

BACKGROUND

U.S. EPA Engine Emissions Standards:

A Main driver for Oil Quality Changes

Federal Smoke Opacity Standards			
Year	Acceleration	Lugging	Peak
All	20 Percent	15 Percent	50 Percent

EPA Off-Road Standards					
Output (HP)	HC	CO	NOX	PM	Date
>175 to <750	1.0	8.5	6.9	0.4	1996
>100 to <175	--	--	6.9	--	1997
>50 to <100	--	--	6.9	--	1998
>750	1.0	8.5	6.9	0.40	2000

Note: *The emission limits shown here are condensed and summarized for easier presentation. A significantly more detailed description of HD Diesel emission limits can be found at:*

<http://www.dieselnet.com/standards/us/hd.html>

EPA REGULATIONS – ULSD DIESEL TIMETABLE FOR 2006

Introduction to pipeline at <15 ppm	June 1
Typical levels fall to <30 ppm	3Q
ULSD appears at terminals	September 1
ULSD mandatory at pump	October 15