September 17th, 2020

Caterpillar Surveillance Panel Teleconference Minutes

Conference Attendees:

Infineum - Jim Gutzwiller (Chairman), Elisa Santos, David Brass, Gang Hu, Charlie Leverett

Caterpillar - Hind Abi-Akar, Mark Jarrett

Intertek - Josh Ward (Secretary), Hung Nguyen, Timothy Griffin

Haltermann - Prasad Tumati

TMC - Sean Moyer

SwRI - Bob Warden, Travis Kostan, Jose Starling

Lubrizol - Alex Ebner, William Larch, Marco Ledjenac

TEI - Dan Lanctot

Afton - Todd Dvorak, Ben Maddock

Chevron – Jo Martinez, David Lee

CP Chem – Jonathan VanScoyoc

Daimler – Mesfin Belay

Volvo - Gregory Birky

Agenda Items:

- Status of COAT as alternative/replacement test for EOAT
- 1N Severity Issues and Stats Group Meeting Outcome
- Alternate Fuel Supplier Discussion

Discussion:

Status of COAT as alternative/replacement test for EOAT:

- API has not yet responded to the panel or the labs concerning the final approval for the COAT / EOAT correlation matrix test funding
- API must officially approve the funding and labs must finalize paperwork with API before testing can begin
- No updated timeline on when API is expected to respond

1N Severity Issues and Stats Group Meeting Outcome:

- Elisa Santos presented an updated presentation on 1N test severity
 - The stats group met on 8/20/2020 to discuss the 1N test severity issues and alternate fuel supplier criteria
 - Detailed information from the stats group can be found in the attached presentation
 - The stats group proposed multiple paths forward concerning 1N test severity:
 - Investigate hardware changes to determine cause of the inversion in reference oil severity

- No immediate action necessary as there are currently no severity or precision alarms
- Surveillance panel feedback needed to further evaluate the LTMS concerning the severity of both reference oils. Without investigation into the historical and current test performance, assumptions will need to be defined and agreed upon for the stats group to make further recommendations
- The overall recommendation coming out of the previous stats group meeting was that the 1N does not currently make a good candidate for testing the affects of an alternate fuel supplier on test severity
 - Due to required assumptions concerning hardware related to previous test severity shifts in order to calculate standard deviation for alternate fuel supplier acceptance
 - Due to low number of tests ran and volume of fuel consumed
 - Due to needing more investigation into the previous test severity shift and more data being needed to evaluate the current trend in reference test results
- The surveillance panel agreed to hold off on any changes until more reference data is produced
- Lubrizol will try to find the historical hardware data that were linked to previous shifts in test severity and will share with the panel
- The alternate fuel supplier discussion for the 1N will be on hold until more data is available and reviewed by the panel

Alternate Fuel Supplier Discussion:

- The panel agreed to put the 1N alternate fuel supplier criteria discussion on hold and decided the COAT would be the next test to be evaluated
- Intertek and SWRI both advised that they can run alternate fuel in the COAT stands and that given the small amount of fuel used for the COAT test, development tests could be run out of totes
- Discussion on the alternate fuel supplier acceptance criteria for the COAT and other CAT tests will be continued on future calls

Actions:

- Lubrizol Provide 1N hardware data from 2017 era test severity investigation
- Elisa Santos Evaluate COAT LTMS concerning alternate fuel supplier acceptance criteria
- Bob Warden Evaluate COAT operational data to propose operational parameter limits or criteria concerning alternate fuel supplier acceptance
- The labs and TMC will coordinate a meeting to review COAT procedure updates

Next CAT SP Call Scheduled for TBD: Jim Gutzwiller will send notice for meeting once Elisa and Bob have prepared the COAT information concerning alternate fuel acceptance criteria