

## Technology Development and Demonstration Programs Subcommittee Meeting Summary

February 5, 2001

The purpose of this subcommittee is to facilitate the ARB's verification of retrofit technology for diesel engines by sharing the members' information, experience, and expertise. Approximately 80 people attended this subcommittee meeting, including representatives from government agencies, emission control manufacturers, engine manufacturers, consultants, and representatives from Switzerland, Germany, and Sweden.

The Swedish representative stated that there are approximately 5000 retrofits in Sweden. They have experienced few problems with on-road applications. However, off-road applications presented greater challenges. These challenges were primarily due to low exhaust temperatures and to engine oil consumption. Several advisory committee members agreed that older, higher oil-consumption engines and off-road equipment represented the most challenging applications. Since most of the current demonstration projects have focussed on mid- to late-model buses and trucks, there is a need for more demonstration of control technologies applicable to older vehicles and off-road equipment

Other key issues discussed in this meeting:

1. The ARB, with assistance from subcommittee members, intends to develop a master matrix of retrofit information pertaining to on-road and off-road engine applications, usage patterns, volume, and base emission levels.
2. There were concerns that older vehicles would have difficulties meeting the 85% PM reduction threshold because of heavy lube oil consumption. A related issue is that with such engines, ash could accumulate in a particulate filter rather quickly, posing a difficulty to maintaining reasonable engine backpressure and regeneration.
3. Some members suggested that the ARB should explicitly encourage retrofit technologies that deliver both NO<sub>x</sub> and PM reductions. The possibility that some PM control technologies might increase atmospheric NO<sub>2</sub> was also raised.
4. The ARB's verification procedure for retrofit devices allows manufacturers to propose alternative durability demonstrations, but does not provide detailed guidelines for development of those alternatives. Manufacturers of control devices indicated that they would like the ARB to provide more information on that topic and to harmonize the ARB's procedure with the U.S. EPA's Emissions Technology Verification program.

5. The need for procedures to ensure in-use performance of retrofit technologies was briefly touched upon. It was agreed that further work needed to be done. In this area.