

# Jim McGeehan, Manager of Global Heavy-Duty Diesel Engine Oil Technology

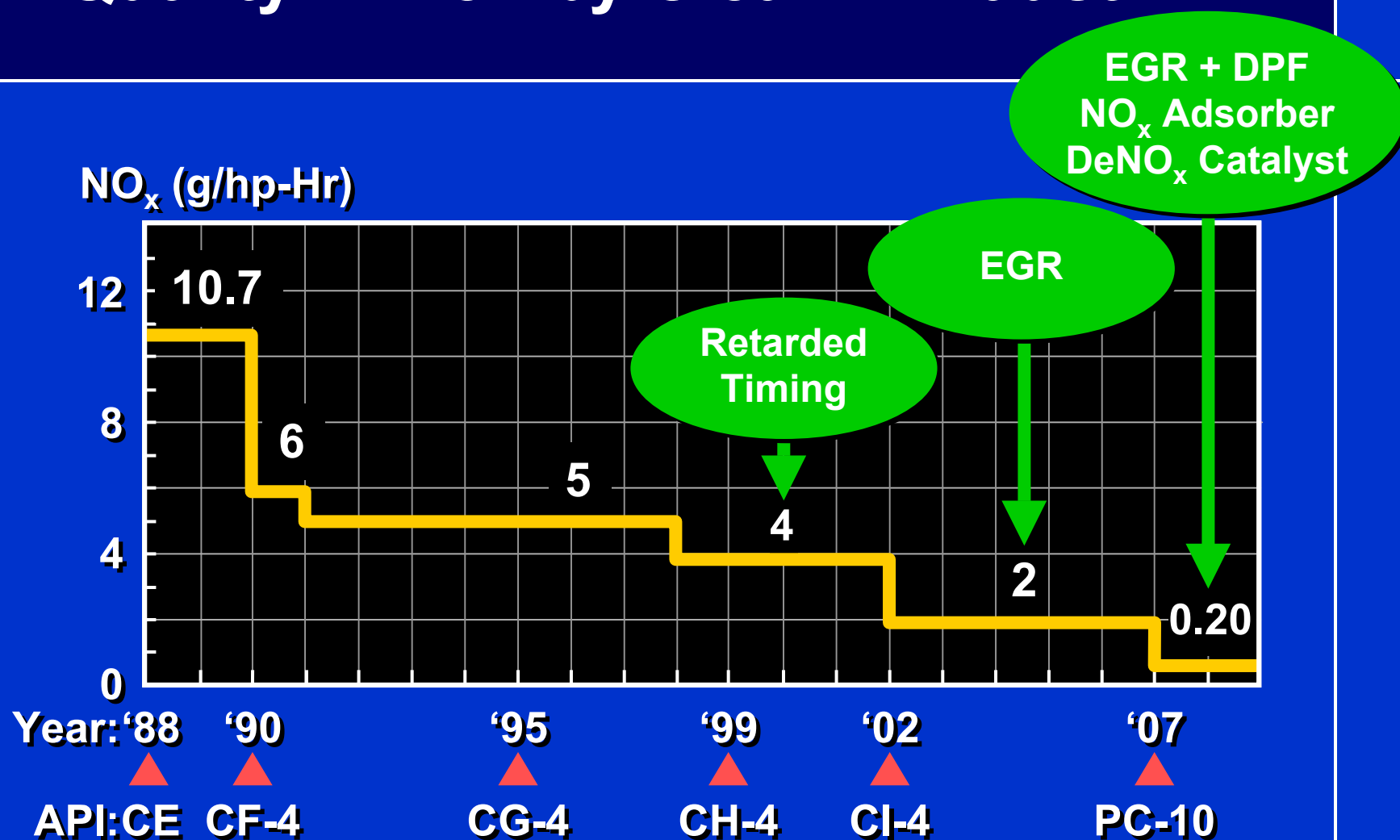


**ChevronTexaco**



**ChevronTexaco**  
Global Lubricants

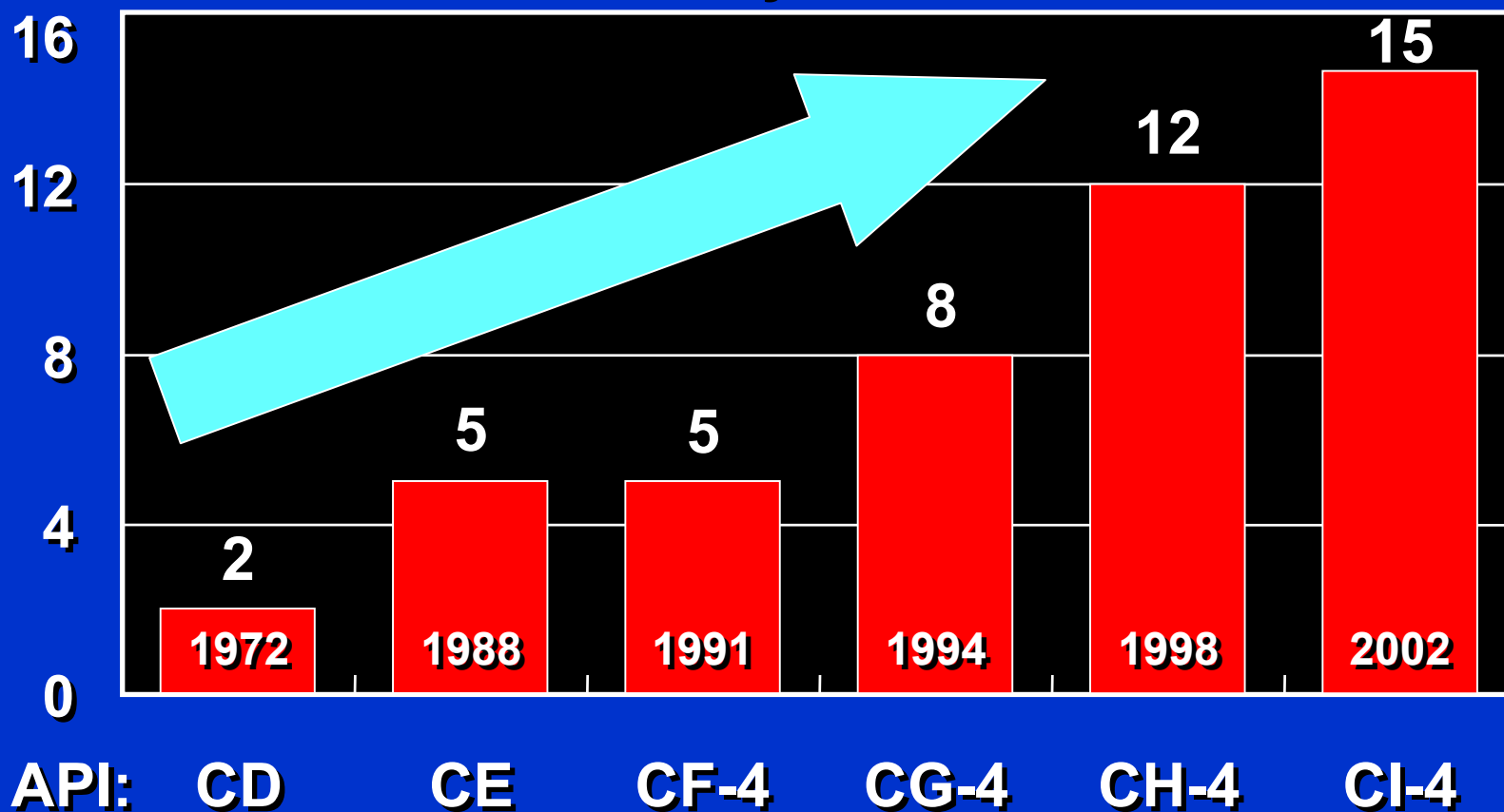
# Oil Quality Driven by Clean Exhaust



CHEVRON  
TEXACO  
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# Increasing Oil Quality

Number of Tests to Qualify Products



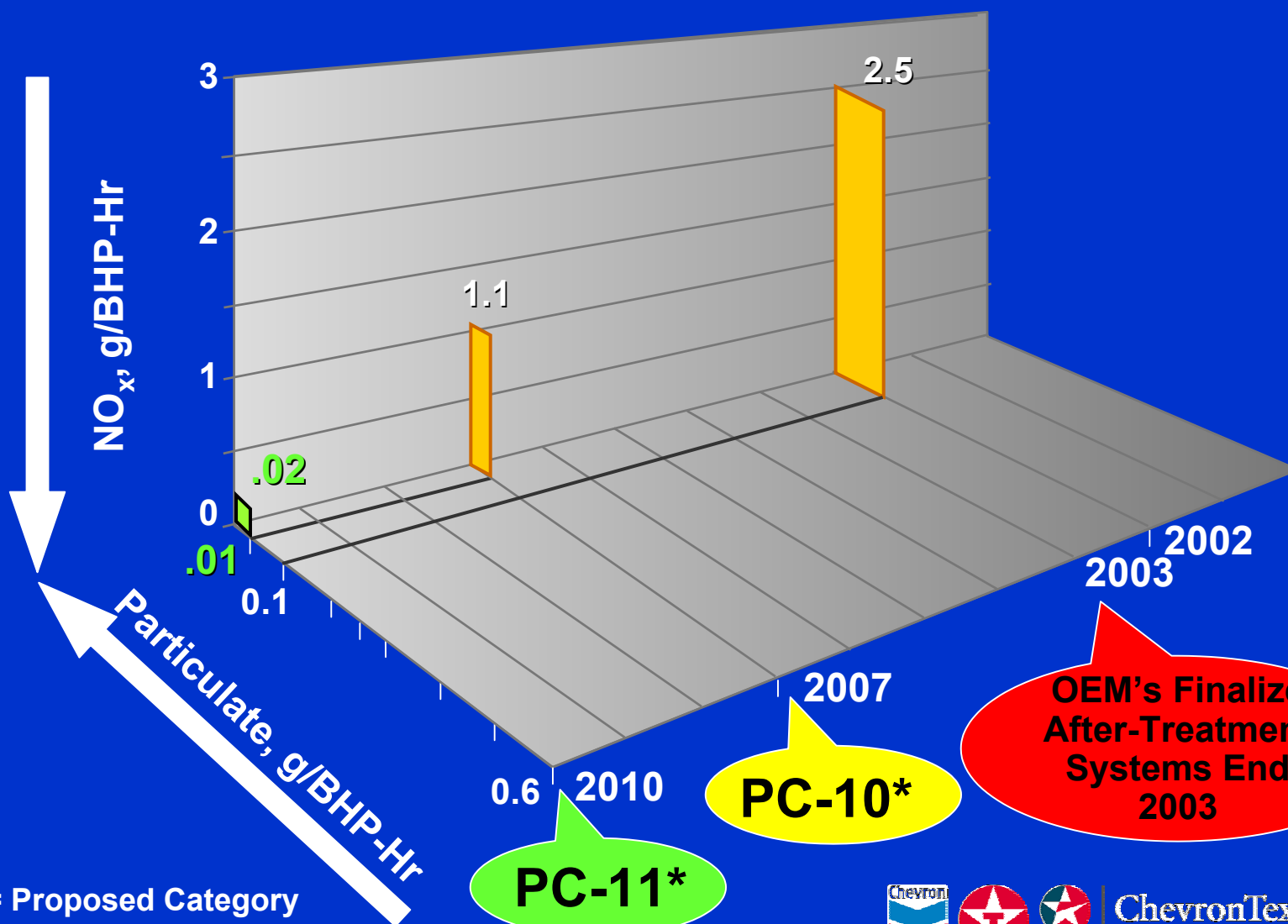
# “Just-in-Time” Delivery

**Maximize Engine Reliability and Durability  
API CH-4/CI-4 Engine Oils**



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Global Lubricants

# 2007-2010 Emission “Phase-In”

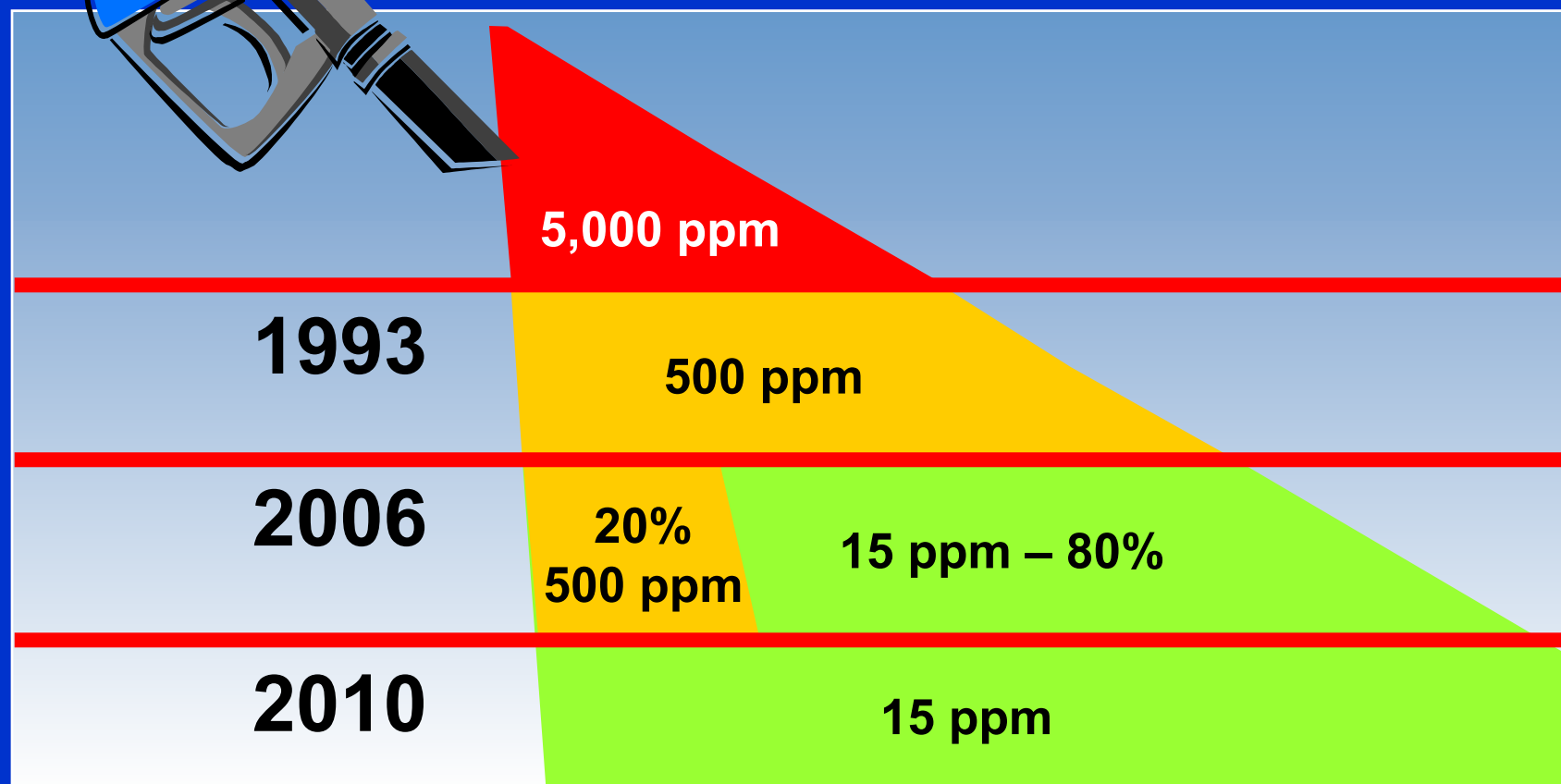


\*PC = Proposed Category



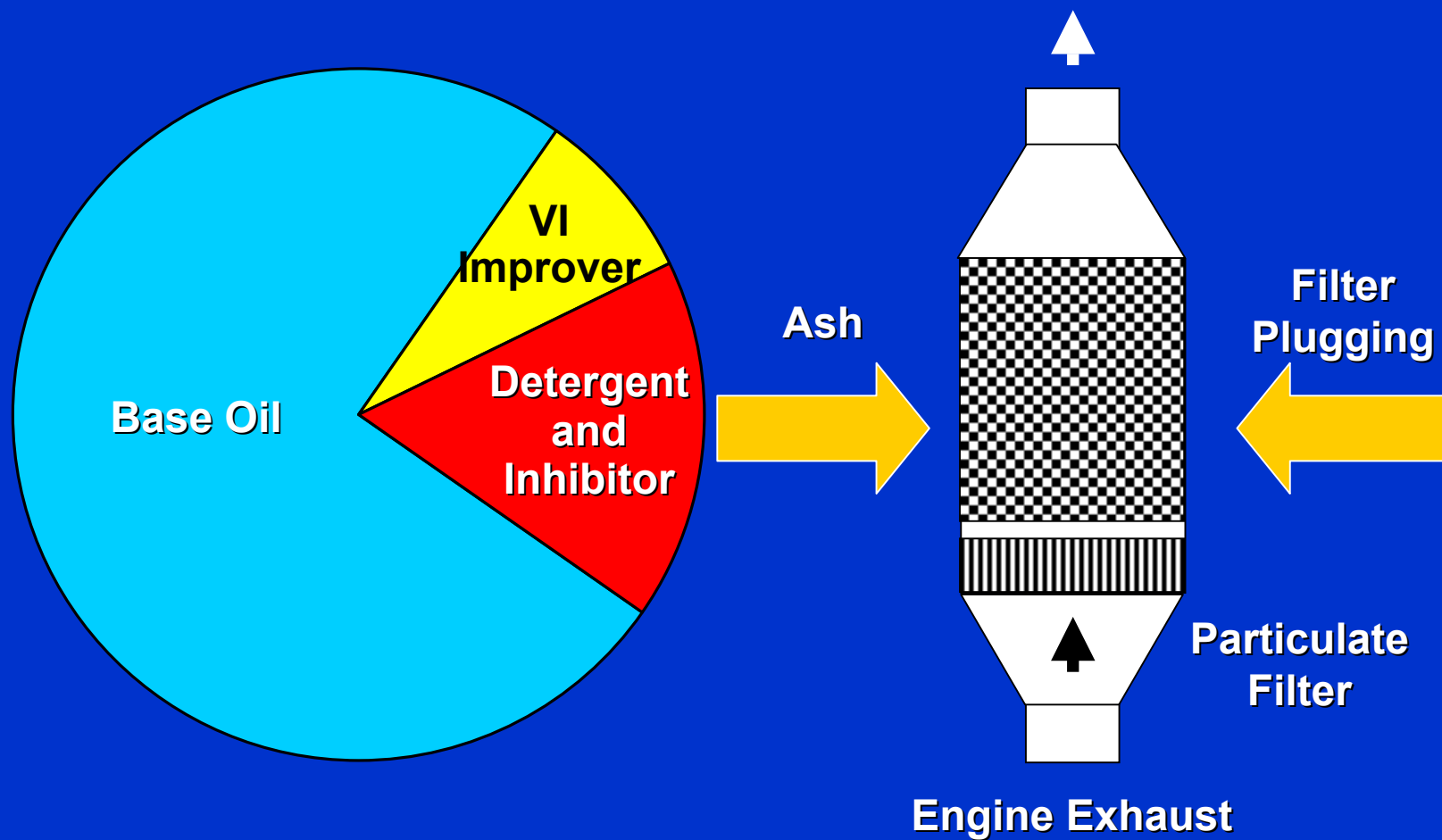
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# Reducing Diesel Fuel Sulfur



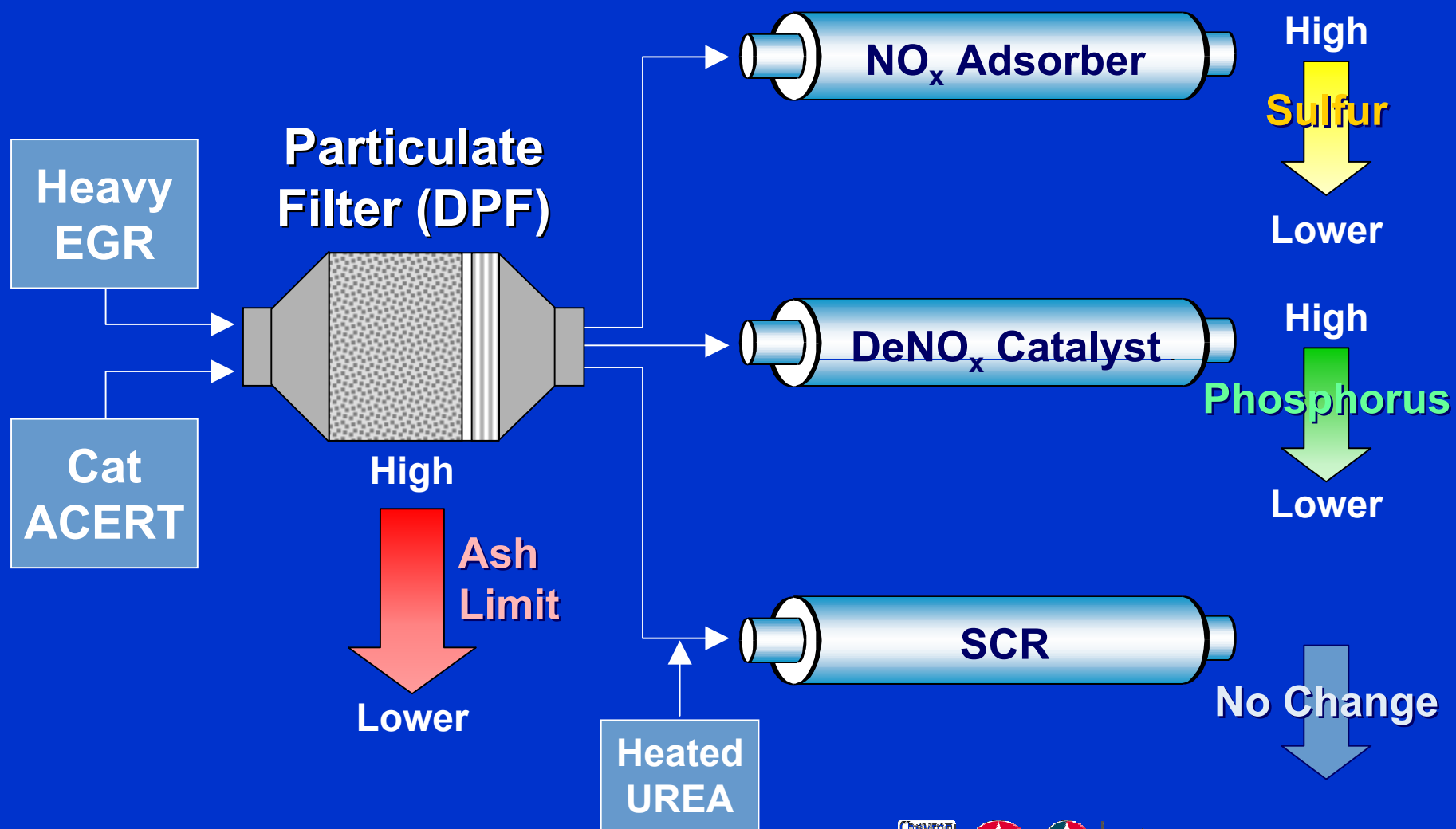
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# Ash Plugging With Particulate Filters



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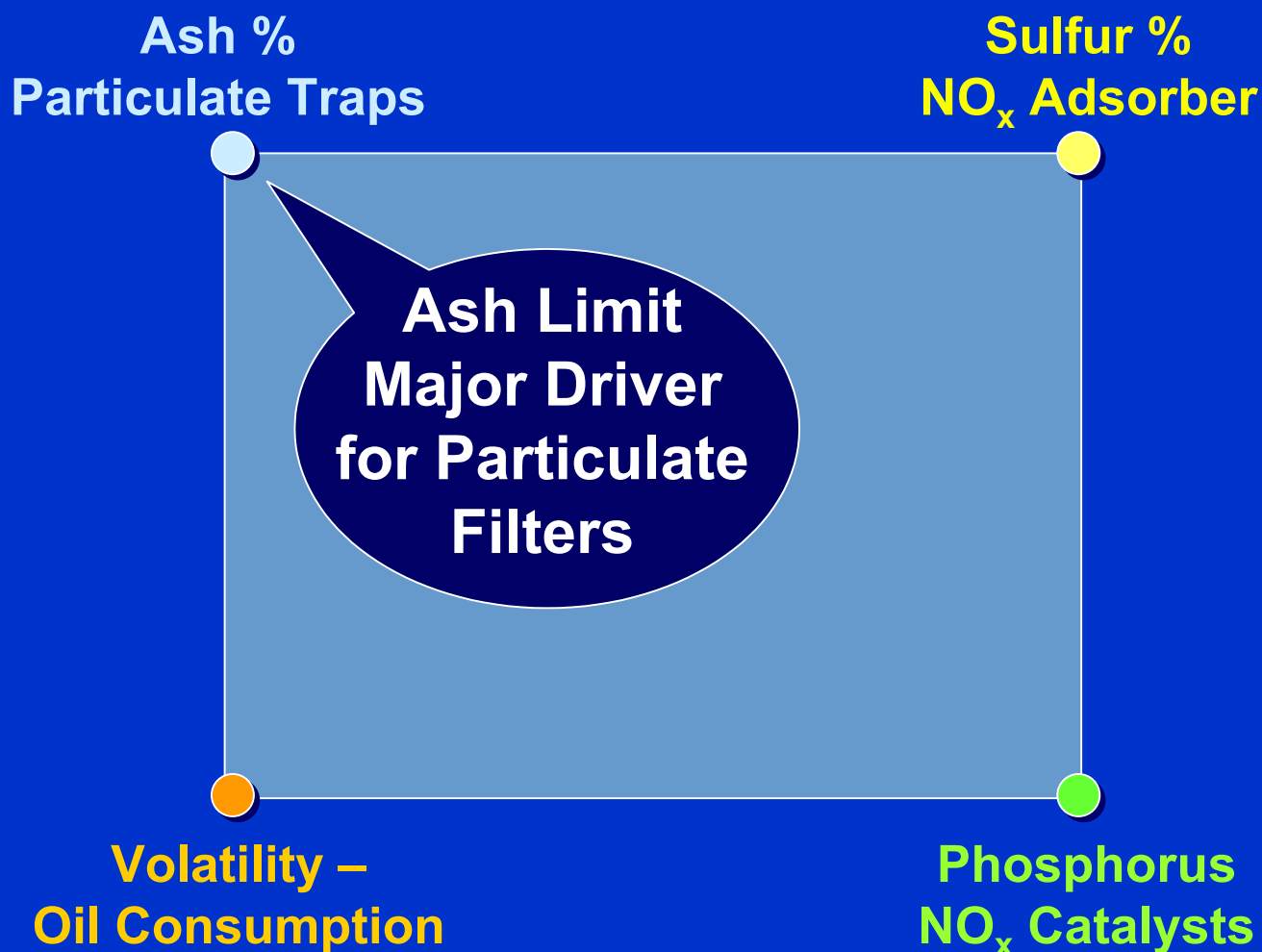
# After-Treatment Life?



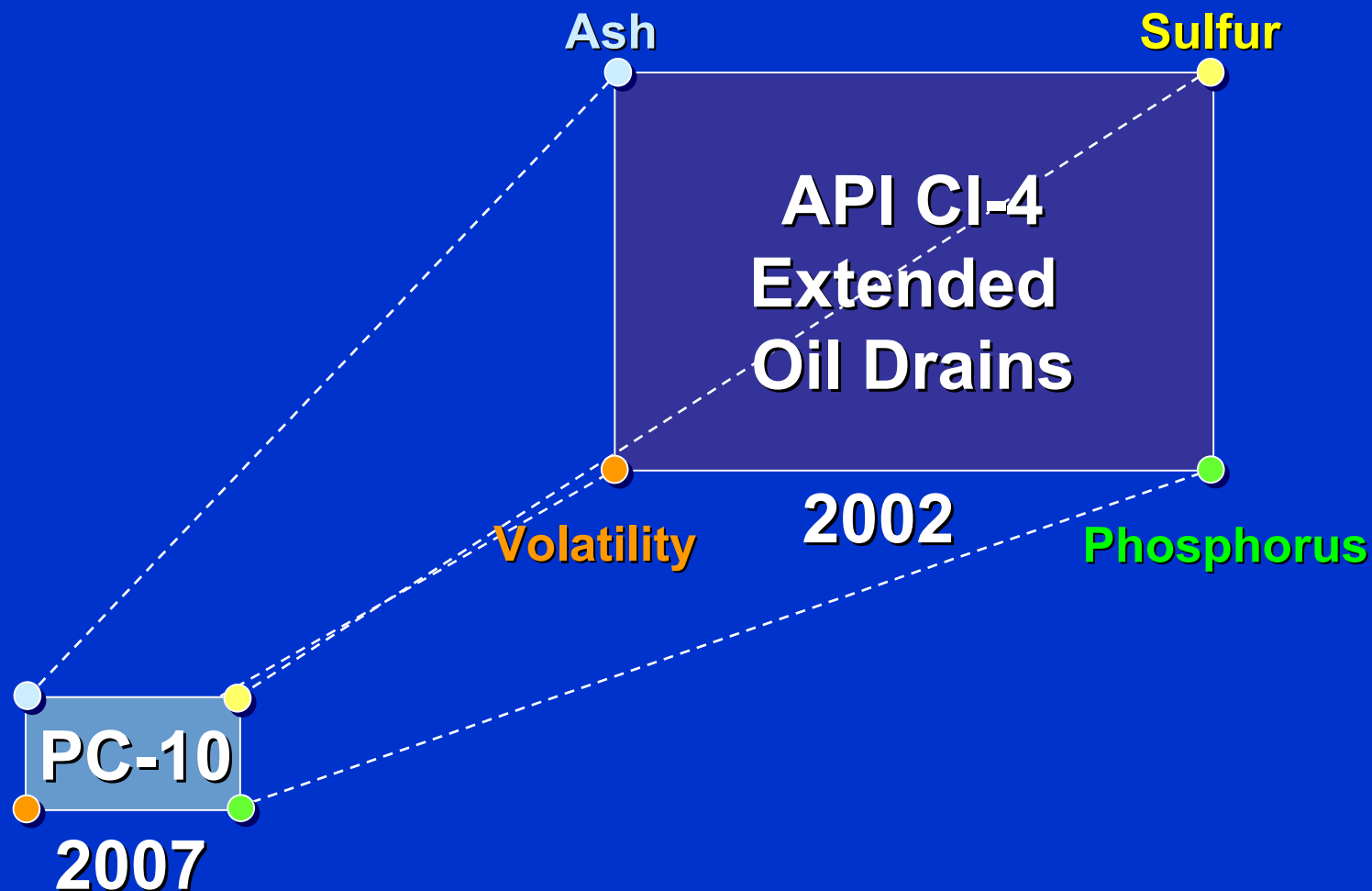
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# Chemical Limits for 2007 Lubricants



# Paradigm Shift in Engine Oil Technology

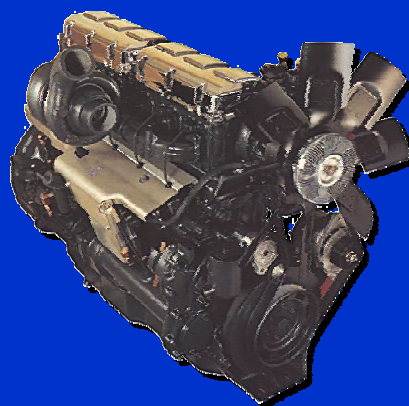


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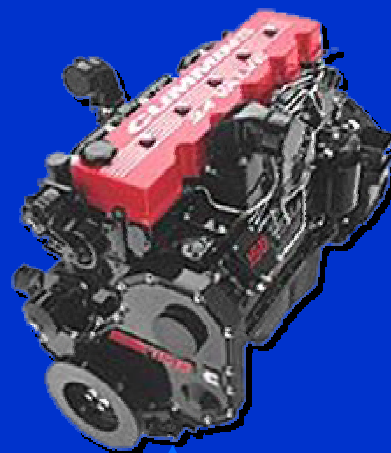
# Engine Durability Tests for PC-10



**Caterpillar C-13**  
Oil Consumption  
Blow-By and  
Piston Deposits



**Mack T-12  
(Volvo D-12)**  
Power Cylinder  
Wear and  
Oxidation



**Cummins ISB**  
Slider Valve Train  
Wear and After-  
Treatment



**Cummins ISM**  
Power Cylinder, Valve  
Train Wear, Filter Life  
and Sludge Control

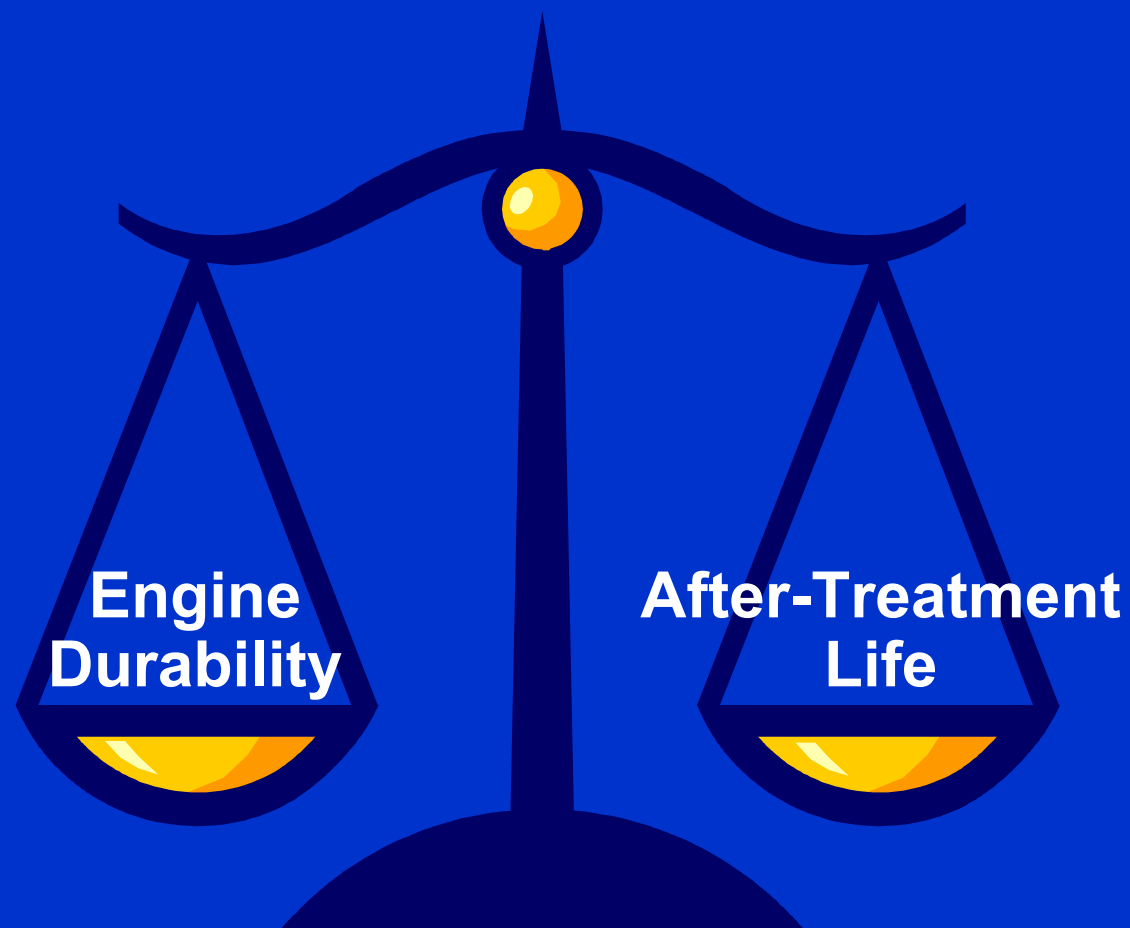
15 ppm Fuel Sulfur

500 ppm Fuel Sulfur



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# PC-10 Challenge: Balancing Service Life



# PC-10 Will Be Delivered On Time for 2007

## Cleaner Diesel Engines



Jim McGeehan  
Chairman of ASTM Heavy-Duty Engine Oil  
Classification Panel, Implementing PC-10 for 2007

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