

Topic: N132-085

## BlazeTech Corp.

### Aqueous Based Automatic Fire Extinguishing System

Attacks on military vehicles can result in a pool fire that engulfs the vehicle while personnel are unconscious and trapped therein. BlazeTech is developing a breathable aqueous foam system that automatically floods the vehicle cabin protecting the occupants against fire reflash and heat for a period of five minutes. BlazeTech has also developed criteria for thermal injury from long exposure to wet heat. These technologies can be used to protect military vehicle occupants and to assess the effectiveness of any aqueous protection system. BlazeTech specializes in fire and explosion protection and survivability of high value systems. Currently a small scale prototype is under construction and is being tested. BlazeTech seeks partnerships with government test facilities to perform full scale vehicle fire testing and with prime contractors to license the manufacturing and sale of the technology.

### Technology Category Alignment:

Biomedical Informatics / Health Information Systems & Technology

Survivability

Protection, Sustainment, and Warfighter Performance

### Contact:

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**SYSCOM:** MARCOR

**Contract:** M67854-15-C-6500

 Corporate Brochure: [https://navystp.com/vtm/open\\_file?type=brochure&id=M67854-15-C-6500](https://navystp.com/vtm/open_file?type=brochure&id=M67854-15-C-6500)

# Department of the Navy SBIR/STTR Transition Program

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MCSC-PRR-1349

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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

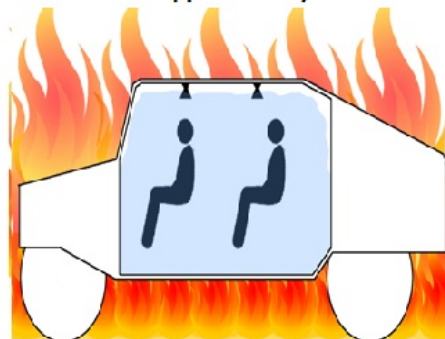
US Army Vehicle Platforms

**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-humid-time 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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