



ACC Evaluation of CJ-4 Category Timing

January 10, 2006



C13 Testing Estimates

- Input from four additive companies
 - Oronite, Lubrizol, Infineum, Afton Chemical
 - Assumes C13 is rate limiting test
- Each company estimated passing tests required; ACC compiled the data



C13 Stand Assumptions

- Ten calibrated C13 stands available in the industry
 - Labs are unlikely to install more stands
- Caterpillar has offered up to four uncalibrated stands at their facilities

A decorative graphic consisting of overlapping yellow, red, and blue squares with a black crosshair.

Unreferenced C13 Stands

- ACC PAPTG member companies follow the ACC Code of Practice, which states: *"All engine testing for product approval must be conducted using only equipment and facilities current in monitoring by and calibration with the ASTM Test Monitoring Center (TMC) and meeting the requirements for test stand/laboratory calibration in Appendix A"*.
- Uncalibrated stands do not satisfy criteria for COP approval.



C13 Assumptions

- Ten calibrated C13 stands available
- One month per test → ten tests per month in the industry
- 40% to 50% pass rate

➔ Four to five passes per month assuming all 10 stands utilized



C13 Testing for CJ-4 Only

- 31 passes required if full BOI/VGRA guidelines are granted
- Six to eight months to complete, October 2006 timing should be met



ECF-2 Uncertainties

- ECF-2 requirements not fully defined
- Passing C13 limits unknown
 - ECF-2 limits may be higher than PC-10 limits
 - Higher ECF-2 limits may lower pass rate
- BOI/VGRA guidelines unknown
- Certification process unknown
- June 2006 timing reported at December ASTM meeting



API CJ-4 & ECF-2, Best Case

- 74 passes required
 - CJ-4, 31 passes
 - ECF-2, 43 additional passes, with BOI/VGRA

➔ 15 to 19 months to complete all programs



API CJ-4 & ECF-2, Mid Case

- 88 passes required
 - CJ-4, 31 passes
 - ECF-2, 57 additional passes, with BOI only

→ 18 to 22 months to complete,
July, 2007 at the earliest

API CJ-4 & ECF-2, Worst Case

- 161 passes required
 - CJ-4, 31 passes
 - ECF-2, 130 additional passes, no BOI/VGRA

→ 32 to 40 months to complete,
September, 2008 at the earliest



Conclusion

- All CJ-4 and associated OEM specs need to be finalized
- C13 capacity constraints will make it impossible for ECF-2 and CJ-4 to both complete in the timeframe requested
- All classes of oil marketers will be affected