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Issued: March 01, 2016
Reply to: Dan Worcester
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These are the unapproved minutes of the 03.01.2016 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 02.16.2016 meeting.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes20160216ConferenceCall.pdf>

MOTION: Approve the minutes from the 02.16.2016 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 22 -001 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
This will be an on-going effort.
- 4.2 Discussion on precision matrix. (Spreadsheet attached)–Rich Grundza/Labs.
41 tests are complete. See Attachment 3. SwRI is running test # 6 in stand 55. Ashland has installed a new engine and reported the first test. Their first two tests on the original engine will be included in the data review. There will be a face to face meeting scheduled later to review this and the VIF test data.

- 4.3 Update from task force, to investigate alternative test procedure Sequence “VIF” that would improve 0W-16. – Dan Worcester/Satoshi Hirano [SwRI is running the first test for Sense Check # 2. IAR will start their first test this week.](#)
- 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 a Build Workshop 03.31.2016 at SwRI. SwRI has ordered two engines to support this effort.](#)

5.0 New Business

None

6.0 Next Meeting.

The next meeting will be 03.15.2016 conference call. The 03.09 meeting will be skipped.

The meeting adjourned at 8:11 AM.

Sequence VI Surveillance Panel Conference Call Agenda March 1 @ 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 February 16, 2015 Sequence VI Surveillance Panel.

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIMinutes20160216ConferenceCall.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: 1 engines

Lab2: 0 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. 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.

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

-Proceeding to stage 2 of the matrix

4.4 Update from task force to investigate option to use short blocks to supplement engine inventory. –Adrian Alfonso/Bill Buscher
SP meetings at SwRI (Bld. 209, CR313) in San Antonio, TX.

- *Tuesday, 3/29/16:*
 - *8:00am-12:00pm* *Seq. III Surveillance Panel Meeting*
 - *12:00pm-1:00pm* *Lunch*
 - *1:00pm-3:00pm* *Seq. III Surveillance Panel Meeting*
 - *3:00pm-5:00pm* *Seq. VIII Surveillance Panel Meeting*
- *Wednesday, 3/30/16:*
 - *8:00am-12:00pm* *Seq. IV Surveillance Panel Meeting +*
IVB Task Force Meeting
 - *12:00pm-1:00pm* *Lunch*
 - *1:00pm-5:00pm* *Seq. IV Surveillance Panel Meeting +*
IVB Task Force Meeting
- *Thursday, 3/31/16:*
 - *8:00am-12:00pm* *Seq. VI Engine Build Workshop*
 - *12:00pm-1:00pm* *Lunch*
 - *1:00pm-5:00pm* *Seq. VI Engine Build Workshop*

5.) New Business

6.) Next Meeting

Next Tuesday (reoccurring weekly meeting)

7.) Meeting Adjourned

ASTM SEQUENCE VI

Name	Address	Phone/Fax/Email	Attendance
Adrian Alfonso Voting Member	Intertek	Phone: (210) 838-0431 adrian.alfonso@intertek.com	ATTEND
Jason Bowden Voting Member	OH Technologies	Phone: (440) 354-7007 jhbowden@ohtech.com	ATTEND
Timothy Caudill Voting Member	Ashland	Phone: (606) 329-5708 Tlcaudill@ashland.com	ATTEND
Tim Cushing Voting Member	General Motors	Phone: (248) 881-3518 timothy.cushing@gm.com	
David Glaenzer Voting Member	Afton	Phone: (804) 788-5214 Dave.Glaenzer@aftonchemical.com	ATTEND
Rich Grundza Voting Member	ASTM TMC	Phone: (412) 365-1034 reg@astmtmc.cmu.edu	ATTEND
Jeff Hsu Voting Member	Shell	Phone: (832) 419-3482 j.hsu@shell.com	
Teri Kowalski Voting Member	Toyota	Phone: (734) 995-4032 teri.kowalski@tema.toyota.com	ATTEND
Dan Lanctot Voting Member	TEI	Phone: (210) 690-1958 dlanctot@tei-net.com	
Brian Marks Voting Member	BP Castrol	Phone: (973) 686-3325 Brian.Marks@bp.com	
Nathaniel Moles Voting Member	Lubrizol	Phone: (440) 347-4472 Nathaniel.Moles@Lubrizol.com	ATTEND
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Haiying Tang Voting Member	Chrysler	Phone: (248) 512-0593 HT146@Chrysler.com	
Dan Worcester Voting Member	Southwest	Phone: (210) 522-2405 dan.worcester@swri.org	ATTEND

ASTM SEQUENCE VI

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Dave Passmore	dpassmore@imtsind.com	IMTS	

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	est.1.14											542-2	2.02	1.31	1371	542-2	1.91	1.07	1406					544	1.82	1.53	358					
1010-1												544	1.07	1.10	1568	542-2	1.84	0.78	1603					1010-1								
542-2												544	0.79	0.71	1767	1010-1	1.34	0.75	1799					542-2								
542-2												1010-1	1.41	1.12	1966	1010-1	1.45	0.80	2021					542-2								
544												542-2	est.1.75			544	est.0.79															
1010-1												544																				

		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

43 tests in TMC database 03/01/2016
41 OPVALID tests

542-2

Lab	Stand	Stand Run	FEI 1	FEI 2	FEI Sum	EOT Hours	BLB1/BLB2 Shift	BLB2/BLA Shift	Oil Consumption
IAR (G)	1	1	2.34	1.70	4.04	390	0.23	0.60	700
LZ (B)	1	1	3.00	1.86	4.86	399	0.36	0.76	600
Afton (D)	1	1	2.77	1.70	4.47	370	0.17	1.03	400
IAR (G)	2	2	2.93	2.16	5.09	561	0.08	-0.30	800
Afton (D)	1	2	2.53	1.74	4.27	571	0.18	0.08	400
SRI (A)	1	3	2.32	1.41	3.73	779	0.33	-0.32	
SRI (A)	2	3	2.46	1.48	3.94	776	0.20	-0.85	600
APAL (C)	1	3A 2 nd engine							
APAL (C)	1	4A 2 nd engine							
XOM (F)	1	4	2.86	2.13	4.99	965	0.23	-0.19	700
IAR (G)	2	5	2.30	1.73	4.03	1154	0.28	-0.63	1000
IAR (G)	2	6	2.02	1.31	3.33	1371	0.31	-0.32	1200
LZ (B)	1	6	1.91	1.07	2.98	1406	0.19	-0.51	800
LZ (B)	1	7	1.84	0.78	2.62	1603	0.24	-0.03	1200
SRI (A)	1	8							
SRI (A)	1	9							
IAR (G)	2	10	est. 1.75				0.18		

Lab	Stand	Stand Run	FEI 1	FEI 2	FEI Sum	EOT Hours	BLB1/BLB2 Shift	BLB2/BLA Shift	Oil Consumption
SRI (A)	1	1	1.07	0.49	1.56	374	0.33	0.90	1000
IAR (G)	2	1	1.36	1.83	3.19	363	0.23	0.72	600
APAL (C)	1	1	2.14	2.08	4.22	368	0.16	1.52	700
APAL (C)	1	1A(2 nd engine)	1.82	1.53	3.35	358	0.33	0.93	1000
SRI (A)	1	2	1.44	1.47	2.91	579	0.31	0.06	800
LZ (B)	1	2	1.48	1.64	3.12	597	0.24	0.46	1000
XOM (F)	1	2	0.84	1.51	2.35	569	0.22	-0.50	650
Afton (D)	1	3	1.48	1.24	2.72	772	0.30	0.12	800
XOM (F)	1	3	1.04	1.64	2.68	768	0.09	-0.37	700
SRI (A)	2	4	1.24	1.11	2.35	978	0.22	-1.53	700
IAR (G)	1	4	1.10	1.04	2.14	1002	0.11	-0.19	1600
LZ (B)	1	4	1.04	1.38	2.42	992	0.36	-0.60	800
SRI (A)	1	5	1.31	1.32	2.63	1202	0.35	-0.56	700
LZ (B)	1	5	0.89	1.02	1.91	1210	0.32	-0.07	1000
IAR (G)	2	7	1.07	1.10	2.17	1568	0.12	-0.09	1000
IAR (G)	2	8	0.79	0.71	1.50	1767	0.30	-0.29	1100
SRI (A)	1	10							
LZ (B)	1	10	est. 0.79				0.27		
IAR (G)	2	11							

1010-1

Lab	Stand	Stand Run	FEI 1	FEI 2	FEI Sum	EOT Hours	BLB1/BLB2 Shift	BLB2/BLA Shift	Oil Consumption
SRI (A)	2	1	1.60	1.74	3.34	374	0.34	0.51	600
XOM (F)	1	1	2.12	2.14	4.26	364	0.28	0.84	500
SRI (A)	2	2	1.84	1.59	3.43	574	0.22	-0.05	700
IAR (G)	1	2	1.67	1.51	3.18	602	-0.01	-0.02	1100
APAL (C)	1	2	2.18	1.82	4.00	575	0.21	0.68	1100
APAL (C)	1	2A(2 nd engine)							
IAR (G)	1	3	1.59	1.49	3.08	803	-0.08	-0.22	1700
IAR (G)	2	3	1.95	2.12	4.07	758	0.39	-0.09	1000
LZ (B)	1	3	1.77	1.99	3.76	794	0.28	-0.46	1000
SRI (A)	1	4	1.57	1.43	3.00	1003	0.19	-0.68	700
IAR (G)	2	4	1.71	2.00	3.71	956	0.29	-0.51	1100
Afton (D)	1	4	1.83	1.68	3.51	928	0.12	-0.20	900
SRI (A)	1	6	est. 1.14				0.16		
SRI (A)	1	7							
LZ (B)	1	8	1.34	0.75	2.09	1799	0.15	-0.57	600
IAR (G)	2	9	1.41	1.12	2.53	1966	0.27	-0.57	1000
LZ (B)	1	9	1.45	0.80	2.25	2021	0.02		1400
SRI (A)	1	11							

SEQUENCE VIF RESULTS WITH NO HOUR ADJUSTMENT

SW 1 (Lab A)				SW2 (Lab A)				IAR 1 (Lab G)				IAR 2 (Lab G)			
	FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr		FEI 1	FEI 2	EOT hr
543	1.75	2.33	369	1011	est.1.62			542-2	2.10	1.44	371	1011			
542-2	2.42	1.59	572	542-2				543	1.59	1.66	621	543			
542-2	2.28	1.46	777	1011				543	1.68	1.74	820	1011			
543	1.76	2.26	995	543				542-2	Invalid (EBP issue)			542-2			
								542-2	1.76	1.03	1236				
1011				543				1011				542-2			
543				1011				543				1011			
542-2				542-2				1011				543			
1011								542-2							

Stage 1 Sense Check runs will be tested in 2 engines/2 labs

Stage 2 Sense Check runs will be tested in the other two engines/2labs

9 tests in TMC database 02/23/2016

8 OPVALID tests