

APBF-DEC NO_x ADSORBER/DPF PROJECT: HEAVY-DUTY LINEHAUL PLATFORM

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ABSTRACT

This presentation outlines the development and integration of an advanced emission control system with a modern heavy-duty diesel engine that is being used for durability testing. The project that is discussed is one of several being conducted under the U.S. Department of Energy's Advanced Petroleum-Based Fuels - Diesel Emission Control (APBF-DEC) activity. This Government/industry collaboration is examining how systems of advanced fuels, engines, and emission control systems can deliver significantly lower emissions while maintaining or improving vehicle fuel economy. A Cummins ISX

EGR engine (15 L), with a secondary fuel injection system to enable NO_x adsorber catalyst regeneration, has been developed for use in a series of durability tests with fuels of different sulfur levels. Development of the strategies for NO_x regeneration and sulfur removal as well as integration of the emission control hardware is discussed. Performance of fresh and aged systems tested over transient and steady-state cycles is summarized, including emissions of regulated and presently unregulated species.