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Issued: April 05, 2016  
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These are the unapproved minutes of the 04.05.2016 Sequence VI Surveillance Panel call.

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The meeting was called to order at 8:00 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 03.15.2016 meeting.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes201600315ConferenceCall.pdf>

MOTION: Approve the minutes from the 03.15.2016 conference call.

[Nathan Moles, Dan Worcester, 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 21 -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: 1 engine  
Lab2: 0 engine  
Lab3: 2 engines  
Lab4: 1 engine  
This will be an on-going effort.

## 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 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
- 4.2 Discussion on precision matrix. (Spreadsheet attached) –Rich Grundza/Labs  
[SwRI will start the 10<sup>th</sup> run this week. Ashland will start their 4<sup>th</sup> run.](#)
- 4.3 Update from task force, to investigate alternative test procedure Sequence “VIF” that would improve 0W-16. – Dan Worcester/Satoshi Hirano  
[SwRI has completed their runs for Sense Check #2. IAR will complete their 4<sup>th</sup> run in 3 weeks.](#)

- 4.4 Update from task force to investigate option to use short blocks to supplement engine inventory. –Adrian Alfonso/Bill Buscher [There was a VI Build Workshop March 31, 2016.](#)  
[A final parts kit will be generated and VI blocks, heads and kits will be shipped to the test labs.](#)
- 4.5 Discussion on face to face meeting following completion of precision matrix.  
[This will be planned for mid-May. It will be in Cleveland. There will be a pre-meet to prepare for the VIE Precision Matrix analysis.](#)
- 4.6 Labs to check oil line and filter sizes used on precision matrix engines. –Labs  
[This is an on-going process.](#)

## **5.0 New Business**

- 5.1 Discussion could variation in welding of cam phasors influence operating oil pressure? -Tim Cushing/Labs  
[This was an issue on using JB Weld versus welding but all labs now weld the phasors.](#)

## **6.0 Next Meeting.**

The next meeting will be 04.19.2016 conference call. The 04.12 meeting will be skipped.

The meeting adjourned at 8:53 AM.

# Sequence VI Surveillance Panel Conference Call Agenda April 5 @ 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 March 15, 2016 Sequence VI Surveillance Panel.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes20160315ConferenceCall.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: 2 engines*

*Lab4: 1 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

4.2 Discussion on precision matrix. (Spreadsheet attached) –Rich Grundza/Labs

4.3 Update from task force, to investigate alternative test procedure Sequence “VIF” that would improve OW-16. – Dan Worcester/Satoshi Hirano

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

4.5 Discussion on face to face meeting following completion of precision matrix.

4.6 Labs to check oil line and filter sizes used on precision matrix engines.  
-Labs

## **5.) New Business**

5.1 Discussion could variation in welding of cam phasers influence operating oil pressure? -Tim Cushing/Labs

## **6.) Next Meeting**

Next Tuesday (reoccurring weekly meeting)

## **7.) Meeting Adjourned**

**ASTM SEQUENCE VI**

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# ASTM SEQUENCE VI

Name	Address	Phone/Fax/Email	Attendance
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**SEQUENCE VIE RESULTS WITH NO HOUR ADJUSTMENT**

SW 1 (Lab A)				SW2 (Lab A)				IAR 1 (Lab G)				IAR 2 (Lab G)				LZ (Lab B)				Afton (Lab D)				Ashland (Lab C)				XOM (Lab F)							
	FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr				
544	1.07	0.49	374	1010-1	1.60	1.74	374	542-2	2.34	1.70	390	544	1.36	1.83	363	542-2	3.00	1.86	399	542-2	2.77	1.70	370	544	2.14	2.08	368	1010-1	2.12	2.14	364				
544	1.44	1.47	579	1010-1	1.84	1.59	574	1010-1	1.67	1.51	602	542-2	2.93	2.16	561	544	1.48	1.64	597	542-2	2.53	1.74	571	1010-1	2.18	1.82	570	544	0.84	1.51	569				
542-2	2.32	1.41	779	542-2	2.46	1.48	776	1010-1	1.59	1.49	803	1010-1	1.95	2.12	758	1010-1	1.77	1.99	794	544	1.48	1.24	772	542-2	1.54	1.95	785	544	1.04	1.64	768				
1010-1	1.57	1.43	1003	544	1.24	1.11	978	544	1.10	1.04	1002	1010-1	1.71	2.00	956	544	1.04	1.38	992	1010-1	1.83	1.68	928	542-2				542-2	2.86	2.13	968				
544	1.31	1.32	1202	544	LOST ENGINE								542-2	2.30	1.73	1154	544	0.89	1.02	1210															
1010-1	1.39	0.68	1399									542-2	2.02	1.31	1371	542-2	1.91	1.07	1406					544	1.81	1.53	358								
1010-1	1.50	1.28	1600									544	1.07	1.10	1568	542-2	1.84	0.78	1603					1010-1	2.49	1.70	575								
542-2	1.77	0.93	1799									544	0.79	0.71	1767	1010-1	1.34	0.75	1799					542-2											
542-2	est.1.70											1010-1	1.41	1.12	1966	1010-1	1.45	0.80	2021					542-2											
544												542-2	1.81	0.95	2165	544	0.88	0.41	2218																
1010-1												544	0.98	0.62	2376																				

		FEI 1	FEI 2
RO 542-2	0W-20	1.49	0.80
RO 1010-1	5W-20	1.34	1.10
RO 544	5W-30 T1	N/A	N/A

51 tests in TMC database 04/04/2016  
49 OPVALID tests