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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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Issued: January 28, 2011

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The unapproved minutes of the 01.20.2011 TGC Test Fuel Task Force meeting held in San Antonio, Texas.

The meeting was called to order at 9:00 AM by Chairman Bill Buscher.

The Agenda is included as {**Attachment 1}**.

Introductions

Attendance sign-in sheet distribution

- The Attendance list is included as {**Attachment 2**}.

Minutes, Motion and Action Item Recorder

- Jason Bowden
- Motions and Action Items are included as {**Attachment 3}**.

Review Test Fuel Task Force Scope and Objectives

- A significant portion of this meeting pertained to discussing and expanding on the Scope and Objectives presented by Bill Buscher **{Attachment 4}**. Most of these discussions and additions have been captured in the updated Test Fuel Task Force Best Practices Document included as {**Attachment 5}**. The group agreed that the Scope and Objectives are a starting point and that every member of the TGC Test Fuel Task Force should review this document within their respective organization and reply to the TGC Task Force Chairman, Bill Buscher, with any additions, comments or suggestions for improvements to the future use of test fuels in Passenger Car & Heavy Duty ASTM categories. These comments and suggestions will be reviewed at our next meeting.
- **Critical Parameter –** The group determined that the fuel will be considered a critical parameter for future test types.
- **Working Relationship w/ Test Fuel Supplier -** Jim Moritz recommended that the future Test Fuel Suppliers be included as a partner in the development of any future tests to create a closer working relationship between all parties. The discussion also encompassed the representation and attendance that will be expected and required of the Test Fuel Supplier(s) during the development and Surveillance Panel meetings for future test types.
- **Types of Fuels -** Dwight Bowden suggested that we include in the document to be developed by this group the fact that we need to take into account the possibilities that we will be using ethanol fuels and biodiesels in future testing.
- **Formulation Data to TMC** - Andrew Ritchie said that in the future it should and will be a requirement for the Test Fuel Supplier to supply test fuel formulation details to the TMC as is done with the reference oil systems currently in place. The purpose of this is to ensure that there is an archive of data that the industry can refer to if there should be any shifts in the future. Jim Carter would have to confirm with Haltermann, but seemed supportive of the idea.
- **CofA's -** Jason Bowden inquired if there are any additional tests or parameters that can be added to the certification reports to help us pinpoint why shifts occur and make these reports more useful. The group realizes that we will need input from fuel experts to determine if we are using the correct ASTM tests to certify ASTM Test Fuels and also determine what parameters of the fuel need to be deemed critical for a specific test.
- **Batch Coding -** Jim Rutherford mentioned that there should be a better batch code system in place that creates a uniform system for batching test fuels across all fuels and test types. Discussion centered on creating a new batch coding system for fuels to better track if a fuel has been adjusted and when it was shipped to a lab. Todd Dvorak recommended the fuel data should be setup up in the TMC database similar to the .csv files used for other critical parameters. This conversation went on to include the current reporting of batch numbers for all critical test hardware across all test types in the TMC .csv files. It was determined that the reporting of these batches needs to be clarified and guidelines created for the uniform reporting of batches on test reports. The Panel Chairman present agreed to include this topic on their given panels' next meeting agendas.
- **Age Affects -** Todd Dvorak recommended developing a sampling procedure to determine the age affects of test fuel by sampling at given intervals throughout the life of the test fuel and also create control charts that could be generated upon request. Jim Carter mentioned that you would need approximately 1 quart of fuel for analysis.
- **How Many Fuels?** - The group agreed that there should be a minimum amount of

different fuel formulations used in the next category across all test types. Charlie Leverett summarized and the group had a discussion on why we currently have multiple types of test fuel in the GF5 Category and how many fuels would be required. The goal of the GF3 category was to have a common fuel. The EEE fuel did not give proper test results in the Seq. VG so a fuel was developed specifically for the Seq. VG. The Seq. IVA and Seq. VIII were developed on the Seq. VG fuel. A hand blend of a new batch of Seq. VG test fuel showed a shift in Seq. VG severity so the recipe was ultimately changed to achieve the correct severity levels. The Seq. VIA and the Seq. VIII continued to use the original Seq. VG fuel and dyed it green because EEE was red. There was never enough data to determine if the IVA fuel and the EEE were equivalent so each test type continues to use separate fuels. The group agreed that the objective for GF6 should be to use the same fuel for all test types accept the Seq. VG.

- **Storage –** The group raised concerns about corrosion of tanks and pipelines with regards to ethanol and biodiesel fuels. There are procedures in place in the industry for changing tanks over to E10, etc. because ethanol blends will make any deposits inside the tanks from prior batches of test fuel soluble. The Task Force would like input from the OEM's with regards to their experiences in storage and handling of ethanol and biodiesel fuels.

Review Data Reports, CofA's and Current Industry Practices and Procedures for Test Fuel.

- Jim Carter presented the CofA's used in both the Seq. III and Seq. VG. There is a difference in reporting between each test type because the Seq. VG fuel must be adjusted based on RVP levels. There was continued discussion with regards to creating new batch numbers when adjustments are made and possible additional testing procedures, etc. for CofA's.

Developing a Working Document

- Bill Buscher will call conference calls and meetings and gather recommendations from all participating members and guests to begin the process of developing a final document.

Old Business

- None

New Business

- None

Next Meeting

- Will be called to order by the Chairman via conference call or face-to-face after comments on the Scope and Objectives have been received.

Meeting Adjourned

- **11:30 am**

Attachment 1

ASTM Technical Guidance Committee
Test Fuel Task Force Meeting

San Antonio, TX
SwRI, Building 209, Conference Room 103
January 20, 2011
9:00 a.m. - 1:00 p.m.

A G E N D A

1. Introductions.
2. Attendance sign-in sheet distribution.
3. Motion and action recorder.
4. Review Test Fuel Task Force Scope and Objectives.
5. Review data reports, CofA's and current industry practices and procedures for test fuel.
6. Start developing "document" as per scope and objectives and distribute assignments amongst task force members.
7. Old business.
8. New business.
9. Next meeting.
10. Adjourn.

Attachment 2

MEMBERSHIP
TGC TEST FUEL TASK FORCE

January 20, 2011

NAME	COMPANY-ADDRESS-PHONE-FAX-EMAIL	SIGNATURE
Bill Buscher	Company: SwRI Phone No.: 210-522-6802 Email: wbuscher@swri.edu	WB
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MEMBERSHIP
TGC TEST FUEL TASK FORCE

January 20, 2011

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MEMBERSHIP
TGC TEST FUEL TASK FORCE

January 20, 2011

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Attachment 3

Technical Guidance Committee
Test Fuel Task Force
San Antonio, TX
SwRI, Building 209, Conference Room 103
January 20, 2011
9:00 a.m. - 1:00 p.m.

Motion and Action Items

As Recorded at the Meeting by Jason Bowden

1. Action Item: Bill Buscher will send letter to all Chairman requesting their panel develop guidelines for a uniform system of entering batch codes on test reports.
2. Action Item: Bill Buscher to update membership list to include current names and contacts for all TGC members.
3. Action Item: Bill Buscher will create a summary report of the work being done in the TGC Test Fuel Task Force to be presented at the next ILSAC meeting.

Attachment 4

Test Fuel Task Force

Scope and Objectives

Scope

The scope of this task force is to create a document including best practices for test fuel monitoring, test fuel handling and storage and emergency plans for test fuel supply.

Objectives

1. Create a data depository for all test fuel data, located in the TMC website.
2. Develop test fuel monitoring plans, including what to analyze and how to determine what properties of the test fuel affect the parameters the lubricant test is evaluating.
3. Establish best practices for test fuel transporting and for test fuel handling and storage at the suppliers and at the test laboratories.
4. Develop emergency plans for test fuel supply, during special circumstances, such as natural disasters, raw material shortages, etc.
5. Include test fuel as a critical parameter and test fuel supplier as a partner in the test development plan.
6. TMC to become depository for test fuel formulation details, in similar fashion to reference oil formulation details, and create a procedure for indicating when significant changes occur in test fuel formulations.
7. Minimize the number of test fuels for both gasoline and diesel lubricant tests.

Updated: January 20, 2011

Attachment 5

Test Fuel Task Force

Best Practices Document

- Minimize the number of test fuels for both gasoline and diesel lubricant tests.
  - Goal for one common test fuel for all test types in a lubricants specification, when possible.

- Create a public data depository for all test fuel data, located in the TMC website.
  - Generate .csv files in similar format to the ltms.csv files.
    - Develop data dictionaries and .csv files for each fuel type.
  - Include fuel batch information, CofA data, monitoring analysis data, special circumstance data.
  - Develop and use a common fuel batch identification protocol.
    -
  - Generate control charts for test fuel critical parameters, on request.

- TMC to become depository for test fuel formulation details, in similar fashion to reference oil formulation details, and create a procedure for indicating when significant changes occur in test fuel formulations.
  - Requirement for supplier to conduct periodic review on changes, current and future, to test fuel constituents.
  -

- Develop test fuel monitoring plans, including what to analyze and how to determine what properties of the test fuel affect the parameters the lubricant test is evaluating.
  - Evaluate what are the best methods for fuel analysis.

        - Determine if there are better methods than the ASTM methods or the methods historically being used.
    - Test developer, test fuel supplier and test surveillance panel to determine what properties of their test fuel are critical to their test, and how to best analyze and monitor those properties.
    - Determine test specific procedures for where, when and how test fuel samples are obtained.
        - Include details for special circumstances, such as during fuel batch certification testing.
    -

- Establish best practices for test fuel transporting and for test fuel handling and storage at the suppliers and at the test laboratories.
    - Bio-fuels:
        - Develop special procedures for ethanol blends of gasoline test fuels and biodiesel blends of diesel test fuels.
    -

- Develop emergency plans for test fuel supply, during special circumstances, such as natural disasters, raw material shortages, etc.
    - Reserve to be kept at fuel supplier.
        - Minimum amount to be determined by test surveillance panel.
    -

- Include test fuel as a critical parameter and test fuel supplier as a partner in the test development plan.
    - Require test fuel supplier commitment as a surveillance panel member and for ongoing representation over the life of the test.
    -