

AB 679 California Diesel Emission Test Program

- + A test program that measured the emissions benefits of CARB diesel fuel
- + Required by California Health and Safety Code (H&SC) section 43700.1, added Stats 2006 ch 11 § 2 (AB 679), effective January 1, 2007
- + Convened panel of interested parties (Advisory Panel) to develop test protocol
- + Principal researcher, Dr. Tom Durbin, University of California, Riverside's College of Engineering Center for Environmental Research and Technology (CE-CERT)
- + Fuels tested
 - ✓ "A," Federal certification diesel fuel, intended to represent average federal
 - ✓ "B," A high-aromatic federal diesel fuel from an out-of-state service station
 - ✓ "C," A typical (average) California diesel fuel loaded at a California refinery
- + Equipment tested
 - ✓ 3 engines on engine dynamometer
 - 1 engine with exhaust gas recirculation (EGR) and an original equipment manufacturer (OEM) diesel particulate filter (DPF)
 - 1 engine with EGR, without a DPF
 - 1 engine without EGR, without a DPF
 - ✓ 10 trucks on chassis dynamometer
 - 5 engines with EGR, 3 with OEM DPFs
 - 5 engines without EGR, 2 with aftermarket DPFs
- + Transient test cycles
 - ✓ Federal test procedure (FTP) on engine dynamometer
 - ✓ 50-mph cruise cycle on engine and chassis dynamometers
- + Significant findings
 - ✓ Federal A v. California
 - Averages of 3 to 7 percent greater NOx emissions
 - Averages of 2 to 4 percent greater PM emissions, w/o DPF
 - No significant difference in fuel consumption
 - ✓ Federal B v. California
 - Averages of 6 to 8 percent greater NOx emissions
 - Averages of 3 to 7 percent greater PM emissions, w/o DPF
 - Up to 1 percent lower fuel consumption
 - ✓ 6-percent NOx benefit of California emission-equivalent, 15-ppm sulfur formulation over average 15-ppm sulfur federal fuel, based on FTP test results, is same as benefit estimated in Appendix D of 2003 staff report for 15-ppm sulfur rulemaking, and is close to 7-percent NOx benefit determined in 1988 for 10-percent aromatic hydrocarbon, 500-ppm sulfur fuel over 31-percent, 2800-ppm sulfur fuel, also based on FTP results