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Compressed Air Foam Technology for Fire Protection of Housing Units in Remote Areas

Objective

To develop a prototype compressed air foam (CAF) system for use in housing units and demonstrate the effectiveness of this system.

Background

The fire protection of housing units in remote regions of Canada is particularly challenging, in part because water supply and access to municipal water systems are often limited. This means that conventional sprinkler systems are not a viable option for these regions. Furthermore, the cost of fire damage is often greater there because of higher rebuilding costs. Because CAF systems require far less water than sprinkler systems, they offer a promising alternative.

Statement of Work

- Identify possible fire scenarios in some typical northern housing units and conduct a feasibility study of a CAF system there
- Develop a prototype CAF system with a single/dual nozzle to provide fire protection for a single room, install it in an NRC test facility, and test its fire suppression effectiveness
- Conduct a demonstration fire-suppression test using the prototype CAF system in a vacant house in the North West Territories under a realistic fire scenario.

Expected Outcomes

- A prototype CAF system with a single/dual nozzle to provide fire protection for a single room
- A report summarizing the results of the feasibility study
- A report summarizing results of the fire-suppression test

Partners

Canada Mortgage and Housing Corporation and FireFlex Systems Inc.

Start/Expected Completion Dates

This project began in 2005 and will be completed in 2006.

Project Manager

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Fire spreading on a sofa before CAF activation