Appendix B

Letters Submitted to the NCWM Conference Concerning Engine Fuels, Petroleum Products and Automotive Lubricants
L&R Committee 2008 Final Report
Appendix B– Engine Fuels, Petroleum Products and Automotive Lubricants - Letters

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Appendix B – Engine Fuels, Petroleum Products and Automotive Lubricants - Letters

LR - B3

From: Brian, Ken or Holly Butler
To: bbutcher@comcast.net
Subject: FW: Petroleum Subcommittee Items - Addendum to L&R Agenda in NCVM Pub 15 for Interim Meeting

Thank you for sending the material and asking for us to review it. I have reviewed the material that you sent and have the following comments:

Uniform Law
Page 2
233-1 Revision of the Engine Fuels, Petroleum Products and Automotive Lubricants Inspection Law

Section 1. Purpose

There should be uniform requirements for engine fuels, petroleum products, non-engine fuels, and automotive lubricants among the States. This Act provides for the establishment of regulations that are reasonable and compatible with the needs for public safety.

Comment: "engine fuels" should not be struck out and is the use of "non-engine fuels" and there is still the definition of "3.1. Engine Fuel," in the law.

Uniform Regulation
Page 12
1.42. METHANE – means methyl tertiary butyl ether.

Comment: To be consistent with ASTM D5983 it should be defined as "methyl tertiary butyl ether."

Page 19
3.9.3. Retail Dispenser Labeling.

Comment: The retail dispensers of fuel shall be labeled by the operator in accordance with the numerical volume percent and ending with the word "methanol."

a. Fuel methanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 206.

Comment: There is a typographical error. It should be "16 CFR Part 206." Also, why under ER5 is it spelt out as "16 Code of Federal Regulations Part 206?" Everywhere else uses 16 CFR Part 306. Shouldn’t it all be consistent?

Page 23
5.2 Dispenser Filters. – All gasoline, gasoline-alcohol blends, gasoline-ether blends, biodiesel, biodiesel blends, diesel, E85 fuel ethanol, ME5 methanol, and lubricant systems shall have a 10-micron or smaller pore size filter.

Comment: To be consistent with ASTM D4141, insert "nominal" between "smaller" and "pore" because the other filter terminology is "absolute" which is very expensive.

Section 2.1. Gasoline and Gasoline-Derivative Blends

Page 26
Comment: The introduction discussion for this section while it points out that consensus was not reached, it does not indicate what differences of opinion that the subcommittee members had with the various sections of the proposed wording. To be complete, this should be provided to people who have to decide on what action to take. We all can't be at the meeting to present our views, nor will all people making decisions be present to hear the comments.

Page 28

90 volume percent evaporation
10 % ethanol by volume blends (9 % minimum – 10 % maximum)
10 % ethanol by volume

90 volume percent ethanol.
A search of all of the regulation showed:

- a minimum percentage by volume
- nominally 85 to 73 volume percent denatured fuel ethanol.
- nominally 70 to 85 volume percent.
- 5 % or less biodiesels by volume

- the volume percent biodiesel.

Comment: The way "volume percent" or "percent by volume" is handled should be consistent throughout section 2.1 and actually throughout the law and regulation.

If you have any questions, please let me know.

Lew Gibbs, Chevron Fellow
EnerCat Consulting Engineer
Fuel Technology Team
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From: Ken Butcher [mailto:kbutcher@nist.gov]
Sent: Thursday, January 24, 2008 7:46 AM

To: Members of Petroleum Subcommittee/NCWM L&R Committee

Subject: Petroleum Subcommittee Items - Addendum to L&R Agenda in NCWM Pub 15 for Interim Meeting

Attached for your review and comment is a compilation of three items from the NCWM Petroleum Subcommittee that will be added to the L&R Committee's Agenda at the Interim Meeting in Albuquerque, New Mexico next week. A public hearing on the three proposals will be held by the L&R Committee during the Monday session.

Included is Agenda Item 223-1 which describes the proposed revisions to the Engine Fuels, Petroleum Products and Automotive Lubricants Inspection Law and agenda item 237-1 which describes proposed amendments to the Uniform Engine Fuels, Petroleum Products and Automotive Lubricants Inspection Regulations. The third agenda Item 237-2 which includes proposed revisions to Section 2.1 "Gasoline and Gasoline-Oxygenate Blends" that will be taken up as a separate proposal to amend the regulation by the L&R Committee. This item is being considered by the L&R Committee because the Petroleum Subcommittee could not agree on the proposed revisions after considering a variety of recommendations at its meetings and during a conference call last week.

This document is also being distributed to the state directors and other interested parties over the NIST State Director Listserver.

NIST is reproducing the document so that printed copies will be available at the Interim Meeting.

Kenneth S. Butcher
Group Leader
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January 25, 2008

Kenneth S. Butcher
Group Leader
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Dear Mr. Butcher:

NCWM Interim Laws & Regulation (L & R) 1/28/08 Committee Conference Agenda Item 237-2 “Gasoline and Gasoline Oxygenate Blends”

BP appreciates the urgency, the time and effort you and the Petroleum Products Subcommittee chaired by Ron Hayes are placing on amending NIST Handbook 130, Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation. Section 2.1 on Gasoline and Gasoline Oxygenate Blends. The Energy Independence and Security Act of 2007 has certainly created an immediate need for additional ethanol blending in the U.S. Today, BP is one of the largest blenders of ethanol in the U.S. and a significant supplier of ethanol blended gasoline across the United States. BP is committed to the widespread use of renewable fuels in a manner that does not jeopardize supply, reliability, cost, or customer satisfaction. BP offers the following comments for your consideration in response to your proposed amendments to Section 2.1 (Agenda Item 237-2).

1) Proposed Section 2.1.2 presents an inconsistent set of requirements for a finished gasoline to be used as the base gasoline for ethanol blending versus a blend stock to be used for ethanol blending. When finished gasoline is used, the blended fuel has a proposed T 50 min of 150 F, a relaxed T VI ≥ 20 and 1.0 psi RVP relief. When a blend stock is used, only the 1.0 psi RVP relief is granted. This proposal would result in inconsistent requirements for the same ethanol-blended fuel.

2) Proposed Section 2.1.2 results in an unenforceability of requirements at retail. How will an inspector know if a retail sample has been blended with a finished gasoline versus a blend stock and decide which set of criteria to apply?

If the Bill of Lading for each delivery was required to stipulate which hydrocarbon in the blend was used, the inspector could check the bill of lading. This in turn raises another question. Could the two different blends be mixed at retail? If mixing is allowed, the inspector has a problem in applying the applicable requirements. If mixing isn’t allowed and the bill of lading contains a description of the blend, the inspector would know which set of criteria to apply. But now the proposed regulation would be defining Bill-of-Lading requirements and supply constraints.
Kenneth S. Butcher  
January 25, 2008  
Page 2

3) In Section 2.1.1.2 the T V/L = 20 offsets have no technical performance justification. These offsets are merely typical suppression of T V/L = 20 with blending ethanol. Neither ASTM nor CRC have any vehicle hot-start data to justify these limits.

4) Overall, the entire Section 2.1 shows a serious lack of consensus – At the July 2007 Salt Lake City meeting, there were four options for ethanol blend conformance that were discussed and written up. Option 1 was to keep the current status quo, supported by no reported problems by Midwestern states that have adopted the current NIST Handbook 130 “base or blended” approach. Option 2 was to align Handbook 130 with the federal requirements for the summertime 1.0 psi RVP relief for ethanol blends. Option 3 required base gasoline for ethanol blends to have 170 F temperature for the T 50 min specification, ethanol blends to have a 150 F T 50 min, and aligned Handbook 130 with the federal requirements for the summertime 1.0 psi RVP relief for ethanol blends (option 2). Option 4 was similar to option 3 but added T V/L = 20 offsets for ethanol blends.

At the December 2007 Phoenix meeting there was minimal discussion on the four options from the July 2007 meeting and no new proposal presented. On Sunday evening 1/13/08 a new proposal was forwarded by Chairman Ron Hayes and discussed on a Tuesday 1/15/08 conference call. As discussed above the new proposal has an inconsistent set of requirements for a finished gasoline to be used as the base gasoline for ethanol blending versus a blend stock to be used for ethanol blending. Additionally, the new proposal appears to be unenforceable at retail. It was agreed during the conference call, that there was NO CONSENSUS on the new proposal.

We believe it is premature to go to L & R with a proposal that has not been vetted by the energy companies that will be supplying the fuel. BP requests that Agenda Item 237-2 which includes proposed revisions to Section 2.1 be classified as “developmental” and that the Petroleum Subcommittee be allowed to come to a consensus. The current approach in Handbook 130 has worked for over ten years. We agree that NIST Handbook 130 needs to be aligned with the summertime Federal RVP requirements (option 2), but we feel that any other non-consensus changes are premature. BP will continue to work with the Petroleum Subcommittee to reach consensus.

Thank you for considering our comments on this important proposal for gasoline model regulations. Please call Jim McGretick at 630-420-4579 or Dr. Jim Simnick at 630-420-5936 if you have comments or questions.

Sincerely,

Jim McGretick

Dr. Jim Simnick
**FACSIMILE TRANSMITTAL.**

**TO:** Lisa Warfield, Weights & Measures Coordinator  
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**FROM:** Ronald G. Hayes  
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**DATE:** 01/31/2008

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**RE**

**SPECIAL INSTRUCTIONS / REMARKS**
Here are Michigan's and Bob Reynolds comments

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To: NCWM L&R Committee
From: Michigan Dept. of Agriculture Motor Fuels Quality Program
Date: January 29, 2008
RE: Comments on Items 237-1 and 237-2

Comments on 237-1

- 3.8 should contain language that indicates that E85 is not for general automotive use and that it should be used only in vehicles capable of using E85.
- M85 and E85 labeling should be consistent.
- 7.2.5 as written limits the jurisdiction’s enforcement ability. If our understanding is correct, the purpose of 7.2.5 is to provide a mechanism for quality enforcement that prevents the manufacturer from taking advantage of testing tolerances. However, the section is entitled “When Enforcement Action May Be Taken” which implies that enforcement action may only be taken under these circumstances. If the purpose is to limit the enforcement ability of the jurisdiction, we could not support the proposal. If the purpose is to preclude manufacturers from taking advantage of testing tolerances, the language needs to be changed to make that intent clear and to continue to allow jurisdictions to set their own enforcement procedures in other situations.

Comments on 237-2

- The table of values listed in 2.1.1.2 are based on an ASTM proposal for ethanol blends that has not been accepted at this time and has not even been balloted.
- The issue of EPA volatility waivers for 10% ethanol blends is better addressed through ASTM
- 2.1.3 states that blends of ethanol shall contain no more than 10 volume percent ethanol. This statement precludes the market reality that E85 is sold in Michigan and other states. The language of this section should address that reality.
- 2.1.1.3.b. needs to have a lower limit for when regulators will allow the relaxed standard. We want to provide retailers with the flexibility to use ethanol when it makes sense for their business, but we want to prevent marketers from using small amounts of ethanol in order to obtain the waiver.
National Conference on Weights and Measures
Interim Meeting
Albuquerque, NM
January 2008

Comments on Proposed Revisions to
Section 2. Standard Fuel Specification in the
Uniform Fuels and Automotive Lubricants Regulation

Comments Submitted by:
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Introduction:

Both Downstream Alternatives, Inc. (DAI) and the Renewable Fuels Association (RFA) have traditionally supported the current wording in NIST Handbook 130 pertaining to gasoline ethanol blends. In short, the wording currently contained in Handbook 130’s Uniform Fuels and Automotive Lubricants Regulation – Section 2. Standard Fuel Specifications provides 3 different manners in which ethanol can be added to gasoline. The most important of these is the one that allows ethanol, meeting ASTM D 4806, to be blended into gasoline, meeting ASTM D 4814, without further volatility requirements other than being no more than 1.0 psi higher in vapor pressure. In the industry this is commonly referred to as the “base fuel plus” approach. Many Midwestern states have followed this approach which has resulted in widespread ethanol blending in their states, hence our support for this approach.

Background:

As ethanol blending has started expanding outside of its Midwest base (and RFG Markets) some state regulators have indicated they view the “base fuel plus” approach as problematic. The two reasons most often sighted are:

(a) There is no specific property limit to enforce T₃₀ on the finished blend thereby necessitating tracing back to the base fuel.

(b) It provides no lower boundary on T₃₀.

While DAI and the RFA recognizes that the “base fuel plus” approach provide for the greatest blender flexibility and most widespread blending of ethanol, we recognize that the regulatory community also has issues with which they must deal. For instance, as we have expanded into new markets such as Tennessee, Georgia, North Carolina and
Alabama, we have supported approaches very similar to the proposed revisions because we believe it strikes a reasonable balance between providing volatility adjustments for the ethanol blender while addressing the regulators concerns.

The Petroleum Subcommittee has met several times (both in person and via conference calls) and has been unable to reach complete consensus due to the varying interests of the diverse group of stakeholders involved. We believe that the proposed wording represents the best compromise that might be reached, and as such, we are supporting the proposed revisions.

**Informational:**

There are, however, a few informational items I would like to cover. First, some of the ethanol industry’s customers may oppose the revisions because it will require more planning and testing than the “base fuel plus” approach. I believe most feel they will meet the requirements nearly all of the time (blending to conventional gasoline) but they cannot be sure without additional tests.

A second concern is Section 2.1.2 where a blendstock such as a CBOB is used. There are no TV/L or T90 adjustments for these fuels. This is really consistent with the current handbook wording but some in the petroleum industry believe these fuels should receive the same relaxed standards afforded base gasoline. The two primary concerns are loss of fuel volume and logistical blending issues.
Loss of Fuel Volume: Every gallon of ethanol added to the gasoline pool represents about 78,000 btu. However, if TV/L and T_{50} adjustments must be made it is usually necessary to reject up to 2V% light-ends with a btu value of ~ 90,000 btu. So if these adjustments are required, you are removing 18,000 btu for every 78,000 added, resulting in a net gain of only 60,000 btu gallon reducing a 70% energy gain to 53%. Given the historically high prices of gasoline, ethanol has an opportunity to add to supplies and reduce costs. However, not as much supply is added, nor is the cost reduction as great, when TV/L and T_{50} adjustments are required. We are not taking a position on this issue but acknowledge that it does exist.

Logistical Blending Issues: Many regulators feel that if the fuel is a CBOB it is already a non fungible, specially formulated, grade and therefore needs no special allowances on T_{50} or TV/L. There is one scenario where this may not hold true. In many markets both hydrocarbon only gasoline and ethanol blends co exist. To use a CBOB, what many refiners do, or will prefer to do, is use a 84.5 octane sub octane (or CBOB) and a premium grade to make a full slate of all hydrocarbon products by proportionally blending these hydrocarbons to make regular, midgrade and premium. Similarly they can add 10V% ethanol to the 84.5 octane product to make a regular grade ethanol blend and then also proportionally blend the premium grade to make midgrade and premium. In this scenario not all blends would likely meet the requirements for T_{50} and TV/L.

Today about 50% of all gasoline sold is an ethanol blend. With the new RFS in the 2007 Energy Independence and Security Act, ethanol blends should approach 90% market share by 2012. At this point it would be a non-issue and it is likely that ASTM would revise specifications to reflect this. In short, Section 2.1.2 will be workable in
2012 but could result in some issues prior to that date. For this reason, although we will support the proposed revisions as written, we would also support delaying Section 2.1.2 wording to take effect at a later date should such an approach be considered.

We would also like to acknowledge certain concerns of the auto manufacturers. In particular, the Auto Alliance has concerns about lowering the TV/L of Vapor Lock Protection Class 3. They have also expressed concern about applying more lenient standards at higher elevations. None the less, the Alliance supported moving forward with the proposed revisions believing they were an improvement on the current wording. However, these issues should be noted in any final report as topics requiring additional study, data, and possible future action.

Summary:

In summary, both DAI and RFA support the proposed amendments while recognizing there may still be concerns on the part of some stakeholders. However, we believe the wording is a reasonably balanced compromise. Finally, we would like to express our appreciation to all the petroleum subcommittee members for the time they devoted to this effort. In particular, we applaud Ron Hayes and Randy Jennings for their leadership in trying to guide the diverse group of stakeholders through what, at times, were some contentious issues.
NCWM Interim Meeting
January 27-30, 2008

NCWM Interim Laws & Regulations Committee Conference Agenda Item 237-2
“Gasoline and Gasoline Oxygenate Blends”

My name is Phillip DePriest and I am the Product Quality Manager for Marathon Petroleum Company. Marathon is the nation’s fifth-largest crude oil refiner and also one of the nation’s largest blenders of ethanol. In 2007, Marathon blended over 600 million gallons of ethanol, which translates to more than six billion gallons of E10 or 10 volume% blends sold into the marketplace … or something on the order of 300-400 million consumer refuelings.

The proposed change to Section 2.1 is a classic case of an attempt to fix something that is not broken. Marathon has extensive experience, covering nearly two decades in all climates and temperatures, marketing ethanol-blended fuels following the current provisions of Section 2.1. Not once has Marathon experienced an incident suggesting these provisions provide insufficient consumer protection. There simply has not been a demonstrated need for change.

The second paragraph of the introduction to this agenda item indicates the section must be reviewed because the current language may be in conflict with Federal law. Federal law simply limits the ethanol blend volume to between 9-10% in the summer season to qualify for the 1 psi Vapor Pressure waiver. Although it might be helpful to reinforce this provision in Section 2.1.2, it is certainly not a requirement to restate Federal regulations in Handbook 130. Blenders of Ethanol must follow all applicable regulations, not just those imposed by the state.

Secondly, there is no technical basis for the changes that are being proposed. It is unquestionably inappropriate to make haphazard changes to product specifications that can translate to increased manufacturing and distribution costs without providing demonstrated need and commensurate benefit to the consumer.

As Marathon’s Product Quality Manager, I am an advocate for the consumer just as you all are, and I support fair and substantiated limits and specifications. But consumer advocacy means doing what is right and being able to defend that your actions are indeed in the best interest of the consumer. Marathon has nothing to gain from putting a product into the marketplace that will not perform as consumers expect. Imposing product specifications without first establishing technical merit is simply irresponsible for any regulatory authority.

Thirdly, the discussion in the introduction of this agenda item on the ambiguity of the current regulation does not bring clarity to whatever confusion may exist with some stakeholders. There are substantially different opinions on what the terms “finished gasoline” and “blend stock” mean.
Fourthly, states that have adopted the current provisions of Section 2.1 are typically those where ethanol blending has flourished, whereas states that have not may be lagging behind. If appropriate accommodations are not made to the volatility properties of gasoline-ethanol blends, such as those afforded by the current provisions of Section 2.1, then it may not be possible for refiner/marketers to economically or logistically offer ethanol blended products in the marketplace. The Energy Independence and Security Act of 2007 has brought about the requirement for substantially increased amounts of ethanol blending, which has made adoption of appropriate regulatory accommodations, again, such as those afforded by the current provisions of Section 2.1, a critical issue for state authorities.

Lastly, members of the Petroleum Subcommittee were no where near consensus on this proposal and many vehemently reject it, including myself. There is a great deal of work that remains to resolve differing viewpoints and develop a recommendation for only those changes that provide value to the consumer. Therefore, it is recommended this proposal be moved to "Developmental."

The members of the Petroleum Subcommittee would also benefit from having an established protocol for the advancement of proposals to the L&R Committee, as it was nothing short of a surprise that this item was even put on the agenda for consideration.

Thank you for your thoughtful consideration.

Respectfully submitted,

Phillip H. DePriest
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