

Motor Vehicle Fire Research Institute Awarded Contracts

Title: Technical Support and Evaluation of the Fuel Tank Tests;
Recommendations for Research Priorities of Hydrogen Fueled Vehicles

Contractor: Robert Zalosh

Duration: December 2, 2002 – March 31, 2003

Purpose:

The Motor Vehicle Fire Research Institute (MVFRI) has contracted with Southwest Research Institute (SwRI) to perform testing of fuel systems. A summary of the SwRI tasks have been provided in previous documents. In order to provide an objective evaluation of the performance of the various fuel tanks within these tests, MVFRI has requested the services of Dr. Robert Zalosh.

These tasks are to provide technical support and evaluation of the tests and the test results. More specifically:

1. Provide written comments on enhancements to the SwRI plastic fuel tank test procedures, recognizing a desire to minimize changes and control the bottom line costs.
2. Attend and observe all tests.
3. Review the test data and videos from the tests and prepare a brief letter report to MVFRI with conclusions. Key questions include: (1) Whether tanks that have been exposed to gasoline and high ambient temperatures behave differently from virgin tanks; (2) what explains the differences in survival times between the various tanks; and (3) recommendations as to whether the ECE 2-minute burn test is a good test, and whether the U.S. should consider adopting it, in its current form or with modifications.
4. By conference call, participate in and evaluate the results in the SwRI Work Statement. Evaluate information from the fire tests and make written recommendations for future research. Key questions include (1) to what degree would tank shielding be beneficial; (2) are there tank materials or geometries that increase the long term durability to fire resistance; (3) is there an optimum tank location for resistance to pool fires; (4) what should be the requirements for a fire suppression system to be beneficial.
5. As a separate item, the contractor will provide MVFRI written recommendations about research priorities for hydrogen fueled vehicles. These could be reformer systems or ones which store hydrogen on-board. We are primarily interested in fuel cell powered vehicles and hydrogen fueled IC engines.

Written reports will be provided for tasks 1, 3, 4, and 5.