

ESCIT Meeting Minutes of 2/28/06

1. Chairman Engel called the meeting to order at 10:25 AM on 2/28/06 at DC in Auburn Hills, MI.
2. Chairman Engel reviewed the agenda for the meeting. A report by Scott Ellis of SWRi on the Effect of Lube Oil on Catalyst Poisoning was added to the agenda. See attachment 1 for the updated agenda.
3. Minutes of the 12/15/06 meeting approved as posted.
4. Chairman Engel led a discussion of the ESCIT charter, objectives and timeline. See attachment 2. The team feels that if are to deliver a recommendation to ILSAC/OIL we need to narrow our scope. Chairman Engel would like to see the team focus on recommending a phosphorus volatility test and leave the issue of elemental limits for both sulfur and phosphorus to ILSAC oil.
 - a. Sulfur and phosphorus limits should be a secondary concern.
 - b. Phosphorus volatility is the main issue.
 - c. Elemental limits will be recommended by ILSAC.
5. The group discussed options for GF-5 phosphorus volatility testing. See attachment 3 for the updated spread sheet. The options for phos volatility are in general:
 - a. PEI test by Savant
 - b. New oil verses used oil phosphorus analysis from a Seq test. Test to be determined. Ca/Phos ratio method.
 - c. SWRi test using a 3.1 L GM engine and a standard catalyst.
 - d. Oronite small engine test.
 - e. AFTON fired engine test.
 - f. Used oil phosphorus depletion.
6. Doug Ball gave a presentation on Catalyst Poisoning 101. See attachment 4 for Doug's presentation.
 - a. Ball pointed out that for PZLEV emissions limits require greater than 99% efficiencies for NOx and HC for 150,000 miles. Catalyst poisoning is a real concern.
 - b. Ball said sulfur is not an issue with the low sulfur gasoline in the US and the high temps of the catalyst which burns off sulfur.
 - c. Olree asked Ball if lowering phosphorus to 0.08% wt max is sufficient to protect the durability of the typical 3-way catalyst? Ball said he could not answer that question.
7. Ted Selby-New Protocol for the PEI See attachment 5 for Ted presentation.
8. Greg Gunthier-Update of AFTON Testing. See attachment 6.
 - a. Dan Pridemore presented for AFTON
 - b. Explanation of continuing test development at AFTON on a catalyst durability test.
 - c. Work progressing.
 - d. Goal is to have emissions data and PEI data for the next ESCIT meeting in May.
9. Chris Engel- The Link Between Phosphorus Volatility and Durability. See attachment 7.
 - a. 5W30 Las Vegas field test data was presented comparing low volatility verses conventional ZDDP.
 - b. Low volatility ZDDP gave lower iron from wear, lower Cu, lower nitration, and lower oxidation.
 - c. Overall, low volatility ZDDP perform better than conventional ZDDP.

10. Doug Deckman reported he will give the group an update at the May meeting on their NOACK testing.

11. Scott Ellis- SWRI- GM 3.1 L Catalyst durability test. See attachment 8.
 - a. Engine was a 2002 3.1 L V-6.
 - b. Used Ethyl's oils, 32, 33, and 35.
 - c. Oil temperature 150 C oil to maximize phos volatility.
 - d. High blow-by.
 - e. 300 hours with oil changes ever 20 hours for a total of 15 oil changes.
 - f. 4 tests to be completed in June. Run repeats on oil 33, oil 33 with PCV not routed thru the engine and a low volatility test on AFTON oil 35.

12. See attachment 9 for the updated literature search on relevant emissions system durability research.

13. See attachment 10 for the official membership listing.

The next meeting is 5/4/06 from 10 am to 3 pm at AFTON in Richmond, VA.

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