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These are the unapproved minutes of the 12.15.2015 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 12.08.2015 meeting.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes20151208ConferenceCall.pdf>

MOTION: Approve the minutes from the 12.08.2015 conference call.

[Dan Worcester, Nathan Moles, second] Approved unanimous.

## 3.0 Action Item Review

3.1 OHT to provide update on current VIE inventory and service engine order. –OHT  
There is no change in engine counts.

3.2 Labs reported VID engine inventory and expected depletion date of VID engines.  
-Expected life of engines range from 2016 Q1 to 2018  
Lab1: 1 engines  
Lab2: 1 engines  
Lab3: 3 engines  
Lab4: 1 engines There is no change in engine counts.

## 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.  
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  
This will be an on-going effort.

4.2 Discussion on start of precision matrix.

Step	Run Order	Lab A1	Lab A2	Lab G1	Lab G2	Lab B	Lab D	Lab E	Lab F	Engine Hours
	SOT Engine Hours	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	
1	1	RO544	RO1010-1 1.60/1.74/3.34	RO542-2	RO544 1.36/1.83/3.19	RO542-2 3.00/1.86/4.86	RO542-2 2.77/1.70/4.47	RO544	RO1010-1 2.12/2.14/4.26	350
	2	RO544	RO1010-1 1.84/1.59/3.43	RO1010-1	RO542-2 2.93/2.16/5.09	RO544 1.48/1.64/3.12	RO542-2 2.53/1.74/4.27	RO1010-1	RO544	550
	3	RO542-2	RO542-2	RO1010-1	RO1010-1 1.95/2.13/4.07	RO1010-1 1.77/1.99/3.76	RO544 1.48/1.24/2.72	RO542-2	RO544	750
	4	RO1010-1	RO544	RO544	RO1010-1	RO544	RO1010-1	RO542-2	RO542-2	950
2	5		RO544		RO542-2	RO544				1150
	6		RO1010-1		RO542-2	RO542-2				1350
	7		RO544		RO544	RO542-2				1550
	8		RO542-2		RO544	RO1010-1				1750
	9		RO542-2		RO1010-1	RO1010-1				1950
	10		RO1010-1		RO544	RO542-2				2150
	11		RO1010-1		RO542-2					2350
EOT Engine Hours		950	2350	950	2350	2150	950	950	950	Total Runs
Runs/Engine		4	11	4	11	10	4	4	4	52

Tests are being reported for the Precision Matrix. Lubrizol and Afton will complete the first 4 runs on an engine this week. SwRI is running the third test on the first engine. The second engine will start the week of 12.28.2015. There was a lot of discussion on what to do with the stand/engine combination while waiting for the Precision Matrix to complete. The VID says to run a reference if an engine is pulled on a stand then installed again later. Engines pulled and carefully stored may see less shift than sitting on a stand. There was also discussion on what engines would move forward with more runs. A motion was made but later removed. Oil consumption at engines will be reviewed as a criteria on whether to continue. This would apply to A2, G2 and B if those are stands selected to run more than 4 tests. There will be further discussion at the next call in January 2016.

- 4.3 Update from task force, to investigate alternative test procedure Sequence “VIF” that would improve 0W-16. – Dan Worcester/Satoshi Hirano SwRI has reported the third test. IAR will start their first test this week. There is not a procedure but tests are being run per the VIE procedure with the lower oil and coolant temperatures in stages 1, 3, 5 and 6. Both the VIE and VIF run the same aging conditions.
- 4.4 Update from task force to investigate option to prolong usable life of the available VIE engines. –Adrian Alfonso/Bill Buscher There will be prices and part numbers from GM 01.22.2015. IAR is reviewing storage methods. There will be a conference call on 12.17.2015.
- 4.5 Chairman will be unavailable 12/23/2015-1/19/2016, Jerry Brys will be filling in.
- 4.6 Discussion of handling PM engine as calibrated test stands. –Dave Glaenzer

## **5.0 New Business**

- 5.1 None

## **6.0 Next Meeting.**

The next meeting will be 01.05.2016 conference call.

The meeting adjourned at 8:54 AM.

# Sequence VI Surveillance Panel Conference Call Agenda December 15 @ 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 December 8, 2015 Sequence VI Surveillance Panel.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes20151208ConferenceCall.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 Q1*

*Lab1: 1 engines*

*Lab2: 1 engines*

*Lab3: 3 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.
- 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

4.2 Discussion on precision matrix. –Rich Grundza/Labs

Step	Run Order	Lab A1	Lab A2	Lab G1	Lab G2	Lab B	Lab D	Lab E	Lab F	Engine Hours
	SOT Engine Hours	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	150Hrs Break In	
1	1	RO544	RO1010-1 1.60/1.74/3.34	RO542-2	RO544 1.36/1.83/3.19	RO542-2 3.00/1.86/4.86	RO542-2 2.77/1.70/4.47	RO544	RO1010-1 2.12/2.14/4.26	350
	2	RO544	RO1010-1 1.84/1.59/3.43	RO1010-1	RO542-2 2.93/2.16/5.09	RO544 1.48/1.64/3.12	RO542-2 2.53/1.74/4.27	RO1010-1	RO544	550
	3	RO542-2	RO542-2	RO1010-1	RO1010-1 1.95/2.13/4.07	RO1010-1 1.77/1.99/3.76	RO544 1.48/1.24/2.72	RO542-2	RO544	750
	4	RO1010-1	RO544	RO544	RO1010-1	RO544	RO1010-1	RO542-2	RO542-2	950
	5		RO544		RO542-2	RO544				1150
	6		RO1010-1		RO542-2	RO542-2				1350
	7		RO544		RO544	RO542-2				1550
	8		RO542-2		RO544	RO1010-1				1750
	9		RO542-2		RO1010-1	RO1010-1				1950
	10		RO1010-1		RO544	RO542-2				2150
	11		RO1010-1		RO542-2					2350
EOT Engine Hours		950	2350	950	2350	2150	950	950	950	Total Runs
Runs/Engine		4	11	4	11	10	4	4	4	52

4.3 Update from task force, to investigate alternative test procedure Sequence “VIF” that would improve 0W-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 Chairman will be unavailable 12/23/2015-1/19/2016, Jerry Brys will be filling in.

4.6 Discussion of handling PM engine as calibrated test stands. –Dave Glaenzer

5.) New Business

5.1 None

6.) Next Meeting

Next Tuesday (reoccurring weekly meeting)

7.) Meeting Adjourned

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