

Unapproved Minutes of the August 2, 2013
Sequence VG Surveillance Panel
Conference Call

The meeting was called to order by Chairman Andy Ritchie at 10:00 AM EDT.

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 the June 19, June 21, and July 8, 2013 calls
- 2) Review of Statisticians' Group report addressing severity adjustments and precision bands needed to achieve a 75% stand calibration rate, and the relative performance separation of the reference oils in the approval matrix.
- 3) Review of fuel supplier report from Haltermann addressing the cost and timing implications of either modifying the current fuel blend or starting another new batch if the current fuel batch (AK2821NX10-1) is rejected
- 4) Decision on whether to approve or reject Batch No. AK2821NX10-1 fuel or call for additional data analysis or testing
- 5) Old Business.
- 6) New Business.
- 7) Next Meeting

Chairman Ritchie asked if there were any corrections to the revised draft minutes from the June 19, 2013 VG Panel conference call. There being none, Matt Bowden made a motion to approve the minutes. Ed Altman seconded the motion. The motion was approved unanimously.

Chairman Ritchie asked if there were any corrections to the draft minutes from the June 21, 2013 VG Panel conference call. There being none, Matt Bowden made a motion to approve the minutes. Ed Altman seconded the motion. The motion was approved unanimously.

Chairman Ritchie asked if there were any corrections to the draft minutes from the July 8, 2013 VG Panel conference call. There being none, Matt

Bowden made a motion to approve the minutes. Ed Altman seconded the motion. The motion was approved unanimously.

Chairman Ritchie called attention to the report from the Statistical Group included here as Attachment 2, and the report from Haltermann included here as Attachment 3. He said he did not intend to go through these two presentations in detail at this meeting since both of them had been distributed well in advance of this call. There was no objection from the Panel on this course of action. Chairman Ritchie commented that, in his opinion, what was needed from the Panel is a decision, based on engineering judgment, whether to accept or reject Fuel Batch No. AK2821NX10-1, recognizing that this is a somewhat “messy” decision in that this fuel batch appears to be more severe than other recent fuel batches that have been approved. He then opened the floor to further discussion.

Ed Altman commented that if we reject the fuel batch, we can either try to adjust it or start over on another blend. He expressed concern that if we adjust the current batch we might change the overall severity but won't change the relationship between the oils. Ron Romano commented that he didn't like this fuel batch because there is no discrimination between Oils 940 and 925-3 and Oil 1009. He recognized that this is perhaps because we don't have enough data on Oil 940. Al Lopez agreed we don't have enough data on Oil 940, but asked, if we say we're going to generate more data, what happens to candidates run in between? Ed Altman stated that we have no path forward if we reject the batch and that we have a lot invested in this fuel batch. Rich Grundza and Chris Castanien both commented that what's done is water under the bridge and that we shouldn't throw good money after bad, if we don't believe the current batch is acceptable. They argued that we need a path forward, and given that Haltermann has indicated they wouldn't build a new batch any differently than this batch, is doing that a good option. Ron commented that with the adjustments being recommended in the Statistical Group's presentation, it will make the test pretty difficult to pass. He asked if we run an additional 5 tests and the data fall where we would like them to, will we be satisfied.

In an effort to try to move things along, Chairman Ritchie then summarized the data we have to date:

For Oil 940 there are 2 runs. Neither passed AES or OSC. Results were 6.06AES with 90% OSC and 6.63AES with 96% OSC. It appears that this

oil can meet calibration requirements, but is very unlikely to pass GF-5 requirements.

For Oil 1006-2, there were 3 runs. All 3 meet all GF-5 requirements.

For Oil 1009, there were 6 runs. Only 1 (17%) would have passed all GF-5 parameters. Of the 6, only 2 would have passed the AES requirement, and both are at the P/F line – 7.44 AES with OSC at 98% and 7.52 AES with OSC at 14%. 3 out of the 6 tests would pass the GF-5 limit for OSC. For comparison, the pass rate for Oil 1009 with the last fuel batch is 4 out of 13 (31%). All 13 runs would have passed the GF-5 OSC requirement; the highest result was 15%.

The key concern seems to be that there is no discrimination between the results for Oils 940 and 1009 on AES, although there does appear to be a directional separation of the two oils. With this in mind, discussion shifted to the possibility of approving the batch for an interim period, while additional data on Oils 940 and 1006-2 are obtained. In trying to address the question of how long it would take to determine whether doing this was the right decision, Al Lopez said that Intertek would run an additional calibration test as soon as possible; Raham Kirkwood said SwRI could run one calibration test within a few weeks and a second probably in October; Ed Altman said Afton could probably run one calibration test within a few weeks. The Panel members agreed that this was too long a period, since candidate tests would certainly be run during this period of uncertainty, and the issue of severity adjustments would also be difficult to address.

The discussion then turned to running additional tests on Oils 940 and 1006-2, either as part of the matrix, or as donated tests. Haltermann indicated that running 5 additional tests as part of the matrix (i.e., Haltermann paying for the tests rather than the test labs) would probably increase the cost of the fuel by \$1-2/gallon, versus ~\$11/gallon by starting over on developing a new fuel batch. After some additional discussion, Ron Romano made the following motion:

Motion: Fuel Batch No. AK2821NX10-1 will not be approved now.

Instead, 5 additional tests will be run using Fuel Batch No. AK2821NX10-1, 3 tests on Oil 940 and 2 tests on Oil 1006-2. Haltermann will pay for the tests. Following completion of the tests, the data from these tests will be combined with the other fuel matrix results, and an additional analysis will be conducted by the Statistical Group. Following that analysis, a meeting will be held to determine whether to accept or reject Fuel Batch No.

AK2821NX10-1.

The motion was seconded by Al Lopez. Ed Altman repeated Ron Romano's earlier question of whether we will be satisfied by running these additional tests. The feeling seemed to be that, if the results fall where we expect them to, the fuel batch will be acceptable. Following some additional discussion, a vote was taken. The motion passed with 10 affirmatives, 0 negatives and 3 waives.

Ed suggested that Afton run Oil 940, with the two San Antonio labs each running both Oil 940 and 1006-2. Doyle agreed to collect the individual Statistical Group members' recommendations for fuel assignments and get the results to TMC by the middle of next week. It was agreed that the same test stands used in previous matrix testing should be used for these 5 runs. Mark Overaker said that the fuel required for this testing will probably not be ready for shipment until Wednesday of next week. It was agreed that another conference call should be held one week from today to finalize all details of the proposed testing. That meeting was scheduled for Friday, August 9, at 10:00 AM EDT.

Old Business: None

New Business: None

Next Meeting: The next VG Panel conference call is scheduled for Friday, August 9, 2013 at 10:00 AM EDT.

The call was adjourned at 11:15 AM EDT.

Attachment 1

Attendees during 8/2/2013 Sequence VG Surveillance Panel Call

Afton – Ed Altman

Ashland – Timothy Caudill

BP Castrol – Timothy Miranda, Irwin Goldblatt, Rick Tittel

Ford - Ron Romano

GM – Bruce Matthews, Robert Stockwell, Eric Johnson

Haltermann – Mark Overaker, Tracey King

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

Intertek – Al Lopez, Martin Chadwick

Lubrizol – Jerome Brys, Jessica Buchanan , Chris Castanien, Michael Conrad

OHT – Dwight Bowden, Matt Bowden

Oronite– Jo Martinez

SwRI – Raham Kirkwood

TEI – Clayton Knight

TMC – Rich Grundza