

Introduction

8th Diesel Engine Emissions Reduction Workshop

This is a critical point in time for diesel engine emissions reduction technology for light and heavy duty trucks. The Environmental Protection Agency (EPA) is implementing extremely stringent emissions standards for passenger and commercial vehicles. Compliance with these emissions standards will determine whether diesel-engine-powered passenger vehicles will be available in the U.S. Emission standards are also being imposed for rail, off-highway and marine propulsion. Logically, manufacturers of these engines would adapt emission reduction technology pioneered by heavy duty diesel engine manufacturers Caterpillar, Cummins and Detroit Diesel. These diesel engine manufacturers have made commendable advances in emission reduction technology.

Aftertreatment will be necessary to comply with the EPA's Tier 2 standards. Recent improvements in emission reduction technology are reported in depth.

There also are presentations on the sulfur level effects in diesel fuel determined by testing in engines equipped with various aftertreatment systems. The status of alternative and renewable fuels is addressed. There is an update on work at Sandia on their laser diagnostic work with engines using both diesel and alternative fuels.

This year there are scientific papers presenting results from recently completed DOE studies designed to evaluate the effects of fuels and engine technologies on air quality and human health. In addition, representatives from the California Air Resources

Board and Sweden discussed results from current and recent studies that evaluate the influence of fuels and engine types on emissions. Findings from DOE's study on weekend ozone in Southern California are presented, as well as conclusions from a \$3 million government/industry program designed to evaluate measurement methods for nanoparticle emissions from diesel engines. DOE-funded projects that compare the relative toxicity of gasoline and diesel exhaust emissions are also presented. This information will be useful to the regulatory community in formulating air quality management strategies.

We invited representatives of key environmental groups who have concerns about diesel engine emissions to express these concerns in a panel session and also to respond to questions from the multi-disciplinary audience. These panels have been successful in establishing communication among various interest groups and help to focus on the real problem areas.

This year we invited two European environmentalists to hear their perspective. This year we also greatly expanded our "Ride & Drive" session. We invited the U.S. and European automobile manufacturers to bring to California their latest production or prototype diesel passenger vehicles.

In addition, we invited members of the print and video media in order to better inform the public on how far we have come in cleaning diesel exhaust and on the exciting technology which is still in the development stage.