Y-12

OAK RIDGE Y-12 PLANT

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MANAGED BY
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY

UCN-13672 (26 6-95)

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

EXHAUST GAS SENSORS

MASTER

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February 9, 1997

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Prepared by the
Oak Ridge Y-12 Plant
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LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-84OR21400

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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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COMPANY SIZE AND POINT(S) OF CONTACT:

T. J. Miree, Program Manager
US CAR Low Emissions Partnership
Ford Motor Company
Engine Support Systems Technologies
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Allen Park, MI 48101

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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