

**Sequence III Surveillance Panel**  
**Meeting Minutes**  
February 10, 2011  
Teleconference

**1.0) Roll Call** - the attendance is shown in Attachment 1.

**2.0) Resolution of LTMS v2 Negatives**

- 2.1) The purpose of the teleconference was to address the negative votes attached to the LTMS v2 proposal from January's meeting. Each negative voting interest has provided support documentation for their negative. The documents are shown in Attachments 2 through 6.
- 2.2) Jim Rutherford made a statement on behalf of the LTMS TF SS group. In essence, the majority of the group stands by the LTMS v2 proposal. Jim pointed out that this statement is applicable to the LTMS TF SS v2 proposal, but the specific VID proposal was not addressed by the group.
- 2.3) The first negative to be addressed was GM's. Matt Snider stated that their main objection is to the underlying philosophy of LTMS v2. After brief discussion, it was moved (Rutherford, Boese) to declare GM's negative as non-persuasive. This motion was defeated 2-5-5. As such the proposal, as approved in January dies and will not be implemented.
- 2.4) Since at least one negative could not be declared non-persuasive, there was no need to address the remaining negatives.

The meeting adjourned at 1:20 pm.

## Attachment 1

### Voting Members (13 of 17 present)

Altman

Bowden, J

Grundza

King

Knight

Lang

Leverett

Matthews

Mosher

Ritchie represented by Boese

Romano

Seman

Sutherland represented by Rutherford

### Non-Voting

Andrews

Bishop

Boese

Bowden, A

Bowden, D

Bowden, M

Buscher

Castanien

Clark

Dvorak

Glaenzer

Rajakumar

Rutherford

Snider

Linden, Jim

Kowolski, Terry

Olree, Bob

Buckingham, Janet

Johnson, Eric

Buczynsky, Andy (GM)

## **Attachment 2**

**Jeff Clark**

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**From:** Seman, Greg [Greg.Seman@Lubrizol.com]

**Sent:** Friday, January 28, 2011 7:55 AM

**To:** Glaenzer, Dave

**Subject:** RE: Negative Votes on IIIG LTMS V2

Dave,

My reasons for voting negatively are as follows:

The IIIG test is currently running severe in some parameters and mild in others. Adding continuous adjustments to the test without addressing/fixing the severity issues first will only mask the situation. Additionally, when LTMS was created and put in place a 'dead band' was established due to inherent test bounce. This bounce continues to exist today, so rewarding or punishing a lab for not having exact on-target results seems foolish.

Also, allowing labs to operate in different regions with respect to targets takes away any incentive to address lab differences in a technical manner. This effectively neuters the test and allows radically different results to be put through a statistical laundry such that they can be considered similar.

Finally, there is no definitive advantage to LTMS 2 over LTMS 1 for the IIIG. Changing for the sake of change is not a sufficient reason to move to a new system. Introduction of the system for new test types would make much more sense. Also, changing systems during a test's life is also potentially confusing as future results will not be easily compared to early results due to different application of S/As etc.

Regards,  
Greg

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**From:** Glaenzer, Dave [mailto:Dave.Glaenzer@AftonChemical.com]

**Sent:** Monday, January 24, 2011 9:59 AM

**To:** Altman, Ed; Seman, Greg; Ford, Romano, Ron; Bruce Matthews; Tracey King

**Subject:** Negative Votes on IIIG LTMS V2

**Importance:** High

To meet the LTMS guideline the Surveillance Panel is required to attempt to resolve any negative votes on proposals for changes. I would like to request that you submit your reasons for the negative vote to me by February 2, 2011. Once these are received I will send them to the SP members for review and schedule a conference call for a formal discussion.

If you have any questions, please contact me.

*David L. Glaenzer*

Sequence III Surveillance Panel Chairman

Afton Chemical Corporation

## **Attachment 3**



**Ford Motor Company  
Ford Customer Service Division  
Service Engineering Office**

**Diagnostics Service Center II  
1800 Fairlane Drive  
Allen Park, Mi. 48101**

January 28, 2011

Charlie Leverett  
ASTM Sequence VI Surveillance Panel Chairman  
David L. Glaenger  
ASTM Sequence III Surveillance Panel Chairman

Subject: Reasons for Ford's negative votes on Sequence IIIG and VID LTMS v2

In general Ford is opposed to a system that doesn't encourage labs to run on target. Although, with LTMS2 this probably can be achieved to an extent if the Zi limits are tight enough and this is a problem with the VID, Zi limits too wide. Maybe should be around 2 max. The IIIG appears to have acceptable Zi limits for PVIS and WPD but no limit for ACLW is unacceptable. Additionally Ford is not in favor of a system that allows labs to bounce around their average without forcing consistency. This again can be made better by using tighter ei limits but even this allows labs to bounce around, just less. There is nothing in the system that shows changes in a lab from test to test like we have in LTMS1 using Ri. With LTMS2 we are no longer tracking precision. Having only ei allows variability.

Ford doesn't agree with the argument that we don't truly have targets. We do have them for each reference oil and if we didn't have targets then how can you have an SA which is applied to bring you back to target. Then the SA is a contradiction.

The above as far as Ford is concerned shows no advantage of LTMS2 over LTMS1, decreases precision, and removes incentives for running on target and precise. Only improvement is possibly the continuous SAs. These we might be willing to agree with and include in LTMS1. Since the remainder doesn't provide any advantage we don't see any reason to change from LTMS1. Just because the surveillance panels have been working on LTMS2 for close to 2 years isn't good enough reason to implement it. Actually that's probably a good reason not to. If it was better than LTMS1 we would have agreed to it sooner. Below are some specific issues Ford has with the VID and IIIG LTMS2 but the indicated changes are in no way an endorsement of LTMS2 with these changes, simply showing where they should have been in the first place.

IIIG: why is the increased calibration test frequency (Level 2) 125 days or 20 tests when LTMS1 is 75 days or 18 tests? This should be the same as LTMS1.

Zi and ei limits appear ok except ACLW. Based on LTMS1 ACLW limits should be the same as PVIS and WPD.

VID: why is the increased calibration test frequency (Level 2) 1400 hrs or 8 tests/ 1050 hrs or 6 tests when LTMS1 is 50% for the action alarm? The above numbers are only about a 15-20% change from calibration frequency today (10 full length or 1750 engine hours (1<sup>st</sup> 3 periods) and 7 full length or 1225 engine hours for subsequent periods.) Zi limits should be 2.0

ei are also too lenient compared with the EWMA and Shewhart limits in LTMS1. Maybe something like Level 3=1.96 and Level 2=1.645

If you have any question please contact me.

Thanks

Ron Romano

Service Lubricants Technical Expert

## **Attachment 4**

**Jeff Clark**

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**From:** Tracey King [tek1@chrysler.com]  
**Sent:** Friday, January 28, 2011 2:45 PM  
**To:** Glaenzer, Dave  
**Cc:** Altman, Ed; Greg Seman; Ford, Romano, Ron; Bruce Matthews; teri.kowalski@tema.toyota.com; Bradley Cosgrove

**Subject:** Negative on LTMS V2 inclusion

Chrysler votes negative vote for adaption of LTMS v2 by the IIIG and VID surveillance Panels. We are concerned that LTMS2 will reduce the effectiveness of ASTM engine tests at proving engine oil quality.

We are opposed to a system that doesn't encourage labs to run on target. LTMS v2 allows labs to bounce around their average without attempting to force them to improve consistency. There is nothing in the system that shows changes in a laboratories test management from test to test like we have in LTMS1.

No data has been presented that demonstrates that LTMS2 provides an improvement over LTMS1. Existing data demonstrates that LTMS2 decreases precision and removes incentives for running on target. The only improvement provided by LTMS2 is the continuous SA, which could be included in LTMS1.

Reduced calibration test frequency for LTMS2 from LTMS1 also contributes to a decrease in test precision.

Chrysler is concerned about the effect of excessive statistical manipulation of engine test results on oil quality. If LTMS2 is adopted, we are considering requiring that companies seeking an approval at Chrysler include the raw data along with the standard test report so that we may evaluate the extent of the statistical manipulation on a case by case basis.

Best regards,

Tracey King  
Senior Specialist  
Organic Materials Engineering  
248-576-7500, tek1@chrysler.com



## **Attachment 5**

**Jeff Clark**

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**From:** Altman, Ed [Ed.Altman@AftonChemical.com]  
**Sent:** Tuesday, February 01, 2011 8:25 AM  
**To:** Glaenzer, Dave  
**Subject:** IIIG Negative comment

Afton's negative LTMS2 vote for the IIIIG is based on the following.

While we recognize the thought and effort the industry has put into the LTMSv2, we don't see the added value at this time. The new system is very cumbersome as compared to the current one, and we don't feel it carries the proper level of cost/benefit. The major benefits we see from LTMSv2 would be the addition of continuous severity adjustments and ways to manage the impact of excessive influence results (ie. flyer) on SA's.

We understand that the new system does not encourage labs to strive for target, but based on some current lab practice, the current system doesn't achieve this either (as evidenced by calibrated labs running reference tests trying to achieve a severe result to reinstate an SA). We also understand that while the goal within the current system is to "run on target", labs are different and sometimes this bias cannot be resolved. Unless the limits ( $Z_i$  and  $e_i$ ) are set properly and based on a thorough understanding of the test (which arguably we do not have), the current system can possibly allow labs to operate in different regimes, and perhaps not treat all oils equivalently.

We believe the industry would be better served to work within the framework of the current LTMS system, tweaking as necessary (i.e. continuous SA's, methods to manage excessive influence results, etc.) to provide enhancements to the testing industry.

*Ed Altman*

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## **Attachment 6**

To: Charlie Leverett (Chair, Sequence VID SP); Dave Glaenzer (Chair, Sequence III G)

From: Matthew Snider (General Motors)

Date: 02 February 2011

Re: **Support for GM negative vote on LTMS v2**

General Motors has several issues with the recently passed LTMSv2. First, GM disagrees with the overarching philosophy change ushered in by LTMSv2. A lubricant test fundamentally has a real target result. In a perfect world, running the same test procedure, using the same components, under the same conditions, would yield the same result, regardless of where the test is run. Unfortunately, the world is not perfect and test results are inherently noisy. Therefore, we need a Lubricant Test Monitoring System (LTMS) to help us identify real deviations from the background noise. Once a real deviation is identified, the onus is on the overseers of a test to determine and correct the cause of the deviation. In essence, a well designed LTMS system helps promote test accuracy by identifying deviations that require corrective action.

There is no question that determining and correcting the cause of a deviation is a heavy burden. Just because a task is difficult, however, is not a reason to simply give up. Unfortunately, giving up is exactly what LTMSv2 seeks to do. The emphasis of LTMSv2 is on internal lab consistency while paying little heed to inter-lab accuracy. LTMSv2 fundamentally changes the philosophy of test monitoring by suggesting that there is not a knowable test target that we should strive to meet, but rather that acceptable test performance is defined by each individual lab. In essence, LTMSv2 is the relativistic view of test monitoring. GM disagrees with this philosophy change.

GM also disagrees with the proposed reasons for LTMS modification. While the various iterations of LTMSv1 are not perfect, there has been no data provided showing a failure of LTMSv1 to monitor the effectiveness and accuracy of the various lubricant tests. That there have been changes made to LTMS over the years that often “deviat[e] from [the] original guidelines and spirit of LTMS”<sup>1</sup> is not the fault of the LTMS, but rather a failing of the Surveillance Panels and Test Development Task Forces. To the extent that we, the users of LTMSv1, have stunted its effectiveness through our own missteps, let us correct those missteps through reasonable modifications, not wholesale philosophy changes.

Passage of the LTMSv2 appears to be at least partly motivated by improper considerations. ASTM is a technically driven, performance-based standard setting organization that does not include financial considerations in its deliberations. Therefore, the use of “economic realities” as justification to “rejuvenate the [LTMS] system”<sup>2</sup> is powerful evidence that we, the Surveillance Panel, are, at least in part, relying on fundamentally wrong reasons for LTMS modification. As a result, we should reject outright this nontechnical justification and any consequences stemming from it.

Finally, GM takes issue with application of the LTMSv2 methodology. This is an issue on which GM treads cautiously given that we are not statisticians by training. GM appreciates the high degree of competency of the LTMSv2 Task Force and the diligence and patience they exercised in developing the LTMSv2 proposal. However, GM believes the LTMS Task Force has taken valid concepts of time series modeling and misapplied them to LTMSv2. As an example, two recent papers describe time

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<sup>1</sup> LUBRICANT TEST MONITORING SYSTEM 2D ED., Draft 18.2, at 3, *available at*: <ftp://ftp.astmtmc.cmu.edu/docs/LTMS%20v2%20Task%20Force%20Documents>

<sup>2</sup> *Id.*

series modeling as a means for process adjustment and control.<sup>3</sup> Both papers acknowledge the difficulties that can occur when using traditional control charts for nonstationary processes. The papers discuss the use of two types of charts to monitor nonstationary processes. The first is an Exponentially Weighted Moving Average (EWMA) chart, which functions as a common cause adjustment chart with adjustments made relative to a target value. Rather than adjusting to a target value, however, LTMSv2 uses a EWMA chart to “promote similar severity across severity adjustment entities”<sup>4</sup> without adjusting to a target value. Thus, the thrust is for laboratories to be internally consistent rather than accurate to a target.

The second chart is based on EWMA residuals and functions as a special cause chart. The purpose of this special cause chart is to alert test overseers of a change in the process that requires further investigation. LTMSv2 uses this special cause chart, but misapplies it. Rather than seek assignable causes when a process deviates beyond action limits, LTMSv2 uses the chart to determine if “we know the relative performance of the severity adjustment entity well enough to adequately severity adjust using the  $Z_i$ .”<sup>5</sup> In essence, LTMSv2 does not demand action based on deviations in the process, but rather allows the errors in the system to continue.

Finally, GM finds the arguments made in the Test Monitoring Center’s (TMC) Memorandum 11-001 regarding TMC Concerns on LTMS Version 2, dated January 10,

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<sup>3</sup> See Bisgaard, S, Kulahci, M., *Using a Time Series Model for Process Adjustment and Control*, QUALITY ENGINEERING, 20:134-141 (2008); Box, G. E. P., Paiagua-Quinones, C., *Two Charts: Not One*, QUALITY ENGINEERING, 19:93-100 (2007).

<sup>4</sup> LUBRICANT TEST MONITORING SYSTEM *supra* note 1 at 9.

<sup>5</sup> *Id.*

2011, persuasive.<sup>6</sup> GM hereby formally incorporates the TMC's memorandum, in its entirety, into this "Support for Negative Vote on LTMSv2."

For the reasons stated above, GM voted negative on LTMSv2. GM is certain there are reasonable modifications that can be made to the current LTMS of each test. GM would be pleased to work on LTMS modifications that strengthen the quality of engine oil testing.

Respectfully,

Matthew Snider  
General Motors  
248-672-3563  
matthew.j.snider@gm.com

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<sup>6</sup> 11-001, *TMC Concerns on LTMS Version 2*, Jan. 10, 2011, available at:  
<ftp://ftp.astmtmc.cmu.edu/docs/LTMS%20v2%20Task%20Force%20Documents/TMC%20Concerns.pdf>