

Unapproved Minutes of the September 12, 2013
Sequence VG Surveillance Panel
Conference Call

The meeting was called to order by Chairman Andy Ritchie at 2:00 PM EST.

Mike McMillan agreed to take the minutes of the meeting.

A list of the attendees on the call is included as Attachment 1.

Chairman Ritchie listed the agenda items he would like to cover in this call:

- 1) Review and approval of minutes from August 9 call
- 2) Discussion of results from Row 6 of the approval matrix for fuel Batch No. AK2821NX10-1
- 3) Review of Statistical Group's analysis of matrix data and recommendations for correction factors
- 4) Decision on whether to approve or reject the fuel batch
- 5) Old Business.
- 6) New Business.
- 7) Next Meeting

Chairman Ritchie asked if there were any corrections to the minutes from the August 9, 2013 VG Panel conference call. There being none, Ed Altman made a motion to approve the minutes. Jason Bowden seconded the motion. The motion was approved unanimously.

Chairman Ritchie read the following paragraph from the August 9 minutes: "Chairman Ritchie then noted that he has been receiving some questions on what would have to happen in the testing to be conducted for the Panel to decide to reject the fuel batch. Doyle Boese responded that if either the results for Oil 940 shift the AES dataset further to the mild side, or if the varnish results (particularly for Oil 1006-2) continue to show wide variability, he would be concerned. Rich Grundza concurred with this comment, as did several of the other Panel members."

Chairman Ritchie then commented that, in his opinion, neither of the things mentioned above had occurred, and he expected the Panel would want to

approve the fuel batch today. He then asked each of the labs to comment on their tests from Row 6 in the following matrix:

Row	A		G		D
	1	2	1	2	1
1		925-3	925-3		925-3
2	925-3	1009	1009	925-3	1009
3	925-3	1006-2	1006-2	1009	1006-2
4	925-3	1009	925-3	1009	
5	940		940		
6	1006-2	940	1006-2	940	940

Dan Worcester reported the two SwRI tests ran without any problems. They did find extensive varnish deposits, particularly on the right cam baffle. Following aggressive wiping, though, the ratings fell more in line with expected results. Ed Altman reported that Afton also found heavy tar-like deposits on the baffles in its run but that it had more effect on the varnish ratings than sludge. Al Lopez reported the two Intertek tests ran without problems and did not experience the heavy deposits on the baffles reported by the other labs.

Chairman Ritchie noted that the results of the additional Row 6 testing do seem to meet the criteria laid out in the paragraph cited above from the August 9 minutes, and called for a motion to approve the fuel batch. Dan Worcester moved to approve fuel Batch No. AK2821NX10-1, and Al Lopez seconded the motion. Ron Romano commented that he agreed with approving the fuel batch, but he still thinks it is more severe than the current batch. Chairman Ritchie called for a roll call vote, and the motion passed with 12 approves, 0 disapproves and 2 waives.

At this point Chairman Ritchie thanked the Statistics Group, which included Doyle Boese, Jessica Buchanan, Janet Buckingham, Martin Chadwick, Todd Dvorak, Rich Grundza and Jo Martinez, and in particular Doyle Boese who led the group. He then asked Doyle to go through slides 3-7 of the Statistics Group report included as Attachment 2. The raw data used in their analysis is included as Attachment 3.

Linear fuel batch correction factors are proposed for RAC, AEV and OSCR, a bell-shaped correction factor is proposed for AES, and no correction factor is proposed for APV. With the correction factor proposed for AES, the effective GF 5 limit for unadjusted AES would be 7.25.

Ron expressed concern with the AES correction factor. Referring to slide 23 he noted there were 3 passing results and 2 failing results for oil 1009. He thinks the limit should be set to force oils to be formulated more conservatively. In further discussion it was noted that the proposal would only provide for an initial correction factor, and the situation would be re-evaluated after probably 10 calibration tests are run. It was also noted that the pass rate for Oil 1009 was about 52% based on historical data. Ron asked when a re-evaluation would take place. Rich Grundza answered that it could be done anytime, but maybe something like every 6 months makes sense. At this point Ron made a motion to accept fuel Batch No. AK2821NX10-1 with the correction factors outlined in slides 4-6 of the Statistics Group report dated September 12, 2013. The effective date would be September 12, 2013, except for a 2-week waiting period before changing the K values and suspending any calibration period. Ed Altman seconded the motion. With a roll call vote, the motion passed with 14 approves, 0 disapproves, and 0 waives.

While writing the information letter, Rich Grundza noted that there was an apparent omission in the Statistics Group document regarding the extension of the LTMS Severity Shewhart K. A recommendation listed on slide 6 is to "Increase the Lab Action Severity Shewhart K from 1.80 to 2.00." Clearly, the intent was to expand the severity tolerance allowed to calibrate test stands. The applicable K in that case is the Stand Action Shewhart K. In the information letter, Rich will specify that both the Lab and Stand Action Shewhart Ks increase from 1.80 to 2.00 to capture the intent of the recommendation.

Jason Bowden asked if a lab changes to the new fuel, whether that lab can later go back to the old fuel. Rich Grundza responded no. SwRI and Intertek both commented that they have 2-3 tests remaining with the old fuel before they switch over to the new fuel batch. Afton will make the switch immediately. In further discussion Mark Overaker indicated there are about 370K gallons in the fuel batch which will probably last for between 18 months and 2 years. He will also be calculating the price for the new fuel and will report that to the labs in the next couple of days. Chairman Ritchie

commented that he wanted the Panel to discuss preparing a larger fuel batch the next time. Mark replied that Haltermann is already looking into this.

Old Business: Ron Romano updated the Panel on Sequence VH development. They have switched to a 2013 4.6L engine for the test development and have successfully run a test on Oil 1009 in that engine. The test did generate high fuel dilution, although they are unsure why this occurred at this point. The test results are shown in Attachment 4.

New Business: Dan Wocheater made a motion to change to the 2013 crankshaft in the Sequence VG test. Al Lopez seconded the motion. The motion passed with 13 approves, 0 disapproves and 1 waive. The Ford part number for the new crankshaft is 2C5E6303B13A.

Next Meeting: The next VG Panel conference call was scheduled for Tuesday, October 1, 2013 at 2:00 PM EDT.

The call was adjourned at 3:40 PM EDT.

Attachment 1

Attendees during 9/12/2013 Sequence VG Surveillance Panel Call

Afton – Ed Altman

Ashland – Timothy Caudill

BP Castrol – Timothy Miranda, Irwin Goldblatt

Ford - Ron Romano

GM – Bruce Matthews

Haltermann – Mark Overaker, Tracey King

Infineum – Andy Ritchie, Mike McMillan, Doyle Boese, Gordon Farnsworth

Intertek – Al Lopez, Martin Chadwick

Lubrizol – Jerome Brys, Chris Mileti, Chris Castanien

OHT – Matt Bowden, Jason Bowden

Oronite– Jo Martinez

SwRI – Bill Buscher, Janet Buckingham, Chad Stovell, Dan Worcester, Ben Weber

TEI – Clayton Knight

TMC – Rich Grundza

Toyota – Jim Linden