Caterpillar O&H Panel Conference Call Monday September 10, 2018 2:00 EST

<u>Attendance</u>

Andrew Stevens, Bill Larch, Jim Moritz, Jim McCord, Sean Moyer, Jim Gutzwiller, Elisa Santos, Mark Cooper, Addison Schweitzer, Mark Jarrett, Christian Porter

<u>Agenda</u>

- Lubrizol 1N Cooling Cart Review
- CAT 1P Oil Consumption Review
- Single Cylinder Unavailable Parts Review
- 1P Parts ID Codes Standardization

Lubrizol 1N Cooling Cart Review

- Presentation by Lubrizol detailing the cart created to replace engine coolant pump and heat exchangers
- Review of Lubrizol cart setup
- Review of op data comparison between existing LZ stands, Intertek stands, pre-upgrade stand data, and post-upgrade stand data to show equivalence
- Procedure change proposals presented
- Much discussion about wording of procedure change. Requested the additional sentence in the procedure: The equivalent replacement system must match engine-driven pump performance; to include engine startup, warmup, on-test conditions, cooldown, hot shutdowns, and programmed shutdowns. Wording may change for final draft.
- Much discussion about limits for warmup and cooldown. Request for additional data to be added to existing plots. Andrew Stevens to request data from labs to add to chart. Once data is added, final discussion will be had to decide limits for warmup and cooldown.

CAT 1P Oil Consumption Review

- Jim McCord of SwRI rose the concern that there may be an oil consumption severity shift in the CAT 1P
- He intends to conduct additional fuel analysis. Has not found anything with the parts yet as potential root cause.
- Note: fuel does contain additive.
- Note: PC-9 & PC-10 use the same base fuel. PC-9 uses 1% sulfur feedstock and contains an oxidative stability additive
- If oxidative stability (D6468) appears to affect results, can CP Chem add to fuel sheet?
- Issue will continue to be reviewed as further investigations occur

Single Cylinder Unavailable Parts Review

- Governor housing availability was questioned
 - Bushings available?
 - Some labs experiencing cracked housings
- Mark Jarrett gave background info on their work to date
 - CAD models were created
 - 10 15 housing castings are in progress
 - \circ $\$ Projected availability to order new parts: mid/late Oct
- Additional parts availability discussion to occur in future calls

<u>1P Parts ID Codes Standardization</u>

- Began process of identifying all parts codes on 1P parts
- Started with marking on rings
- Andrew Stevens to organize separate calls to address this one issue