

# MACK-Volvo Surveillance Panel Meeting Notes

## 06/07/2023 @ 2:00 P.M. EST

### Attendees

SwRI: Isaac Leer, Robert Warden, Travis Kostan  
Oronite: Josephine Martinez  
Afton: Joseph Hoehn, Bob Campbell  
Infineum: David Brass (Chairman), Elisa Santos, Todd Dvorak  
Intertek: Garrett White (Secretary), Khaled Elnagi, Juan Vega  
Lubrizol: Austin Brininger  
CP Chem:  
Haltermann:  
Exxon Mobil: Steve Jetter  
TMC: Sean Moyer  
TEI: Derek Grosch  
Ford:  
Volvo:

### Agenda

- Volvo T-13 Statistical Review Continued
- Volvo T-13 Severity Adjustment Discussion

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#### *Action Items and Key Points*

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- The statistician group requested more data to determine if an ICF or change in targets for the T-13 reference oil were necessary.
- Motion that the next references conducted in Lab A, D and G should use batch C liners and TMC 823-1 reference oil was put forth, but labs asked for a few days to consider before voting.
- The surveillance panel asked the statisticians group to re-convene to discuss whether an ICF or target change is needed for the T-13, with separate analysis of the KV40% increase and IRPH.
- NCDT group requested that an analysis be performed to determine whether a transformation of the IRPH result in the T-13 is necessary. 2 methods of analysis were completed determining no transformation is needed based on the data used. The statistician group will discuss this topic further in their next meeting.

## Summary of Discussion

### Volvo T-13 Statistical Review Continued

- David Brass presented the statisticians response to the surveillance panel's request to investigate the need for a target change or ICF change to the T-13.
- Targets and standard deviations for reference oil 823 were adopted for 823-1 in the previous meeting.
- A motion also passed in the previous meeting that future references are to run 823-1 until 10 data points are submitted. Once completed 823 can be run.
- Statisticians group determined that additional data is needed to make a unanimous decision.
  - Preference is for labs to run follow on reference tests with 823-1 using batch C liners.
  - References with 823-1 and batch D liners would be confounding to the analysis due to the unknown influence the liner may have on the data.
- The KV40% increase industry data shows a more consistent mild trend than IRPH.
- David: I ask that the statisticians group focus on the analysis of KV40% increase.
- Travis: 823 has been off target for a long time. The operational changes introduced in 2017 did influence the test. I think we have plenty of data to say the test is mild and believe the test should receive a CF and not a target change. We have 6 years of data showing that operationally the test is mild.
- Robert W: What if we designated KV40% increase as a non-critical parameter?
- Bob C: It is concerning to make a category pass/fail parameter a non-critical parameter.
- Unknown: Making a pass/fail parameter non-critical in the references has been done before. An example is the T-8.
- Bob C: We are always going to lack data in HD testing. I think we need to figure out if 823-1 and 823 are the same and if so, utilize historical data for the analysis. In my mind adding CFs would make more sense.
- David: I do not want to leave this aside. There are stands that need to reference soon so we will touch on that in a minute. I would like to ask the stats group to analyze IRPH and KV40% increase separately, with more focus on KV40% increase.
- Travis: Not optimistic that much change is going to occur with the stats group. There are philosophical differences between the statisticians.
- Josephine: Perhaps we can come up with an ICF.
- David: If there are currently 2 sides then the stats group does need to re-convene and determine which option to go with.
- It was agreed in October that all labs would complete coordinated reference runs on 823-1 and batch C liners.
- Labs A, G, and B completed their tests on batch C liners.
- Lab D conducted their reference on batch D liners.
- There are 3 kits at TEI with batch C liners available.

**David Brass motions that the next references conducted in Lab A, D and G should use batch C liners and TMC 823-1 reference oil. If testing is conducted prior to calibration end, TMC shall adjust the reference periods to have no net gain or loss of reference period time. The stand used must have previously completed at least 2 passing references if it is used for this purpose.**

- Juan V: I ask that we have a couple days to think about this motion.
- Robert W: I would like to ask for the same.
- Motion was not voted on in this meeting.

### **Volvo T-13 Severity Adjustment Discussion**

- Request was made by the NCDT group to determine if a transformation should be used for the IRPH parameter in the T-13 test.
- Two options of how to analyze whether a transformation was needed were presented.
- Option 1: The analysis included 88 tests from 3/7/2015 to present. This data set includes technologies with results near CK-4 pass/fail limit (PC11LL, PC11G, PC11Y, PC11D, 823 and 823-1) and oils from one technology with IRPH results around 50 (PC11B, PC11E, PC11KK)
  - 3/7/2015 marks the date in which the T-13 transitioned from torque control to fuel flow control.
  - This analysis dissected the data by lab, each stands lab, oil, and liner batch.
  - Option 1 determined there is no indication a transformation is needed.
- Option 2: The analysis considered data from April 18<sup>th</sup>, 2017, to present.
  - April 18<sup>th</sup>, 2017 marks the date in which humidity control and coolant filter replacement were instituted.
  - Only TMC reference oils 823 and 823-1 have been tested on this version of the T-13 procedure.
  - Option 2 determined that the data on 823 and 823-1 does not indicate a need for a transformation.
- VDS 4.5 and VDS 5 oils could exhibit lower variability than CK-4 performance oils. The LTMS database does not contain data on oils that can perform at this level.
- Next step to aid in the analysis, if this needs to be pursued further, would be to request blind, non-reference data from the ACC.
- David: Sean, has something like this been done before?  
Sean: Using non-reference data hasn't been done before in an analysis like this one.
- David: Is there a desire to ask the ACC to request data to help determine if a transform is necessary?
- There has not been an ask in the NCDT meeting for a new reference oil for the T-13 in PC-12.
- Data consisting of the T-13 matrix oils and current reference oils, 823 and 823-1, were displayed showing the level of variability in each reference oil used in T-13 testing.
- Bob C: An oil with a target of 120 and one with a target of 80 probably should be corrected differently.
- Elisa: This could be another good topic of discussion for the stats group.

**Next Meeting Date/Time**

Next meeting to be determined, likely in the month of July.

Meeting adjourned: 3:08 PM EST