

Unapproved Minutes of the November 18, 2014  
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) Approval of the minutes from the November 3, 2014 Sequence VG Panel Conference Call
- 2) Discussion of options and timing for blending new VG fuel batch
- 3) Report from Haltermann on status of current fuel batch and timing for blending a new fuel batch
- 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 November 3, 2014 VG Panel Conference Call. There being none, Jason Bowden moved and Al Lopez seconded a motion to approve the minutes. The motion was approved unanimously.

Chairman Ritchie referred to the list of Options for VH Test Development and Blending a New Sequence V Fuel Batch, which was discussed during the November 3 call. That list is also attached to these minutes (see Attachment 2). He explained that Option 5 on that list was the one the Panel agreed to pursue. Option 5 can be summarized as follows:

*Reserve 40,000 gallons of the current fuel batch for VH test development work and release the remainder for VG candidate testing. Hold VH precision matrix testing until the next fuel batch is approved. Use the new batch for the VH precision matrix and all VH testing thereafter. Switch VG testing to the new fuel batch once the current batch is depleted.*

Chairman Ritchie asked Mark Overaker from Haltermann if he had developed an estimate for the timeline required to develop a new fuel batch. Mark replied he wouldn't be able to develop a reasonably accurate timeline until he is able to get inside the current storage tank and see what maintenance needs to be done before a new batch is prepared for storage in the tank. He said that work has already begun to empty the tank, and that, if everything goes well, the tank should be empty by the end of the week. After that, the tank would have to be degassed, and the floor of the tank inspected to see if any repairs are needed. At that point Mark indicated he should be able to put together a reasonable timeline estimate for completing a new fuel batch. At Chairman Ritchie's request, Mark agreed to circulate such an estimated timeline to the VG Panel distribution list. Chairman Ritchie indicated that he would like to convene the next VG Panel conference call shortly after that.

**Old Business:** There was no additional Old Business brought before the Panel.

**New Business:** Chairman Ritchie stated that he intends to report the above plan of action during the ASTM meetings in December. He will develop a VG Panel report to ASTM and distribute it to Panel members before the meetings.

Chairman Ritchie asked whether there was any other New Business. Al Lopez questioned whether, in Option 5, we should begin running VH matrix tests immediately once the new fuel batch is approved, or whether we should run some number of screening tests first. Ron Romano replied we don't have much choice, because we have to use new fuel batch anyway. Gordon Farnsworth echoed this. Ed Altman then questioned whether we are currently correcting VH development data for the fuel batch. Ron replied no, we are not. Additional discussion brought out the point that the main objective in VH development is to maintain separation between the reference oils, and that it doesn't really matter if the numerical values of the various parameters remain the same. The VH will be a new test.

**Next Meeting:** The next VG Panel Conference Call will be held at the call of the Chairman.

The conference call was adjourned at 2:30 PM EST.

**Attachment 1**

**Attendance for 11/18/14 Sequence VG Call**

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

**Ashland** Amol Savant

**BP Castrol:** Timothy Miranda

**Ford:** Ron Romano

**GM :** Robert Stockwell

**Haltermann :** Mark Overaker, Tracey King

**SwRI :** Dan Worcester, Cole Hudson, Janet Buckingham

**Intertek:** Al Lopez, Bill Buscher

**Afton:** Ed Altman

**TMC:** Rich Grundza

**Lubrizol:** Jerry Brys, Chris Mileti, Kevin O'Malley

**OHT:** Jason Bowden, Matt Bowden

**Oronite:** Jo Martinez

**TEI:** Zack Bishop, Dan Lanctot, Clayton Knight

**Weber  
Consulting:** Ben Weber

## Attachment 2

### Options for VH Test Development and Blending a New Sequence V Fuel Batch

All options require that a new batch of Sequence V fuel be started as soon as possible and storage to be found for the remainder of the current batch (AK2821NX10-1)\*

#### Option #1

Continue to use the current fuel batch for both VG candidate and VH development until a new batch is approved. Switch VH testing to the new batch and run out the old batch as needed with VG testing.

**Pros** – Allows both VG testing and VH development testing to continue for several months.

**Cons** – Current fuel batch may be depleted before the new batch is approved, which could delay completion of VH test development.

If VH matrix is run with current fuel batch, a move to a new fuel batch would be required almost immediately, negatively impacting reference oil target setting and possibly violating requirement that same fuel used in matrix testing be used for at least 1 reference period thereafter.

#### Option #2

Same as one above except reserve a minimum of 40,000 gallons of the current fuel batch for VH matrix testing.

**Pros** – Assures that the VH matrix can be run when test procedure is declared ready.

**Cons** – May restrict VG candidate testing if remainder of current fuel batch is depleted before new fuel batch is approved.

Will require very early switch of VH to new fuel, thus disrupting reference oil target generation and possibly violating requirement that same fuel used in matrix testing be used for at least 1 reference period thereafter.

### **Option #3**

Stop all VG testing and reserve remaining quantity of the current fuel batch for VH test development, precision matrix testing and candidate testing.

**Pros** – VH test development can go on unimpeded.

**Cons** – Will be unable to run VG tests for several months.

Current fuel batch not large enough to support VH testing for very long after completion of precision matrix. Could violate requirement that same fuel used in matrix testing be used for at least 1 reference period thereafter.

### **Option #4**

Dedicate current fuel batch for VG testing and remaining VH test development testing. Hold VH precision matrix testing until the next fuel batch is approved. Use the new batch for the VH precision matrix and all VH testing thereafter. Switch VG testing to the new fuel batch once the current batch is depleted.

**Pros** – Provides fuel to support VH development without restricting VG candidate testing. Allows VG stands to remain calibrated for use in new fuel batch approval testing.

Assures that the VH test, once approved, will not experience any change in fuel batch for a significant time, and assures a consistent fuel for establishing VH reference oil targets.

**Cons** – Could delay start of the VH precision matrix if the new fuel batch approval is significantly delayed (e.g., because a rework is required).

Could delay completion of VH test development if current batch is depleted before VH test development is completed.

### **Option #5**

Same as Option #4, except reserve 40,000 gallons of the current fuel batch for VH test development work and release the remainder for VG candidate testing. Still hold VH precision matrix testing until the next fuel batch is approved and use the new batch for the VH precision matrix and all VH testing thereafter. Switch VG testing to the new fuel batch once the current batch is depleted.

**Pros** – Ensures sufficient fuel from current batch will be available to support VH development, without restricting VG candidate testing. Allows VG stands to remain calibrated for use in new fuel batch approval testing.

Assures that the VH test, once approved, will not experience any change in fuel batch for a significant time and assures a consistent fuel for establishing VH reference oil targets.

**Cons** – Could delay start of the VH precision matrix if the new fuel batch approval is significantly delayed (e.g., because a rework is required).

**\*Note:** Because in all of the options it is planned to run the new fuel batch prove-out matrix with VG testing, an additional **Con** in all of the options above is that they assume that any change to the fuel batch from current to new affects both the VG and VH tests the same.