STATUS OF THE ADVANCED PETROLEUM-BASED FUEL - DIESEL EMISSIONS CONTROL PROGRAM AND SELECTED RESULTS FROM THE DIESEL EMISSIONS CONTROL - SULFUR EFFECTS WORK

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This presentation describes the status of the Diesel Emission Control–Sulfur Effects (DECSE) Program and the Advanced Petroleum-Based Fuels–Diesel Emissions Control (APBF-DEC) Program, both of which are joint Government/industry efforts to reduce emissions from diesel-powered vehicles. The DECSE program has determined the impact of fuel sulfur levels on emissions control systems that could be used to lower emissions of oxides of nitrogen (NOx) and particulate matter (PM) for future light- and heavy-duty vehicle applications. The program has completed its evaluation of four emission control technologies: NO_x adsorber catalysts, diesel particulate filters (DPF), lean-NO_x catalysts, and diesel oxidation catalysts (DOCs). The Phase II summary report for the NO_x adsorber catalyst, issued in October 2000, provides five findings and conclusions, which are discussed in this paper. The DPF report was issued in January 2000. The analyses of data for the other two emission control technologies (lean NO_x and DOC) have recently been published (July 2001).

The APBF-DEC is a new program that builds upon the DECSE results. The mission of APBF-DEC is to identify the optimal combinations of fuels, lubricants, diesel engines, and emission control systems to fully meet projected emission standards for the 2004-2010 time period. It also seeks to identify properties of fuels and vehicle systems that could lead to even lower emissions beyond 2010. A steering committee representing participating agencies, private sector companies, and organizations has been created. Work plans and procedures have been prepared by three systems work groups: (1) fuels, engines, selective catalytic reduction (SCR), and DPFs, (2) fuels, engines, NO_x adsorbers, and DPFs, and (3) lubricant emissions effects. A fourth work group on unregulated/toxic emissions provides support on measuring these substances for the three systems work groups. Contracts have been let, and work has begun at four testing laboratories.