Project Accomplishment Summary for
Project Number 94-MULT-912-ES-04

EXHAUST GAS SENSORS

February 9, 1997

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Prepared by the
Oak Ridge Y-12 Plant
managed by
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
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PROJECT ACCOMPLISHMENT SUMMARY

Project Title: Exhaust Gas Sensors
DOE TTI Number: 94-MULT-912-ES-04
CRADA Number: 94MULT-912ES
Partner(s): USCAR Low Emissions Partnership

BACKGROUND
The automotive industry needed a fast, reliable, under-the-hood method of determining nitrogen oxides in automobile exhaust. This technology did not exist. The Y-12 plant was selected for this aspect of the program because of its work with emissions monitoring and instrumentation development.

DESCRIPTION
The objective was, in the end, to build an apparatus that could measure nitrogen oxides in automobile exhaust, much like the oxygen sensors currently in use. Several technologies were pursued concurrently. These sensing technologies were based on light absorption, electrochemical methods, and surface mass loading. The Y-12 plant was selected to study the methods based on light absorption.

The program, in time, broke down into three main parts. The first phase was defining the detailed technical objectives of the sensors—this was the role of the automobile companies. The second phase was to develop prototype sensors in the laboratories—the national laboratories. The final phase was testing of the prototype sensors by the automobile industries.

BENEFITS TO DOE
The principal benefit to the DOE is improved sensing of emissions, such as would be expected from a facility that is reprocessing uranium or plutonium.

ECONOMIC IMPACT
There is no economic impact from this work. This program was canceled a few months into what was to be a three-year effort.

PROJECT STATUS
This project is terminated.
DOE FACILITY POINT(S) OF CONTACT FOR PROJECT INFORMATION
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Information on the size, sales, employment number, etc. of the automotive industry would best be directed to Mr. Miree.

PROJECT EXAMPLES
This project was canceled before any tangible results were planned or accomplished.

TECHNOLOGY COMMERCIALIZATION
This project was canceled before any commercialization was planned or accomplished.
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