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Issued: May 10, 2016  
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These are the unapproved minutes of the 05.10.2016 Sequence VI Surveillance Panel call.

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The meeting was called to order at 8:02 AM Central Time by Nathan Moles.

### Agenda

The Agenda is the included as **Attachment 1**.

#### 1.0 Roll Call

The Attendance list is **Attachment 2**.

## 2.0 Approval of minutes

- 2.1 Approval of the minutes of the 04.26.2016 meeting.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes201600426ConferenceCall.pdf>

MOTION: Approve the minutes from the 04.26.2016 conference call.

[Nathan Moles, Jason Bowden, second] Minutes were approved unanimously.

## 3.0 Action Item Review

- 3.1 OHT to provide update on current VIE inventory and service engine order. –OHT  
There are 11 -001 and 144 -002 engines.
- 3.2 Labs reported VID engine inventory and expected depletion date of VID engines.  
*-Expected life of engines range from 2016 Q2 to 2018*  
Lab1: 0 engine  
Lab2: 0 engine  
Lab3: 0 engines  
Lab4: 0 engine  
The last two new engines are installed and running break in this week.

## 4.0 Old Business

- 4.1 List of items to be reviewed after the Precision Matrix  
Do we really need to run three RO tests to establish the new engine for LTMS?  
Discussion of reducing the new reference requirement to two oils, then a third oil run after a defined number of candidates.  
Discussion of using FEI 2 and FEI Sum for references to match candidate pass/fail criteria.  
Discussion of evaluating 80/20 ratio of BL before to after for FEI 1 and 10/90 for FEI 2.  
Consider evaluating FEI 1 vs 100% BLB2 (or 3) and evaluating FEI 2 vs 100% BLA.  
Should the acceptance bands value of 1.96 be rounded up? Due to the rounding on FEI 1 and 2 the actual pass limit is 1.91 and 1.92.  
SP chair and test sponsor to investigate what is needed to establish VID equivalent limits for VIE  
Discussion of changing BLB1 to BLB2 delta acceptable limits.  
Review impact of variable oil pressure of FEI (review prove out data to determine if it is stand or engine related)
- 4.2 Update from task force, to investigate alternative test procedure Sequence “VIF” that would improve 0W-16. – Dan Worcester/Satoshi Hirano  
SwRI is running the second oil on one stand and the first oil on the second stand. IAR also is running the second oil on one stand and the first oil on a second stand. The matrix should complete early June.

- 4.3 Update from task force to investigate option to use short blocks to supplement engine inventory. –Adrian Alfonso/Bill Buscher This effort is on-going. SwRI ran a new engine reference run on 542-2 and then another with 1750 hours on the Build Engine. Both were reported to TMC. The final parts for the kits are arriving and there will be a meeting to discuss engine delivery and final edits and reviews of the build procedure.

## 5.0 New Business

- 5.1 Discussion on precision matrix analysis. –Stats Group

The SP can decide whether the A1 run TK113244 (FEI2=0.49):

1. Should be invalidated (basis as described by Travis/Dan)
2. Should be re-run (if invalidated, question: is 544 still the best oil to run given the circumstance?)
3. Should be removed from analysis (basis as statistical outlier with known special cause or test invalidated)

There was a lot of discussion on how to proceed. Both tests in discussion were considered valid per the VIE procedure. The first run on reference oil 544 is an outlier, but the consensus was to leave the data set complete. There is some concern on the response to oil 544. Larger BL After shifts are occurring in the VIE that in the VID test. The range is (-2.31 to +1.52). BLB 1 to 2 delta has shifted from (-0.2 to 0.4) to (-0.12 to 0.45). 37% of the first tests on a new engine have a high BL After shift. Ashland has decided the first test on the original engine is invalid for fuel temperature at the rail exceeding  $26 \pm 2$  °C.

Rich made a motion for the MOA for the VIE Precision Matrix:

**MOTION:** Test used for the VIE Precision Matrix MOA are valid if declared valid by the lab.  
Rich Grundza, Nathan Moles, second. 13 yes, 1 waive.

## 6.0 Next Meetings.

May 17<sup>th</sup> 2 hour conference call to review stats analysis

May 24<sup>th</sup> and 25<sup>th</sup> Lubrizol, Wickliffe Ohio

The meeting adjourned at 9:02 AM.

# Sequence VI Surveillance Panel Conference Call Agenda May 9 @ 9:00-10:00AM EST

## Call-in information is included below:

Call-in Number: 866-528-2256  
Conference Code: 3744024

### 1.0) Roll Call

*Do we have any membership changes or additions?*

### 2.0) Approval of minutes

2.1 Approve the minutes from the April 26, 2016 Sequence VI Surveillance Panel.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes20160426ConferenceCall.pdf>

### 3.0) Action Item Review

3.1 OHT to provide update on current VIE inventory and service engine order. –OHT

3.2 Update of VID engine inventory and expected depletion date of VID engines.

*-Expected life of engines range from 2016 Q3*

*Lab1: 0 engines*

*Lab2: 0 engines*

*Lab3: 1 engines*

*Lab4: 0 engines*

### 4.) Old Business

4.1 List of items to be reviewed after the Precision Matrix

-Do we really need to run three RO tests to establish the new engine for LTMS?

-Discussion of reducing the new reference requirement to two oils, then a third oil run after a defined number of candidates.

-Discussion of using FEI 2 and FEI Sum for references to match candidate pass/fail criteria.

- Discussion of evaluating 80/20 ratio of BL before to after for FEI 1 and 10/90 for FEI 2. Consider evaluating FEI 1 vs 100% BLB2 (or 3) and evaluating FEI 2 vs 100% BLA.
- Should the acceptance bands value of 1.96 be rounded up? Due to the rounding on FEI 1 and 2 the actual pass limit is 1.91 and 1.92.
- SP chair and test sponsor to investigate what is needed to establish VID equivalent limits for VIE
- Discussion of changing BLB1 to BLB2 delta acceptable limits.
- Review impact of variable oil pressure of FEI (review prove out data to determine if it is stand or engine related)

4.2 Update from task force, to investigate alternative test procedure Sequence "VIF" that would improve 0W-16. – Dan Worcester/Satoshi Hirano

4.3 Update from task force to investigate option to use short blocks to supplement engine inventory. –Adrian Alfonso/Bill Buscher

## **5.) New Business**

5.1 Discussion on precision matrix analysis. –Stats Group

The SP can decide whether the A1 run TK113244 (FEI2=0.49):

1. Should be invalidated (basis as described by Travis/Dan)
2. Should be re-run (if invalidated, question: is 544 still the best oil to run given the circumstance?)
3. Should be removed from analysis (basis as statistical outlier with known special cause or test invalidated)

## **6.) Next Meeting**

May 17<sup>th</sup> 2 hour conference call to review stats analysis

May 24<sup>th</sup> and 25<sup>th</sup> Lubrizol, Wickliffe Ohio

## **7.) Meeting Adjourned**

**ASTM SEQUENCE VI**

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