



THE FIRE PROTECTION RESEARCH FOUNDATION

Hybrid Water Mist Fire Protection Systems

Project Summary

Last Updated: 26 July 2013

Background

There are now two commercially available fire extinguishing systems that FM has classified as "Hybrid" systems (in Approval Standard 5580), but are not addressed in the NFPA standards. These systems are unique because they use an inerting gas such as nitrogen as well as fine droplets of water typical of water mist system. FM has determined that the oxygen concentration is not depleted enough to classify this as a clean agent, but it also does not show all of the same characteristics as a standard water mist system. In some cases, manufacturers' are "mixing and matching" requirements for water mist systems and inert gases to suit their needs.

Project Objective

The objective of this research would be to provide background information on these systems so that it can be ultimately determined where these systems should best be addressed within NFPA documents. These systems may fit in NFPA 750, *Standard on Water Mist Fire Protection Systems*, NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, or may be unique enough to require their own independent document.

Project Description

This project would involve the following tasks:

- A literature review of available information on hybrid systems including technical background information and test data.
- Analysis of the extinguishing properties/capabilities of such systems and comparing them to traditional water mist systems and clean agent systems.
- Meeting with listing/approval bodies such as FM or UL to get their input on these systems and information on how they are testing them.
- Documentation of the study results in a report.

Implementation

The research program will be conducted by the Fire Protection Research Foundation and will receive guidance throughout the project by a Project Technical Panel. Funding for this project is provided through NFPA. The final report is scheduled to be issued by December 2013.