

**Cummins Surveillance Panel Teleconference
September 2, 2020 10:00 – 11:00 EDT**

Attendance:

Sean Moyer - TMC
Jim Matasic - Lubrizol
Bob Campbell, Abaigh Ritzenthaler, Todd Dvorak - Afton
Jose Starling, Bob Warden, Travis Kostan - 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) ISB Tappet Wear Correction Factor and Reference Oil Target Review

Meeting Minutes:

1) ISB Tappet Wear Correction Factor and Reference Oil Target Review

Todd Dvorak reviewed a presentation (attached in minutes) that he put together that was reviewed by the stats group. The presentation is a review of the options for updating ISB tappet wear correction factors using the same analysis used to update the camshaft wear correction factor and reference oil targets. There was much discussion amongst the stats group about whether the crosshead hardware batch has any effect on the tappet wear. The engineers have indicated to the stats group that the crosshead should have no effect on the tappet wear but the data analysis suggests that may not be the case. David Brass reviewed a slide that Elisa put together reviewing a history of the test over hardware and reference oil batches. The data seems to suggest that the crossheads do in fact factor in to the tappet wear. Bob Campbell indicated that it is hard to believe that crosshead batch changes would have any impact on the cam/tappet wear interface. There was lengthy discussion about the path forward knowing that the oil blends are different.

Todd continued to review the presentation and presented to the panel the proposed correction factor updates for LE and KD hardware as well as the reference oil targets for 831-3 and 831-4. Todd asked Andrew what he would like to do going forward. Andrew asked the rest of the panel if they would like to consider a motion to accept the proposal. Nothing was discussed and David asked that Elisa be allowed to review her slides in the appendix of Todd's presentation.

Elisa's analysis suggests that the target for tappet wear is correct and doesn't need to be updated. Martin Chadwick pointed out that we've already accepted the camshaft wear updates and that we don't need to necessarily update the tappet wear correction factor and targets now. We can monitor the test and revisit this analysis at a later date.

Bob Campbell pointed out that we know the hardware batches changed and that the oils are different than previous batches and that we definitely need to explore what changes we need to make.

David Brass commented that we have done the analysis and we found changes that need to be made but that the tappet wear data suggests that it doesn't need to be updated. Bob asked if we somehow lucked into those corrections.

Andrew asked if the panel wanted to stats group to continue their analysis or if they wanted to continue to look at the stats group's presentation.

Andrew said he is going to schedule a meeting next week to continue the discussion.

Meeting adjourned at 11:02 EDT.