Cummins Surveillance Panel Conference Call Meeting Notes

Thursday January 22, 2015 from 2:00-4:00 EST

Attendance:

Marnix Torreman - Chevron Oronite
Mark Cooper - Chevron Oronite
Dan Nyman —Cummins
Jim Gutzwiller — Infineum
Pat Fetterman - Infineum
Bob Salgueiro - Infineum
Jim Moritz — Intertek
Mey Dewey - Intertek

Sean Moyer - TMC

Zac Bishop - TEI

Dan Lanctot -TEI

Michael Conrad -Lubrizol

Ravi Tallamraju -Lubrizol

Nick Secue - Lubrizol

Kevin O'Malley -Lubrizol

Perry Grosch - SwRI

Jim Carroll - SwRI

Martin Thompson - SwRI

Jose Starling - SwRI

Greg shank - Volvo

Bob Campbell - Afton

ISM:

- New oil filters, status and introduction
 - Dan Nyman—~100 have been shipped. The batch size is ~1300, same media as before.
 The folds are 58 +/- 1 pleats.
 - o Are they square? The importance of them being square has been conveyed.
 - Does the supplier have any other perspective on plugging? Not at this time
 - When do we incorporate them? Out of supply of the last batch. 8 of the new batch in stock and 92 coming next week. 843 will be the last kit with old filter, 844 first kit with new jan2015 batch code
 - o 2010 batch size was ~450 filters
 - o Media in new batch is exactly the same as current media, same roll of material in fact.
 - Does each lab need to bring in new batch with a reference? Much discussion around this point but the general feeling is that if they are the exact same media and same construction might not need to reference the new oil filters.
 - o TEI will provide new filter to IAR and IAR will cut open filter and report back to panel with findings.
 - o Inventory of other batch hardware is good for ~year. Injector pushrod and adjusting screw new batch would require reference.
 - o A reference may be run at SwRI as early as 1 month
 - o Chevron Oronite is also due to run a reference.

- Consensus that barring any abnormalities seen in the filter at IAR labs do not have to run a reference to bring the new filters in.
- New cylinder heads, introduction
 - o Inventory at labs is low. Martin Thompson will send out pictures and measurements of new head as well as calculating compression ratio change.
- Intake manifold coating removal
 - o LZ is removing it. It is difficult to remove. Any suggestions would be helpful.
- Rocker cover and oil pan yellow coating
 - Yellow paint doesn't necessarily help raters. Should we move to production parts since yellow paint tends to wipe off anyway?
 - Can we move to production parts as yellow parts are consumed?

ISB:

Kevin O'Malley (LZ) presented a powerpoint outlining the current state of the test.

- Targets for reference oil re-blend 831-2. There are 15 chartable tests reported on 831-2 and we are in a mild alarm
 - o Discussion about whether the shift in severity is oil or hardware driven
 - o In ~April 2012 there was also a new "batch" of injector pushrods
 - Pat Fetterman pointed out that where ACSW went severe, ATWL went mild with a lot of scatter
 - Dan Lancto from TEI stated that June 2012 was the introduction of the new pushrod "batch"

Scheduled SP Conference call for February 2nd 11 EST to look at additional analysis of the data including the pushrod batch, engine hours et. al.

- Supply of Batch J cams is exhausted, Batch D tappets not available yet, introduction of Batch K Cams
 - o Batch D tappets are in US. Need to get them to Cummins. Batch size is ~7700
- Supply of next batch of engines, status and introduction
 - 6 crank shafts February 10th. New engines out the door hopefully end of February. Enough for 5-6 engines. Crankshafts ordered for additional 14. Order new long blocks from TEI. Cummins looking into getting turbos since they haven't been lasting. Dan Nyman thinks he can get brand new turbos. Mey Dewey said that airflow through the turbo position sensor increases with the age of the turbo.
- Fuel sulfur spec
 - o PC10 fuel sulfur spec 2-2.6 batch arrived with 2.9 supplier has spec 2.0-3.0
 - Jim Moritz to draft a letter to Chevron Phillips to let them know their CofA does not match PC10 sulfur spec.

Meeting adjourned at 3:56 pm EST.

Next call will be Monday February 2nd at 11 EST.