319.

5 Diesel

5.1 Reduction of PAH maximum.

PAH can have an impact on the particulate emissions produced from diesel engines. GEL generally supports aligning New Zealand regulated specifications with International specifications. EN590 has recently reduced the PAH limit in diesel from 11%m down to 8%m.

However, the current limit in most regional diesel specifications has PAH max of 11% m. This includes Australia. Until the regional specifications mandate 8% m PAH maximum there could be a potential impact on supply availability and price of diesel if New Zealand moves to 8% m max PAH ahead of other jurisdictions in the region.

NZRC does not have any issue in meeting 8% m PAH maximum limit. Generally imported diesel also complies with the proposed 8% m max limit.

GEL does support the reduction in diesel PAH content down to 8% m max to align with the European diesel specification EN590. This may result in a price premium until other countries in the region move to 8% m max.

5.2 Cetane index test method

Calculated cetane index provides a means to estimate the cetane number (determined by ASTM D613) of distillate fuels from density and distillation measurements. Cetane Index is generally a more reliable method of predicting ignition quality of distillate fuels when compared with a single D613 cetane number test result.

Previous correlation work in New Zealand (in the 1990s) showed that the 2 variable cetane index test D976 gave better correlation with cetane number than the four variable cetane index test D4737. However in recent years diesel quality in New Zealand (and around the world) has changed as a result of specification changes to address environmental legislation (reducing sulphur content).

Studies conducted by the Energy Institute in Europe have found that ASTM D4737 procedure A continues to work well (ie correlates well with cetane number) for European diesel fuel. This work concluded that ASTM D4737 Procedure A is the most robust method for estimating the cetane number quality of European ULSD fuels. Furthermore diesel fuels in New Zealand and the Asian region are similar to European diesel fuel.

GEL recommends that ASTM D4737 should be adopted by the Engine Fuel Specifications regulations in place of D976. This will result in a better, more robust correlation with cetane number for 10 mg/kg sulphur diesel and will align with the European fuel specifications and the Australian fuel quality requirements.

5.3 Density test method for diesel and biodiesel.

ASTM D4053 density by densitometer is widely accepted across many industries and countries as an acceptable test method for determining liquid hydrocarbon densities. (International Aviation fuel specifications allow the use of D4052 test method to determine density).

GEL supports adopting ASTM D4052 as a test method for density in both diesel and biodiesel.
GEL also supports retaining D1298 as a test method for density in the regulations. D1298 is the manual density test method and can be used as the referee test method in the event of a dispute.

5.4 "Alpine" diesel.

As a diesel fuel supplier we manage the cold properties of the fuel to try to ensure the fuel is fit for purpose by changing diesel fuel cold properties both regionally and seasonally.

However, there are some practical constraints for supply of diesel fuel in particular locations in winter. There are a few regions (Central Otago in winter, ski fields) where occasionally they can be subject to extreme low temperatures, and the diesel fluid properties may be compromised. In these situations the standard winter supplied diesel fuel may not prove satisfactory for some customers in some applications. Prior to the EFSR change in 2008 limiting all diesel fuel to maximum 10 mg/kg sulphur we could provide diesel fuel dosed with kerosene.

We can now no longer supply this fuel with improved cold flow properties. It is possible for the customer to dose their diesel tanks with kerosene (winterised fuel) but this results in some handling and potential safety issues for the customers.

The use of diesel fuel dosed with kerosene would not be suitable for all applications as some equipment will have emission control equipment that will be affected by the elevated sulphur levels.

GEL would propose the diesel fuel can be winterised with kerosene as long as the fuel is supplied under a contract agreement and the customer is aware of the effect of kerosene addition on the blended fuels sulphur content as well as density, viscosity and lubricity.

If this change is accepted consultation should occur between the MED and stakeholders (ie Federated Farmers, ski field operators, ERMA) to determine the actual demand for the blended fuel and any practical issues that would affect implementation.

5.5 A density waiver for diesel/biodiesel blends.

The current diesel (and biodiesel blend) density specification in EFSR is 0.82 – 0.85 kg/l. The density range is used to control the amount of high boiling point hydrocarbons present in diesel fuel and thus effectively act as a control on the amount of particulate emissions generated from the fuel.

However, biodiesel is different from diesel in this regard. The biodiesel density is a function of the feedstock used and the fact that biodiesel is a methyl ester.

Biodiesel does have a higher density than mineral diesel but when burnt will produce less particulate matter. This is a result of the oxygenate content, and also because the biodiesel does not contain any long chain high boiling point hydrocarbons.

Limiting the biodiesel blend density to the same as diesel effectively can act as a constraint as if the mineral diesel density is at the specification maximum then we cannot legally blend any biodiesel into the diesel.

GEL supports the introduction of a small density waiver for biodiesel to account for the fact the biodiesel density is higher than mineral diesel. We propose that the density waiver for biodiesel blends at up to B5 should be to max 0.8525 kg/l. This will be conditional on the fact that the biodiesel component meets all specifications in Schedule 3 and the mineral diesel meets all specifications in schedule 2 of the EFSR.

This would have no negative impact on vehicle operability or vehicle emissions.

6 Biodiesel

6.1 Phosphorous limit and test methods

Phosphorus acts as a poison to the precious metals used in exhaust catalysts. To ensure the efficient operation of these catalysts phosphorus content should be controlled in fuel.

GEL supports the adoption of the European specification limit for phosphorus in biodiesel and the adoption of the European standard test methods for phosphorus.

GEL agrees with reducing the phosphorus limit in New Zealand biodiesel regulations from 10 mg/kg to 4 mg/kg and we agree to adopt test method EN14107 in place of ASTM D4951.

6.2 Test method for polyunsaturated methyl esters.

Polyunsaturated methyl esters can have a negative impact on biodiesel stability.

GEL supports adopting the European test method EN15779 to determine polyunsaturated methyl esters in biodiesel.

6.3 Adding a cold soak filterability test.

Biodiesel storage stability is an important property for biodiesel and biodiesel blends. This property will vary depending on the feedstock used and also the manufacturing process used to produce and clean up the biodiesel. Storage stability can be negatively affected by the presence of trace impurities in the biodiesel that are not fully soluble in biodiesel blends.

It is critical that biodiesel blends do not suffer from quality issues when used in the field so GEL believes that it is important to ensure adequate control specifications to ensure that the biodiesel and biodiesel blends are fit for purpose. GEL supports introducing a parameter for biodiesel blends that indicates storage stability and cold soak filterability qualities. It may be that as research continues a better, more focused test method will be developed to control these aspects, but until this occurs a test method controlling these properties should be required.

At the moment GEL believes that the test method ASTM D7501 is the most suitable and should be included in the biodiesel schedule. Europe is working on a cold soak test for biodiesel and it may be that when this method is finalised it will provide a better control test.

7 Other issues

7.1 Definitions of petrol and diesel.

GEL supports enabling the introduction of suitable synthetic hydrocarbons in the definition of fuel in the EFSR.

The synthetic fuel would need to be suitable for use in engines and would need to be manufactured using suitable processes ensuring that no harmful trace components were present. It may be preferable in the short term to allow specific feedstocks and processes for synthetic fuel to be approved and allowed in the New Zealand EFSR.

7.2 Changes to Auckland local authority boundaries.

GEL supports the definition of the Auckland and Northland region to include the new Auckland Regional Council southern boundary.

7.3 Footnote regarding seasonal overlap.

Fuel retailers are potentially exposed to supplying non-conforming fuel due to the seasonal changes and the time required to turn over last seasons stock in terminal tanks and consequentially in retail tanks. It can take up to 5 deliveries to a retail tank to ensure that the tank contents are turned over.

GEL proposes that the grace period is defined as:
Period in which 5 deliveries have occurred to a site since the seasonal change or a maximum of 6 weeks have occurred since the seasonal transition date, whichever is shorter.

7.4 Provisions relating to biofuels and biofuel blends.

7.4.1 Biodiesel blends for retail sale.
It may be clearer if schedule 3 requires all biodiesel to have a minimum oxidation stability result (EN14112) of 10 hours, and the footnote in schedule 3 stating that 6 hrs is the minimum requirement for Biodiesel NOT used in retail blends.

Biodiesel blend component is also required to meet B100 CSFT test limits according to D7501.

7.4.2 The current regulations include a reference (see Sec 20 of EFSR 2008) to the BS EN228:2004 and BS EN 590:2004 fuel specifications for a suitable sampling procedure.
The latest EN petrol and diesel specifications have been updated and now refer to two ISO standards (EN ISO 3170 and EN ISO 3171). These two EN ISO specifications could be referenced in Sec 20 of the amended EFSR.

7.4.3 B5 biodiesel blends and other property waivers.
As discussed in section 5.5 of this response, addition of B100 to mineral diesel will result in an increase in the blend density. Likewise, due to the physical properties of the B100, addition of B100 to mineral diesel will result in an increase in the blend viscosity and the blend cloud point and CFPP.
To enable the introduction of biodiesel blends and not have to produce a special blend of mineral diesel (to be used for B5 blends), a waiver could apply for the B5 blends viscosity (up to maximum 4.55 cSt at 40 °C), and to the B5 blends CP and CFPP. For the blend cold properties the regulation maximum limit for mineral diesel could be increased by 1 °C.

Given the size of the waiver variation we would not expect any significant impact on vehicle operability.

The table below details the impact on the blend density, viscosity and cold properties.

Impact on Fuel Properties						
Property	Mineral Diesel	B100 TME	B100 RME		**B5 TME**	**B5 RME**
Density	0.85	0.876	0.883		**0.8513**	**0.8517**
Viscosity	4.5	4.8	5.2		**4.515**	**4.5350**
Cloud Point	4	21	0		**5**	**4**
CFPP	-6	15	-5		**-5**	**-6**

7.4.4 Other Oxygenates.

Currently the EFSR 2008 limit oxygenates that can be added to petrol to a maximum of 1% vol. (with the exception of ethanol). The current European fuel regulations do allow other oxygenates to be included into petrol. While we do not support the inclusion of MTBE in petrol in New Zealand (concerns over water contamination) there are other oxygenates that could potentially be included into petrol with minimal environmental impacts, but with some performance benefits for the petrol blends. Allowing butanol and ETBE in New Zealand petrol would align with EN228 and would increase the available octane pool for petrol as well as reducing the constraining parameters in New Zealand petrol.

Yours sincerely

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8. Summary of Questions – GEL responses

Q1 Do you agree that the minimum E70 requirement in summer should be changed from 22% to 20% for petrol?
Yes.
Q2 Do you agree that the minimum MON requirement for regular grade petrol should be reduced from 82 to 81?
Yes
Q3 Do you agree with the proposal to extend the current 7 kPa VP waiver for summer and transition seasons to include winter?
Yes
Q4 Is any further extension of the waivers for VP, E70 and FVI necessary to facilitate the supply of petrol/ethanol blends?
Yes. E70, E100 and FVI waivers need to be extended and apply for the whole year.
Q5 Do you agree that no further reduction in petrol sulphur is appropriate at this time?
Yes
Q6 When is it likely that 10 ppm sulphur petrol will be required by vehicles and will it be necessary for both grades of petrol?
This is still under consideration as vehicle technology changes. New Zealand should not change before Australia does. This will ensure that supply is available in this region. It is possible that regular petrol may not need to have a sulphur content below the current 50 mg/kg.
Q7 Do you agree with the proposal to maintain the status quo with regard to manganese content?
Yes
Q8 Do you agree with reducing the maximum permitted inorganic chloride content from 32 mg/litre to 10 mg/litre?
Yes
Q9 Do you agree with prescribing ASTM D 7319 and ASTM D 7328 as test methods for inorganic chloride in place of the currently prescribed method?
Yes
Q10 Do you agree with reducing maximum diesel PAH content from 11% mass to 8% mass?
Yes – but this may result in some supply and cost implications.
Q11 Do you agree with the proposal to adopt ASTM D 4737, in place of ASTM D 976, as the test method for cetane index?
Yes. New Zealand should change to ASTM D4737 Procedure A.

Q12 Do you agree that ASTM D 4052 should be adopted as a test method for density?
Yes
Q13 Is it necessary to retain the existing method (ASTM D 1298) as a test method for density?
Yes. D1298 is the referee test method for density.
Q14 Is there a need to facilitate the post-refinery blending of kerosene with diesel to create a fuel with particularly good cold properties for our colder areas. If so in what circumstances would it be required?
Yes. This could be useful for some locations. The blended fuel would need to be supplied under a contractual agreement and the customer would need to be aware of the differences in the blended fuel from standard diesel.
Q15 Do you agree that a density waiver for diesel/biodiesel blends up to 5% biodiesel of 0.002 kg/m3 (giving a maximum density of 0.852 kg/m3) should be introduced?
Density waiver should be introduced. To take account of varying biodiesel blends and test variability the maximum density allowed should be 0.8525 kg/l. The biodiesel and diesel used in the blends must meet the relevant specifications in the EFSR. Q16 Do you agree with reducing the limit on phosphorus for biodiesel from 10 mg/kg to 4 mg/kg?
Yes
Q17 Do you agree with adopting the test method EN 14107 for measuring phosphorus content in biodiesel in place of the currently specified method?
Yes
Q18 Do you agree with adopting the test method EN 15779 for measuring polyunsaturated methyl ester content in biodiesel?
Yes
Q19 Do you agree there is a need to introduce a parameter for biodiesel relating to cold soak filterability?
Yes
Q20 If a parameter for cold soak filterability was to be included, would the test method ASTM D 7501-09b be suitable? If not is there any other method that would be more suitable?
Test method D7501 at the moment is the best method available.
Q21 Do you have any comments on the proposal to amend the definitions of petrol and diesel?
We do need to enable the use of synthetic hydrocarbons in blends.
Q22 Do you have any comments on updating the definition of "Auckland and Northland" to include the southern boundary of the new Auckland Council?
Agree
Q23 Would it be appropriate to define a grace period in terms of a specified period of time, if so would 28 days be sufficient?
Suggest 5 deliveries after season change or 6 weeks whichever is shorter

Q24 Would it be more appropriate to define a grace period in terms of a number of deliveries to a filling station, if so how many deliveries?
If less than 5 deliveries have occurred since the seasonal change or a maximum of 6 weeks have occurred since the seasonal transition date, whichever is shorter.
Q25 Do you have any comments on the existing provisions relating to biofuels and biofuel blends.
See page 11 Sec 7.4