

CATEGORY DEFINITION

Status / Timing of Category Development

Development activities in support of PC-10 have been progressing for **about four** years. Following an EMA request to the Diesel Engine Oil Advisory Panel (DEOAP), a New Category Evaluation Team (NCET) was formed in March 2002, and the first NCET meeting was held the following July. The NCET concluded its work with the recommendations that a PC-10 category was both feasible and needed to protect the engines and emission control systems capable of meeting the 2007 exhaust emission limits.

Following these conclusions, the NCET was reformed into a New Category Development Team (NCDT) to manage the PC-10 development process. However, in June 2003, the EMA approached the DEOAP with a request to upgrade the quality of API CI-4 lubricants to provide more robust protection of engines in the field meeting the October 2002 emission limits. This request caused a significant dilution of the PC-10 development activities, but it did eventually result in a new supplemental category, identified as API CI-4 **PLUS**, which became licensable on September 1, 2004.

Once the CI-4 **PLUS** supplement was settled, industry resumed its concentration on PC-10 development. The EMA has confirmed **the need for** three brand new tests: Caterpillar C-13, Cummins ISB, and Mack T-12; along with one of the CI-4 **PLUS** tests, the Mack T-11, and a replacement for the Cummins M11-EGR, the ISM. These tests **required** varying levels of development to meet the timing for PC-10 inclusion. In addition to these new diesel tests, the EMA has also requested use of the Sequence IIIG test to measure oxidation in PC-10. **Following an analysis of the Mack T-12 oxidation requirements, the HDEOCP voted to keep the IIIF as the category oxidation test. However, a passing IIIG oxidation result may be substituted for those customers wishing to license an API SM performance claim. The addition of SM** will have dramatic impacts on both formulation cost and base stock usage. The Sequence IIIG, at GF-4 pass/fail performance, shows a strong preference for more highly saturated base stocks, as well as a need for significantly more antioxidant in the oil formulation versus the needs of HD diesel engines. Infineum **fully supports the use of the** Sequence IIIF as the HD oxidation test **and provided engine test data to support this decision.**