

Motor Vehicle Fire Research Institute Awarded Contracts

Title: Fire Suppression Test Procedures
Contractor: National Institute of Standards and Technology (NIST)
Award: \$20,000
Duration: October 11, 2004 to October 15, 2005

Purpose:

Through consultation, NIST has been assisting the Motor Vehicle Fire Research Institute (MVFRI) over the last year as it addresses the vehicle fire problem. This document represents a scope of work description for continued technical support in assessing the practicality of suppression systems and recommending methods of evaluating them and assessing new developments in suppression systems, intumescent materials and other fire prevention strategies.

NIST recently completed a draft report to MVFRI in March 2004 on Fire Suppression Research Needs. The report was broken into several sections that include background information on the post-collision vehicle fire problem, a summary of previous suppression research in vehicles, recent fire suppression research in general and specific suggestions for further post-collision vehicle fire suppression research. Comments on the report were provided by MVFRI to NIST in an attempt to improve the content of the document. As part of the report, NIST recommended that a Workshop on Vehicle Fire Suppression Research be convened. MVFRI has encouraged NIST to organize such a Workshop. Much has been learned over the last decade in fire suppression research and more recently from vehicle fire suppression testing. A workshop would capitalize on that experience. Among other things, the goals of the Workshop could include exploring the following issues:

- Review of new advances in vehicle fire suppression
- Review of recent developments in fire suppression technology in general
- Identification of technological advances and further research that is needed to address the vehicle fire suppression problem
- Establishment of standard test protocols to characterization suppression system performance
- The roles of industry, federal agencies and standards committees in establishing standard test methods
- Opportunities for collaboration

NIST has also assisted MVFRI by providing consultation regarding the fire suppression research being conducted by Professor Marino Di Marzo of the University of Maryland.

A report from Professor Di Marzo has been completed and MVFRI has requested a review by NIST of the written document.

MVFRI has recently received a proposal by Jay Ierardi of R.W. Sullivan, Inc. regarding the application of intumescent materials to mitigate the vehicle fire problem. NIST has provided a review of that proposal to MVFRI as well as a copy of the NIST report on screening intumescent materials for vehicle applications. MVFRI is considering the possibility of NIST providing consultation on the proposed project and possibly collaborating by conducting material screening experiments.

Work Statement:

To assist the MVFRI prepare practical solutions for the post-collision vehicle fire problem, NIST will continue to provide consultation leverage its previous experience in this area and perform the following tasks:

Task 1: Plan a Workshop on Vehicle Fire Suppression. The purpose of the workshop is to determine test criteria and methods for motor vehicle fire suppression systems. At the discretion of MVFRI, this Task may include convening the Workshop. Task will include planning and leading a panel discussion on fire suppression test criteria and methods at the 2005 SAE International Congress in Detroit.

Task 2: Revise the March 1, 2004 report to MVFRI on Fire Suppression Research Needs based on MVFRI comments. Update Section 3.4.2 of the report based on recent research by Di Marzo. The report will be updated to include any recent developments that become apparent in vehicle fire suppression research.

Task 3: Assist MVFRI by reviewing, consulting, and possibly collaborating with investigators examining the application of intumescent materials as a vehicle fire protection strategy. This may include testing intumescent materials provided by the investigators. At the discretion of MVFRI, this Task may include exploring the potential of developing and testing advanced intumescent materials.