DIESEL FUEL SULFUR EFFECTS ON THE PERFORMANCE OF DIESEL OXIDATION CATALYSTS

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This presentation summarizes available results of diesel oxidation catalyst (DOC) and Lean-NO_x catalyst testing from the Diesel Emission Control - Sulfur Effects (DECSE) program. The testing utilizes a Cummins ISM370 and an International T444E engine and is being completed at West Virginia University's Engine and Emissions Research Center. The impact of diesel fuel sulfur is examined through both steady-state and transient evaluations using test fuels containing 3, 30, 150, and 350-ppm sulfur. Sulfur in the diesel fuel is shown to significantly impact particulate matter (PM) emissions from engines equipped with these devices. The effect of diesel fuel sulfur on NO_X reduction with Lean-NO_X catalysts will be discussed as well. Testing to characterize the fuel sulfur impact on DOC and Lean-NO_X catalyst aging (up to 250 hours) is presently being completed.