

# Department of the Navy SBIR/STTR Transition Program

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MCSC-PRR-1349

Topic # N132-085

Aqueous Based Automatic Fire Extinguishing System  
BlazeTech Corp.

## WHO

**SYSCOM:** MARCOR

**Sponsoring Program:** MARCOR

**Transition Target:** PM M&HTV

**TPOC:**

[sbir.admin@usmc.mil](mailto:sbir.admin@usmc.mil)

**Other transition opportunities:**

PM LTV

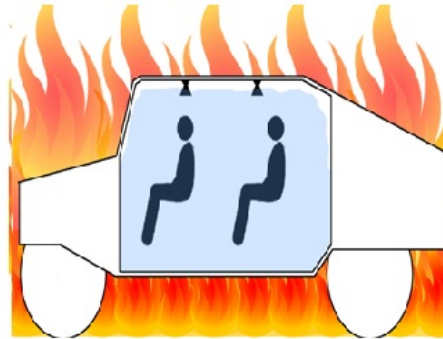
US Army Vehicle Platforms

**Notes:** Risk: developing new method using compressed air & premixed foaming agent-water solution. Issue is dispensing enough agent to suffocate the fire but then having enough agent remaining to continually fill the cab so occupants are not further injured by second-degree burns caused by over exposure to intense heat.

PM LTV: PM Light Tactical Vehicles

PM M&HTV: PM Medium & Heavy Tactical Vehicles

### Vehicle Occupants Protected Using BlazeTech's Foam Suppression System



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## WHAT

**Operational Need and Improvement:**

- Develop aqueous breathable foam system to protect ground vehicle crew from thermal burn injuries and fire
- Develop criteria for burn injury due to skin exposure to heat in humid environment

**Specifications Required:**

- Instantaneous reaction to mitigate injury for 5 minutes
- Protect the crew from second degree burn injuries
- Operates in all vehicle orientations (upside down, on its side, etc.)
- Discharge immunity from an outside radiation source
- Operate in all environmental conditions

**Technology Developed:**

- Foam production with compressed bottle air instead of fan air, critical to application where local air is contaminated; compliments the short duration Automatic Fire Extinguishing System presently onboard
- Model to account for contribution of hot humid air to burn injury over extended period of time

**Warfighter Value:**

- Saves lives
- Protects vehicle crew during first "critical 5 minutes"
- Provides thermal burn injury model

## WHEN

**Contract Number:** M67854-15-C-6500 **Ending on:** March 12, 2017

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Develop foam generation components	Med	Component works in laboratory	5	3rd QTR FY16
Test compressed air & premixed foaming agent-water solution	Med	Successful in laboratory	5	3rd QTR FY16
Conduct simulated vehicle cab fire	High	Fire extinguished, foam works as advertised	5	1st QTR FY17
Deliver to MARCOR foam prototype and temperature-humidity burn criteria for future live fire testing	Med	Test successful, data matches expectations	6	2nd QTR FY17

## HOW

**Projected Business Model:**

- Seek partnership with government and prime contractors in order to perform full-scale fire testing
- License or sell technology to vehicle manufacturers wishing to incorporate this technology into future versions of their vehicles.

If licensing - should include your strategy and role in any further design, development or production assistance

**Company Objectives:**

- Establish a working relationship with Oshkosh,
- Continue expanding BlazeTech's expertise in:
  - \* Structural response to fire and explosion
  - \* Assessment of detection and suppression systems
  - \* Accident modeling
  - \* Tunnel fires and fires in rapid transit systems
  - \* Class D metal fires such as magnesium, aluminum, and titanium

**Potential Commercial Applications:**

- Protection of people trapped in a confined area surrounded by fire
- Deluge of personnel in control rooms
- Safety in mass transit systems and aircraft during evacuation

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