Ethyl Comments on the API CI-4 Ballot November 27, 2001

Issues for which Ethyl vote NEGATIVE

- Insert A A footnote such as "I" is required on scuffing in the Cat 1R, Cat 1K and Cat 1N three-test limits, to define how multiple tests with scuffing are averaged. Compare to the Cat 1P and Cat 1K tests in Table 3. Tests with scuffing should be non-interpretable.
- 2. Insert D Table A10.1, we question some of the decimal places. Specifically, Cat 1R WDR has no decimal place. Should it have one decimal place? 1K WDK and 1N WDN do. Cat 1R TLC has two decimal places. Should it have one? 1K TLHC and 1N TLHC do. Cummins M11 EGR TRWL has one decimal place. Should it have none? Mack T-10 TRWL has none. Cummins M11 EGR OFDP has four decimal places (2.7000). Are they all justified?
- 3. Insert D, Table A10.2, Average Liner Wear is incorrect. It is <u>not</u> normalized to 1.75% soot.
- 4. Insert D, Table A10.2, minimums should be listed for each parameter. Definitions for anchor, maximum and minimum also need to be included.

If these issues are resolved, Ethyl will vote Affirmative on this ballot.

Table 3 Editorial Comments

- 5. Column heading should be "One-test", to be consistent with "Two-test" and "Three-test". Same comment for Insert A.
- 6. Cat 1P, is it "scuffing, piston-ring-liner" or "scuffing, piston-rings-liner"? Note that for the 1K, 1N and 1R, "ring" is used, not "rings".
- 7. Cat 1K, for TGF and TLHC, it should be "% max".
- 8. Cummins M-11, should be Average Engine Sludge
- 9. Cummins M11, is it Rocker Pad Average Weight Loss or Crosshead Average Weight Loss? Should be consistent with Cummins M1 EGR.
- 10. Sequence IIIE (D 5533) and EOAT, for two-test and three-test limits, is it "MTAC" or "MTEP"?

- 11. D-892 Foam Sequence III is spelled incorrectly.
- 12. Footnote I, is it uninterpretable or non-interpretable?

Insert A Editorial Comments

- 13. Column heading should be "One-test", to be consistent with "Two-test" and "Three-test". Same comment for Table 3.
- 14. Suggest dropping the decimal place for Cat 1R WDR and Cat 1N WDN. This would be consistent with the Cat 1P and Cat 1K (see Table 3).
- 15. Cummins M11 EGR, is it Crosshead Average Weight Loss or Rocker Pad Average Weight Loss? Should be consistent with Cummins M11.
- 16. Cummins M11 EGR, suggest "normalized to 4.6% average soot, mg max".
- 17. Sequence IIIF and EOAT, for two-test and three-test limits, is it "MTAC" or "MTEP"?
- 18. Footnote AL, suggest "The T-10A, currently under development,..."

Section 4 Editorial Comments

- 19. Section 4.1.8.1, should have a footnote referencing RR:D02-1273 (Cat 1K).
- 20. Section 4.1.8.1, the Cat 1K does not measure ring wear.
- 21. Section 4.1.8.3, linear should be liner.
- 22. Section 4.1.8.3, should not have a footnote, since the T-9 now has a D-number.
- 23. Section 4.1.8.5, particularly is misspelled.

Insert B Editorial Comments

- Insert B (Paragraph 4.1.9, CI-4), should have several footnotes identifying research reports or mentioning that test methods are under development: section 4.1.91, 1R; section 4.1.9.2, T-10; 4.1.9.3, M11 EGR; 4.1.9.5, Sequence IIIF; 4.1.9.6, 1K and 1N; 4.1.9.8, EOAT; 4.1.9.15, Elastomer Compatibility Test.
- 25. Section 4.1.9.6, the Cat 1K does not measure ring wear.
- 26. Section 4.1.9.10 should read "Test Method D 4684..."

Section 6 Editorial Comments

- 27. Section 6.7, does TMC monitor D 892?
- 28. Section 6.8, should T-10A be included? This test will be monitored by TMC.

Insert C Editorial Comments

29. Table 1 should include the T-10A test, with footnote Q. Also, are the T-8E and T-9 tests missing from this table?

Insert D Editorial Comments

- 30. Section A10.3.2, should read: "...this is a failing...".
- 31. Table 10.2 T-10, Average Oil Consumption should be for Phase Two.
- 32. Section A10.2, capitalize the second "Table A10.2".
- 33. Even though the Mack T-10 merit calculation is included in Draft 5 of the Mack T-10 Test method (the latest draft), we suggest the calculation also be included in the A10 appendix (Insert D).