

**Cummins Surveillance Panel Teleconference
August 21, 2020 10:00 – 12:00 EDT**

Attendance:

Sean Moyer - TMC
Jim Matasic - Lubrizol
Christian Porter, Abaigh Ritzenthaler, Todd Dvorak - Afton
Jose Starling, Bob Warden, Jim McCord - SwRI
Andrew Smith, Martin Chadwick - Intertek
Mark Cooper - Chevron Oronite
Dan Lanctot - TEI
Phil Shelton - Cummins
Elisa Santos, David Brass, Charlie Leverett, Jim Gutzwiller- Infineum
Prasad Tumati - Haltermann Solutions
Jon VanScoyoc – CP Chem
Steve Jetter – ExxonMobil

Agenda:

1) Camshaft Wear Industry Action Alarm Discussion

Meeting Minutes:

1) Camshaft Wear Industry Action Alarm Discussion

Todd Dvorak made a presentation to the panel showing the final analysis he generated with the help of the entire statisticians group with recommendations going forward to address the industry action alarm (included in minutes). The executive summary is that the group is recommending a multiplicative correction factor for each hardware batch as well as updated targets for reference oil blends 831-3 and 831-4. Sean gave a brief history of the reference oil blends. The information from the supplier is provided here:

*“831-1 & 831-2 used different batches of base oils and additive components from one another.
831-3 & 831-4 both used the exact same batches of base oils and additive components but the
batches were different than those used to blend 831-1 & 831-2”*

Todd continued through the presentation discussing each option and the recommendation from the statisticians group for the panel to consider.

The recommendation from the presentation is:

- Use a multiplicative correction factor of 0.94 for “KD” 0.77 Camshaft-Tappet and 0.77 for “LE” Camshaft-Tappet combination hardware batches.
- Revise reference oil target for 831-3 and 831-4 to 52.4
- Revise Standard Deviation Target for Reference Oil 831-3 and 831-4 to 9.2
 - Currently it is 8.7
- Revise Severity Adjustment Standard deviation to 8.5
 - Currently it is 8.7

Martin Chadwick commented that the stats group spent a lot of time discussing the options because the dataset is “messy” and that while this isn’t the only solution it was a perfectly reasonable and much deliberated solution to the issue. Martin pointed out that Todd did multiple revisions of the analysis and should be applauded for his effort.

Christian Porter motioned that the SP adopt the recommended changes for ACSW correction factors for KD and LE hardware, reference oil targets and standard deviations for oils 831-3 and 831-4 and severity adjustment standard deviation for ACSW. The 2 week waiting period for LTMS changes to start 8/21 and will include any changes the panel decides to adopt for tappet weight loss in the next 2 weeks. The correction factors will apply to candidates that EOT on or after 9/4.

Bob Warden seconded the motion.

Sean Moyer pointed out that currently calibrated stands are at jeopardy of having their calibration period terminated.

There were no negatives and no waives. The motion carried.

Elisa Santos asked what the process for reference oil changes between blends was at the TMC. Sean pointed out that the suppliers report to the TMC any changes they make between blends and that the TMC conducts basic analysis to make sure that properties stay consistent between blends. The best process for detecting oil blend differences is for coordinated reference tests to be run when a new re-blend is introduced.

2) Hardware update

Phil Shelton announced that the pushrods had arrived and were on a truck to Texas for delivery.

Meeting adjourned at 11:08 EDT.