COMPRESSED NATURAL GAS AND DIESEL TRANSIT BUS EMISSIONS IN REVIEW

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ABSTRACT

Over the past 3 years, the California Air Resources Board (CARB), in collaboration with the University of California and other entities, has investigated the tailpipe emissions from three different late-model, in-use heavy-duty transit buses in five different configurations. The study has focused on the measurement of regulated emissions (NO_x, HC, CO, total particulate matter [PM]), other gaseous emissions (CO_2, NO_2, CH_4, NMHC), a number of pollutants of toxic risk significance (aromatics, carbonyls, PAH's, elements), composition (elemental and organic carbon), and the physical characterization (size-segregated number count and mass) of the particles in the exhaust aerosol. The impact of oxidation catalyst control for both diesel and compressed natural gas (CNG) buses and a passive diesel particulate filter (DPF) were evaluated over multiple driving cycles (idle, 55-mph cruise, CBD, UDDS, NYBC) using a chassis dynamometer. The database of results is large, and some findings have been reported already at various forums including last year's DEER Conference. The goal of this paper is to offer an overview of the lessons learned and attempt to draw overall conclusions and interpretations based on key findings to date. To the extent possible, our results are compared to those from other similar studies.