THE CLEERS PROGRAM – AFTERTREATMENT MODELING

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The Cross-cut Lean Engine Emission Reduction Simulation (CLEERS) program is funded by the DOE Office of Heavy Vehicle Technologies. CLEERS is centered at Oak Ridge National Laboratory (ORNL) and is a part of the Diesel Cross-Cut Team. The goal of the program is to encourage and facilitate the development of aftertreatment simulation tools to assist in the evaluation of and the correlation between aftertreatment devices on light- and heavy-duty vehicles. The CLEERS committee consists of Nabil Hakim of Detroit Diesel Corporation, Stuart Daw of ORNL, Harold Kung of Northwestern University, Chris Rutland of the University of Wisconsin, and Richard Blint of General Motors).

The program has three parts: organization of tri-yearly workshops on the development of aftertreatment simulation tools, creation of a coordination site at ORNL for documenting benchmark simulation tools, and direct interaction of aftertreatment simulation R&D with the engine manufacturers. The ORNL coordination site will be accessible through the World Wide Web. The first workshop was held on May 7 and 8, 2001, at the National Transportation Research Center just outside Knoxville. The results of that workshop will be summarized in this presentation. The simulation center is under construction and component models and simulation systems are being acquired and developed. The progress in this area will be detailed and plans for access to the center will be discussed. The relationship of the CLEERS committee to the Diesel Cross-Cut Team will be described and plans for acquiring engine and aftertreatment data from the engine companies as a testing data base will be presented. Plans for two subsequent workshops are in progress, and an update will be presented.