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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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Issued: December 20, 2011
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The unapproved minutes of the December 15, 2011 Sequence VI Surveillance Panel Conference Call.

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The meeting was called to order at 3:00 PM Eastern Standard Time by Charlie Leverett

Agenda

The Agenda is included as **Attachment 1** to these minutes.

1.0 Roll Call

The Attendance list is included as **Attachment 2** to these minutes.

2.0 Approval of minutes

- 2.1) Approval of the minutes of the November 30, Sequence VI Surveillance Panel (SP) 2011 Conference Call (CC).

Motion: Accept the minutes of the November 30, Sequence VI SP CC with the following correction: the total number of engines available from OHT are 49 instead of the 56 originally shown in the minutes. Unanimously approved.

2.3) Volunteer for today's minutes. Matthew Snider volunteered.

3.0 Action Item Review

3.1) OHT report on VID engine usage. As of December 15, 2011, there are 46 engines in inventory at OHT.

ACTION ITEM: OHT to report engine usage and expected depletion date at all SP meetings.

3.2) Statistical Group review of RO-1010 results. The report of the Statistical Group is provided below in Section 4.1.

3.4) Labs will review to see if the same data files as requested 11/30/11 on the 2012 engines can be supplied on one recent or future reference test for comparison.

ACTION ITEM: Labs should respond to TMC by December 30, 2011.

4.0 Old Business

4.1) Review recommendations from Industry Statistical Group

The Industry Statistical Group report is included as Attachment 3 to these minutes.

There was discussion about whether reference oil 1010 (RO-1010) should be removed as a reference oil in the Sequence VID based on concerns over its apparent variability in the test.

Motion: Discontinue RO-1010 as a Sequence VID calibration oil. Andy Ritchie; seconded by Mark Mosher. Motion Failed. 1 yea / 8 nay / 2 waive / 1 absent.

There was discussion regarding accepting the targets recommended by the Industry Statistical Group for RO-1010.

Motion: Accept RO-1010 targets as recommended by the Industry Statistical Group, which are: for FEI1 – mean: 1.34/stdev 0.12; and for FEI2 – mean 1.10/stdev 0.18. Mark Mosher; seconded by Bill Buscher. Motion carried unanimously.

There was discussion regarding the appropriate effective date of the new RO-1010 targets. There was a recommendation that the targets become effective as of December 15, 2011 and that stands that are currently calibrated should have their severity adjustment calculated based on the new targets. Further, it was recommended that the new severity adjustments should affect only those tests that complete on or after the effective date of the new targets. Finally, there was discussion about use of the new RO-1010 targets for the calibration of test stands.

Motion: The effective date for the new RO-1010 targets is December 15, 2011; engines that have completed the third run on RO-1010, have not run since completing that third run, and have not been removed from the test stand since that third run may be considered for calibration against the new RO-1010 targets. Dave Glaenzer; seconded by Bill Buscher. Motion carried unanimously.

Motion: Effective December 15, 2011, any calibrated test stand that has RO-1010 as its last reference oil will have its severity adjustment re-calculated using the new RO-1010 targets; these severity adjustment corrections will apply only to candidate oil tests completing after December 15, 2011. Rich Grundza; seconded by Dave Glaenzer. Motion carried. 11 yeas / 0 nays / 1 waive.

4.2) Update on 2012 LY7 Engines for Replacement of 2009 LY7 Engine

Two engines have been sent by GM; one went to Southwest Research Institute (SwRI) and the other to Intertek. SwRI had trouble with their engine with symptoms of valvetrain noise and debris in the Oberg oil filter. The engine has been removed from stand and sent back to GM for teardown and failure analysis. GM has sent a replacement engine to SwRI.

ACTION ITEM: GM will report on its findings regarding the failed SwRI engine to the SP when available.

Intertek has completed break-in on their engine and is running the first reference oil.

Lubrizol should be ready to install their first 2012 engine the second week of January 2012. GM will send Lubrizol an engine right away so it will be at Lubrizol when they are ready.

ACTION ITEM: GM to send 2012 engine to Lubrizol.

Afton should be ready to install their first 2012 engine toward the end of January 2012. GM will send Afton a 2012 engine toward mid-January 2012.

There was discussion regarding what the last date that 2012 model year LY7 engines can be purchased from GM.

ACTION ITEM: GM to report to the SP what the last date of purchase for 2012 LY7 engines at the next SP meeting.

5.0 new Business

- 5.1) Intertek experienced a problem with the chain tensioner on one of their 2009 LY7 engines: the pin in the plunger sheared off. The SP discussed whether the tensioner could be replaced and the engine put back into service. The SP has permitted the replacement of only the tensioner in engine 14D (engine hours: 1847), and, subject to re-calibration of engine 14D using the normal calibration procedure after the tensioner is replaced, engine

14D may be placed back into service. There were no dissenting opinions voiced on this issue.

- 5.2) There was discussion on whether certain oil analysis tests should be conducted on oil samples taken of reference oils from the 2012 LY7 engines and future reference tests on 2009 LY7 engines. The oil analysis tests of interest are DIR 5.8, DIR 6.1, HFRR at 120 °C, HFRR at 140°C, and fuel dilution. There was some concern over whether the reference oil suppliers would allow these oil analysis tests to be run on their reference oils.

ACTION ITEM: Rich Grundza will ask the reference oil suppliers whether they would allow the oil analysis tests mentioned above to be run on their reference oils.

New Item) If the 2012 LY7 engines are accepted by the SP as a replacement for the 2009 LY7 engines, there is an interest to ensure that the 2009 LY7 engines are completely consumed before the 2012 LY7 engines are placed into service.

Motion: Require consumption of the 2009 LY7 engines (part number: OHT VID-099-3) prior to any new engines being introduced. Jason Bowden; seconded by Jim Linden. Motion carried unanimously.

6.0 Next Meeting

The next meeting will be at the call of the chairman after the first two results on the 2012 LY7 engines are available for review.

7.0 Meeting Adjourned

Adjourned at about 4:20 PM.

Attachment 1

Sequence VI Surveillance Panel conference Call December 15, 2011 @ 14:00 CST

Call in #: 800-391-9177

Pass Code: 4875645502

Agenda

1.0) Roll Call

2.0) Approval of minutes

2.1) Approve the minutes from the November 30, 2011 Sequence VI Surveillance Panel conference call. **One correction requested which will be included in today's minutes:** *The total engines available from OHT are 49 instead of the 56 shown in the minutes.*

2.3) **We will need a volunteer for today's minutes**

3.0) Action Item Review

3.1 OHT to report VID engine usage and expected depletion date at all Surveillance Panel meetings. **Will be on-going.**

3.2 Statistical Group review of RO-1010 results. A formal request was submitted 11/18/11. **DONE**

3.3 Martin Chadwick will request a meeting of the Statistical Group. **DONE**

3.4 Labs will review to see if the same data files as requested 11/30/11 on the 2012 engines can be supplied on one recent or future reference test for comparison. **Labs should respond to TMC by 12/30/11.**

4.) Old Business

4.1) Review recommendations from Industry Statistical Group

4.2) Update on 2012 engines:

SwRI - A problem occurred with the engine at 77 hours of break-in and the engine was returned to GM for inspection. *(Action Item: GM to report on findings after inspection)* Another engine was shipped from GM and received at SwRI on 12/13/11. SwRI is awaiting the receipt of the fixed gears for this engine, and then it will be prepped and placed on break-in.

IAR – Bruce contacted us after the problem was noted at SwRI and asked we inspect our Oberg filters (~90 hrs) which we did and did not note anything abnormal, we also inspected them at the end of the break-in, again nothing

abnormal found. We are currently running the first reference, the estimated completion is Monday, data will be reported to TMC ASAP once completed.

Afton and Lubrizol, can you give an estimate on when you may be ready to start?

5.) New Business

5.1 Parts Replacement Allowed – I recently had a calibrated engine on which the camshaft tensioner failed. The pin in the plunger sheared off and this is the control for the plunger tension/position. Just a reminder this is a part removed and reinstalled when installing the fixed cam gears.

I have replaced the tensioner and would like to get approval to attempt to re-calibrate this engine again in the normal calibration sequence.

5.2 Used oil analysis on 2012 engines – A while back Mark Mosher asked if we should gather used oil analysis on reference tests using the same methods used in the development, I am not aware of any being done at this point but we may want to do these on the experimental 2012 engines and future reference tests on the current engines. The analysis consisted of DIR 5.8, DIR 6.1, HFRR @ 120 and HFRR @ 140 & Fuel Dilution.

If we decide to go forward with this the analysis would be done on the normal EOT sample.

6.) Next Meeting

Once the first two results are available for review on the 2012 engines or at the call of the chairman

7.) Meeting Adjourned

Attachment 2

ASTM SEQUENCE VI SURVEILLANCE PANEL

Name	Address	Phone/Fax/Email	Attendance
Bowden, Jason Voting Member	OH Technologies, Inc. P.O. Box 5039 Mentor, OH 44061-5039	Phone: 440-354-7007 Fax: 440-354-7080 dhbowden@ohtech.com	Present
Bruce Matthews Voting Member	GM Powertrain Engine Oil Group Mail Code: 483-730-472 823 Joslyn Rd	Pontiac, MI 48340: 248-830-9197 bruce.matthews@gm.com	Present
Andy Ritchie Voting Member	Infineum 1900 East Linden Ave. Linden, NJ 07036-0735	Phone: 908-474- Fax: 908-474-3637	Present
Ron Romano Voting Member	Ford Motor Company 21500 Oakwood Blvd POEE Bldg Rm DR 167 MD 44 Dearborn, MI 48121-2053	Phone: 313-845-4068 rromano@ford.com	Proxy to Bruce Matthews
Leverett, Charlie Voting Member	Intertek Automotive Research 5404 Bandera Road San Antonio, TX 78238	Phone: 210-647-9422 Fax: 210-523-4607 charlie.leverett@intertek.com	Present
Grundza, Rich Voting Member	ASTM TMC 6555 Penn Ave. Pittsburgh, PA 15206-4489	Phone: 412-365-1034 Fax: 412-365-1047 Dml@tmc.astm.cmri.cmu.edu	Present
Miranda, Timothy Voting Member	BP Castrol Lubricants USA 1500 Valley Road Wayne, NJ 07470	Phone: 973-305-3334 Timothy.Miranda@bp.com	
Mosher, Mark Voting Member	ExxonMobil 600 Billingsport Road Paulsboro, NJ 08066	Phone: 856-224-2132 Fax: 856-224-3628 mark_r_mosher@exxonmobil.com	Present
Caudill, Timothy Voting Member	Ashland, Inc. 21st and Front Streets Ashland, KY 41101	Phone: 606-329-5708 Fax: 606-329-3009 Tlcaudill@ashland.com	
Dan Worcester Voting Member	Southwest Research Institute (SwRI) 6220 Culebra Road San Antonio, TX 78228	Phone: Fax: dan.worcester@swri.org	Proxy to Bill Buscher
Szappanos, George Voting Member	Lubrizol 29400 Lakeland Blvd. Wickliffe, OH 44092	Phone: 440-347- Fax: 440-347-4096 George.Szappanos@lubrizol.com	Present
Glaenzer, David Voting Member	Afton Research Center 500 Spring Street Richmond, VA 23218	Phone: 804-788-5214 Fax: 804-788-6358	Present
Sutherland, Mark Voting Member	Chevron Oronite Company LLC 4502 Centerview Ste. 210 San Antonio, TX 78228	Phone: 210-731-5605 Fax: 731-5621 msut@chevrontexaco.com	Present
Robert Stockwell Voting Member	ConocoPhillips Lubricants R&D Passenger Car Engine Oil	office 580-767-6894 Robert.T.Stockwell@conocophillips.com	Present
Tracy King Voting Member	Chrysler	Phone: 248-576-7500 tek1@chrysler.com	
Teri Kowalski or Jim Linden	Toyota	teri.kowalski@tema.toyota.com	Present (Jim)

ASTM SEQUENCE VI SURVEILLANCE PANEL

Name	Address	Phone/Fax/Email	Attendance
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Guest Present at meeting

Art Andrews - ExxonMobil
Adam, Matt & Dwight Bowden
Kevin Brogan – GM
Andy Buczynsky
Bill Buscher
Jim Carter
Martin Chadwick
Todd Dvorak
Gordon Farnsworth
Jo Martinez
Bob Olree
Christian Porter
Allison Rayakumar
Matthew Snider
Lee Wang – GM

Attachment 3

Sequence VID RO1010 Review

Martin Chadwick
for Data Analyst Group
12/14/2011

Participating Data Analysts

- Art Andrews, ExxonMobil
- Doyle Boese, Infineum
- Janet Buckingham, SWRI
- Martin Chadwick, Intertek
- Todd Dvorak, Afton
- Rich Grundza, TMC
- Jo Martinez, Oronite
- Allison Rajakumar, Lubrizol

Target Recommendations

- Update RO1010 reference oil targets
 - FEI1 Mean = 1.34, s = 0.12
 - FEI2 Mean = 1.10, s = 0.18
- Means are the LS Means of the charted and donated tests for RO1010 target setting (1010 n=28)
- FEI1 s is the current s for FEI1 for all reference oils.
- FEI2 s is the simple standard deviation of the LS Means data set (n=28). It was determined that 1010 demonstrates more variability than other reference oils in the VID and a larger s was appropriate.

Other Recommendations

- The group recommends eliminating the specified reference oil order for new engines. We suggest using a random assignment order employing all four reference oils at this time. Several groups of specific reference oil orders may be developed and recommended in the future to assist with analyzing reference oil order effects.
- No change to the current engine hour adjustments are recommended at this time. Engine hour adjustments should continue to receive review as more data becomes available.
- RO1010 demonstrates variability that appears to be different from other VID reference oils and the SP should consider the appropriateness of its on going use.