

Unapproved Minutes of the March 9, 2015  
Sequence VG Surveillance Panel  
Conference Call

The meeting was called to order by Chairman Andy Ritchie at 1:00 PM 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) Approval of the minutes from the March 3, 2015 Sequence VG Panel Conference Call
- 2) Report from Haltermann on reason for differences in distillation curves of current and new batches of VG fuel
- 3) Discussion of next steps in completing fuel approval matrix
- 4) Additional Old Business
- 5) New Business
- 6) Next meeting/call

Chairman Ritchie asked if there were any additions or corrections to the minutes from the March 3, 2015 VG Panel Conference Call. Ed Altman questioned the statement that Intertek and SwRI had increased fuel flow part way through the test. Al Lopez explained what had been done, but neither Al nor Ed believed the detail had to be included in the minutes. That being the case, Ed Altman moved and Jason Bowden seconded a motion to approve the minutes. The motion was approved unanimously.

Chairman Ritchie remarked that he had talked on the phone with Mark Overaker from Haltermann and expected him to be present on this call. Tracey King had emailed him when the call started but had received no response as yet. Therefore, Chairman Ritchie reported on the conversations he had had with Mark and others last week and today. Mark had indicated that the recipe for the new fuel batch that the three Row 1 tests were conducted on was identical to the recipe used in the final reblend of the currently approved VG fuel batch. Mark indicated he had no data to explain

the lower fuel dilution obtained with the current fuel batch. Mark went on to say he thought the primary objective was to make sludge in the VG test, and we have 3 results for AES on Oil 940 which are very close to each other but which are slightly mild (~1 sd) of target. Chairman Ritchie said he indicated to Mark that the overall objective was to make a more severe fuel for the VH, because, based on VH development testing to date, it appears that the VH may be milder than the VG. Doyle Boese commented that he is not convinced on the basis of the three runs conducted that this new fuel batch is providing a better standard deviation than we have with previous fuels. Gordon Farnsworth agreed with this, citing that historically there has been little difference in the standard deviations of the reference oils with different fuel batches.

Chairman Ritchie remarked that there appear to be two camps of thought at the moment. Ron Romano, Al Lopez and some others think the new fuel batch is too mild and want to see an adjustment made, while Mark and others would like to see more data before making any decision on adjusting the composition of the blend. Doyle commented that, if the objective is to be on target with the present fuel batch, we should complete Row 1 of the fuel matrix shown below. However, if we want to be more severe than the present fuel batch, we should probably attempt a reblend.

Lab	SwRI		IAR		LZ
Stand	1	2	1	2	1
Run 1	1009	940	940	1009	940
Run 2	1006-2	1009	1006-2	940	1006-2
Run 3	940	940	1009	1009	1009

Again, Chairman Ritchie attempted to summarize, saying that as he sees it there are three options for proceeding: 1) Run VH tests on the new fuel batch to determine whether the VH is milder than the VG with this fuel batch; 2) Complete Row 1 of the matrix to see if the new fuel batch discriminates between Oils 940 and 1009; 3) Reblend the new fuel batch in an attempt to increase severity. In discussing these options, Ron Romano said he has no confidence that the VH test in its current form will be any more severe than the VG test on this new fuel batch, but Ron did offer what might be a further option. That would be to adapt the VH test to the new

fuel batch; for example by running an additional 24 hours, changing the injection timing, etc.

Chairman Ritchie re-iterated what Mark had told him in a conversation last week, which was to run a couple of VH tests (probably on Oil 940) and also complete Row 1. Al Lopez expressed concern at this point that we haven't consumed any of the current VG fuel batch recently, and we have a limited number of VG rings available. Al suggested maybe we should conserve the remaining amount of the current batch of VG fuel for VG testing, if the supply of the current batch matches up with the ring supply. Others agreed, but want to get a hard count of the amount of the current fuel batch remaining and the number of rings. Haltermann was given the assignment to determine how much of the current fuel batch is left in the storage tank(s) plus what is on hand at the labs. A rough estimate today is that approximately 32K gallons are in hand at the labs.

Chairman Ritchie summarized that it appears that the overall objective has changed; it is now to approve a new VH fuel batch, and conserve the current fuel batch for VG testing. The first step will be to run 2 VH tests with the new fuel batch on Oil 940, to get a comparison with the VG results on this oil already obtained. Also, Haltermann should reconsider how they might make the new fuel batch more severe, if it comes to that. If the testing starts on March 23, it should complete the first week in April. Ratings should be available by April 6, so the Panel can have a conference call to discuss the results on April 7, the next regularly scheduled conference call date. Chairman Ritchie said he would not hesitate to schedule a call earlier, however, if things proceeded more rapidly, or if he believed it was warranted for other reasons.

**Old Business:** SwRI noted that they will be offering the ECM and both wiring harnesses for sale to the other labs for \$4720. This is considerably less than what was originally projected; SwRI said they were doing this at basically their cost. There was also a remark that, in one of the tests run, increased back pressure resulted in increased stress on the oil. This could be useful if an attempt is made to increase VH severity to better match the severity of the current version of the new fuel batch.

**New Business:** There was no New Business brought before the Panel.

**Next Meeting:** The next VG Panel Conference Call is planned for Tuesday, April 7, 2015 at 2:00 PM EST.

The conference call was adjourned at 2:10 PM EDT.

**Attachment 1**

**Attendance for 3/9/15 Sequence VG Call**

**Infineum:** Andrew Ritchie, Mike McMillan, Gordon Farnsworth, Doyle Boese

**Ashland:** Amol Savant, Tim Caudell

**BP Castrol :** Timothy Miranda, David Tsui

**Ford:** Ron Romano

**Haltermann :** Tracey King

**SwRI :** Dan Worcester, Cole Hudson, Pat Lang

**Intertek:** Al Lopez

**Afton:** Ed Altman

**TMC:** Rich Grundza

**Lubrizol:** Chris Mileti, Michael Conrad

**Oronite:** Jo Martinez, Ricardo Affinito

**OHT:** Jason Bowden, Matt Bowden

**TEI:** Zack Bishop, Dan Langto

**Neste Oil:** Chris Castanien