

HEAVY-DUTY ENGINE OIL CLASSIFICATION PANEL
OF
ASTM D02.B0.02
December 5, 2006

Hilton Walt Disney World Resort, Lake Buena Vista, FL

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ACTION ITEMS

- 1. Sequence III Surveillance Panel address separate test name for CJ-4 viscosity increase.**
- 2. Issue exit criteria ballots for T-6 and M11HST limits and to rank improvement ideas.**

MINUTES

- 1.0 Call to order
 - 1.1 The Heavy Duty Engine Oil Classification Panel (HDEOCP) was called to order by Chairman Jim McGeehan at 1:45 p.m. on Tuesday, December 5, 2006, in the Palm II Room of the Hilton Walt Disney World Resort, Lake Buena Vista, FL.
 - 1.2 There were 16 members present and 59 guests present. The attendance list is shown as Attachment 2.
- 2.0 Agenda
 - 2.1 The agenda is included as Attachment 1.
- 3.0 Minutes
 - 3.1 The minutes of the June 27, 2006 meeting were approved as written.
- 4.0 Membership
 - 4.1 There were no membership changes.
- 5.0 API Requests for API CJ-4
 - 5.1 API requests a clearer description of the Sequence IIIF test since all parameters of the test are not used for CJ-4; only the viscosity increase is used. The options are IIIFHD or IIIFVIS. The specification only lists viscosity increase, so a separate designation may not be needed. Having a separate designation would make it clearer. The request did come from the API Lubes Committee. There is some difficulty distinguishing a IIIF for SL from a IIIF for viscosity increase for CJ-4. The Sequence III Surveillance Panel should address this and will be asked to.
 - 5.2 Alternative tests to support other categories in which tests are unavailable will be covered by other agenda items later in the meeting.
- 6.0 Sulfated Ash Monitoring: API CJ-4

- 6.1 Eric Olsen gave an update on Sulfated Ash Monitoring. See Attachment 3. The Sulfated Ash Surveillance Panel has been involved in updating the test. One main improvement is a LTMS referencing system. Many have been involved in the work to date. A round robin has been completed. The plan is to review the results and select reference oils for the blind monitoring system. Other actions are to recruit other labs and to plan workshops. There does not seem to be much interest in changing the method nor are there many ideas yet. One possibility is to develop coefficients for the elements to calculate sulfated ash. Something more precise than D874 for future LEDL specifications is desirable, but is unknown at this time. Only three labs expressed interest in continuing with the blind monitoring system. Chairman McGeehan asked for other labs to participate in the monitoring phase. Two other labs indicated participation. A question was asked if the differences on a calculation scheme are "irreconcilable". The differences are not "irreconcilable", but the task force focused on the round robin, not a calculation so it was not thoroughly explored or resolved.
- 7.0 Caterpillar ECF-2
- 7.1 Hind Abi-Akar presented CAT's new ECF-2 specification. See Attachment 4. ECF-1 will be modified to ECF-1-a. ECF-1-a will be for CH-4 oils. ECF-2 will be for CI-4/CI-4PLUS oils. ECF-3 is for CJ-4 oils. ECF-1-a is CH-4 with 1P tests based on ash level. ECF-2 is CI-4 plus the C13 engine test with an ash limit of 1.50 wt%. Oils meeting API oil categories prior to API CI-4 may not claim ECF-2. ECF-3 is the API CJ-4 with no additional requirements. ECF-1-a and ECF-2 will be implemented March 1, 2007. ECF-3 is required now. A question was asked if ECF-2 is limited to CI-4 oils or can CJ-4 oils be ECF-2 since CJ-4 oils can claim CI-4. The probability is yes that if an oil passes all tests, ECF-2 and ECF-3 can be claimed.
- 8.0 Mack T-12 limits for Other Categories
- 8.1 Mark Cooper presented the Mack Surveillance Panel action dealing with the older Mack tests that are no longer available. See Attachment 5. A request for data to compare the T-10A to the T-11A and the T-8 to the T-11 was sent out. No data has been submitted.
- 8.2 Alternative limits for a T-10 result from a T-12 test have been developed and approved. The Surveillance Panel worked on limits for the T-9 and the T-6 from a T-12. For the T-9 limits in a T-12, three proposals were presented and a compromise position was developed. These were approved at the Surveillance Panel level for recommendation to the HDEOCP. The T-6 is harder to do, but there were two proposals. A consensus proposal was developed that passed with one negative vote. The T-6 was introduced in 1981 and very different from the T-12. Greg Shank **moved** that the HDEOCP accept the Surveillance Panel recommendation for T-9 limits from a T-12 test. Pat Fetterman seconded. The liner wear value does not seem to be an average of the 3 proposals. The Afton proposal is based on the premise that T-9 limits should rank the same way as T-10 limits. The test sponsor does not want the limit as high as 35 and suggested an exit ballot should be used since there is some discussion. The motion is on the floor as accepting these limits today without an exit criteria ballot. The **motion passed** unanimously with 16 votes for, 0 against, and 0 waives.
- 8.3 The Surveillance Panel chairman **moved** that the HDEOCP accept the Surveillance Panel recommendation for the T-6 limits from a T-12 test. Lew Williams seconded. Lubrizol volunteered to run a T-12 test on the T-6 reference oil, but has not been able to get the oil. EMA discussed older categories and agreed that CF-4 is not required for them and does not recommend CF-4 oils any more. Lubrizol would like to see CF-4 as a licensable category. Not having a T-6 does not mean that the category will go away; it just means that CF-4 oils will be available without tests to back it up. Oronite stated that if new limits are created, then it is a new test and a new CF-4 category should be developed. Volvo can support the limits. An exit criteria ballot will be used for this motion. The request for a T-6 oil was repeated. DEOAP should decide if the category is needed and how to proceed.

The **motion passed** to issue an exit criteria ballot with 11 votes for, 2 votes against, and 3 waives.

9.0 Cummins ISM for Other Categories

- 9.1 Cathy Devlin presented a proposal for M11HST limits in an ISM test. See Attachment 6. Shawn Whitacre stated that Cummins is looking at the situation. Afton conducted an ISM test on a CH-4 commercial oil. The OFDP was very high so an additional ISM test was run with an M11HST filter and the OFDP was also high. For related oils, OFDP behaved similarly. Due to the nature of the OFDP, the proposal is for OFDP at 100 hrs, not 150 hrs.
- 9.2 Phil Scinto looked at 1004 industry data. See Attachment 7. Lubrizol proposes staying with 150 hours to report the OFDP.
- 9.3 Cummins prefers using the 1004 data and the 150 hour OFDP to develop limits. Phil Scinto **moved** to send their proposed limits for exit criteria ballot. Greg Shank seconded. The **motion passed** with 15 votes for, 1 vote against, and 0 waives.

10.0 Category Process Improvements

- 10.1 Lew Williams presented an update on process improvements using small teams. See Attachment 8. Ideas include: more closely align API and OEM specs, expand API AMAP for API C category oils to include OEM specs, extend the life of PC-X for a minimum of 5 years, improve the timing of reaching consensus, plan for successful rollout of PC-11, improve communications throughout the PC-11 development process, improve the estimate of timing at all stages of the process in PC-11, generate the data needed in a timely way to correlate old to new tests, options for greater industry participation in engine and bench test development, better way to generate BOI/VGRA data early in the process, determine industry needs of engines that are not yet commercial. What is the way forward? One way is to issue an exit ballot of the list and ask members to rank them. Much work was done before. A major holdup for PC-10 was getting the engine tests developed. May need to consider using European tests as there are more global engines and additive companies and/or have a global oil specification. Consensus vote to issue an exit criteria ballot and rank the ideas with a number 1 as the first choice and a number 2 as the second choice, etc. Like a golf score, the lowest score wins and will have the highest priority.

11.0 EMA Bio-Diesel Task Force Request

- 11.1 Greg Shank presented the EMA concern with the impact of bio-diesel on engine lubes. See Attachment 9. EMA is just beginning to look at the situation. EMA will review data internally and solicit funding for testing. A stronger recommendation should be available by the June 2007 meeting.

12.0 Universal Oils

- 12.1 Lew Williams presented the ACC-PAPTG report on universal oils. See Attachment 10. ACC-PAPTG will propose to the API Lubes Committee that where the API C category is listed first for CI-4 and newer, that the requirement to run and measure the BRT, VG, IVA, VIII, gelation index, and deposits and wear from a IIIF be waived for SJ, SL, and SM with passing C category results. Oils that start as C category oils are robust enough to always pass the S category tests. There are limited runs in this data set. No fails were included in the data set because with a C category fail, no S category tests are run.

13.0 Next meetings

- 13.1 The next meeting will be at the call of the chairman.

14.0 The meeting was adjourned at 4:05 pm.