



# RESEARCH FOUNDATION

## RESEARCH FOR THE NFPA MISSION

### PROJECT SUMMARY

## Internal Corrosion of Sprinkler Piping

23 March 2017

**Background:** In 2016, the Automatic Sprinkler Protection Research Council identified the need for research on solutions to prevent internal corrosion of sprinkler piping, there was concern that the potential for sprinkler failure due to this internal corrosion is high. Numerous studies have been conducted into this subject that often focus on a single aspect of corrosion and specific solutions related to that type of corrosion. The goal of this project is to identify these studies and conduct a gap analysis to help guide future research efforts.

**Research Goal:** To evaluate the effectiveness of currently accepted solutions to the problem of internal sprinkler corrosion, identify additional methods to prevent sprinkler corrosion, and provide recommendations for research into potential future solutions where the data does not exist.

#### **Project Tasks:**

- 1) **Literature Review:** Provide a comprehensive review of the literature that analyze internal corrosion in sprinkler piping, compile a list of corrosion control measures in relation to sprinkler piping, and evaluate the research on the effectiveness of these solutions. Additionally, research into corrosion and corrosion control of similar systems (e.g. chemical process piping) will be reviewed to determine if any parallel comparisons between systems can be made. The review will focus on trying to quantify the effectiveness of existing solutions and trying to qualitatively analyze new corrosion prevention methods in order to later direct quantitative research.
- 2) **Gap Analysis:** Clarify the gaps from previous studies in the literature and with previous data compilations.
- 3) **Future Research:** Develop a research plan to direct future research efforts into filling in knowledge gaps on corrosion and corrosion control based the work done in Tasks 1 and 2.

**Implementation:** This research program will be conducted under the auspices of the Research Foundation in accordance with Foundation Policies and will be guided by a Project Technical Panel of industry stakeholders who will provide input to the project, review periodic reports of progress and research results, and review the final project report.

#### **Schedule:**

Project Kick-off meeting:	April 2017
Interim Task 1 & 2 report:	June 2017
Interim Task 1, 2, & 3 Report:	August 2017
Draft Final Report:	September 2017
Final Report:	October 2017

### **About the Fire Protection Research Foundation**

The [Fire Protection Research Foundation](#) plans, manages, and communicates research on a broad range of fire safety issues in collaboration with scientists and laboratories around the world. The Foundation is an affiliate of NFPA.



### **About the National Fire Protection Association (NFPA)**

Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission. [All NFPA codes and standards can be viewed online for free.](#) NFPA's [membership](#) totals more than 65,000 individuals around the world.

