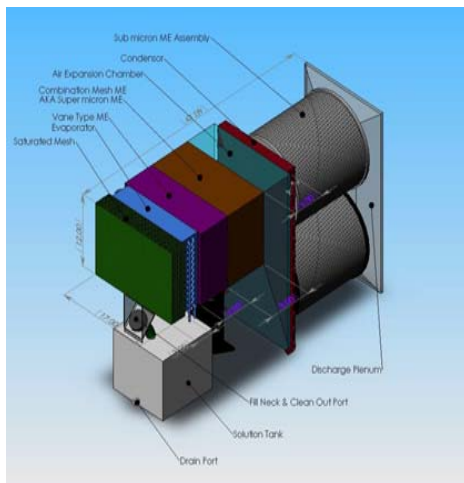


Phase 2 Prototype

PERL Aerosol Test Stand



Key Discriminators

Operational Capability:

This project will demonstrate a new method of air filtration that combines the Aqueous Froth Air (AFA) filter and Sandia National Laboratories' DF200 CBW Decontamination Foam. The DF200-AFA filter increases the mass and aerodynamic diameter of toxic aerosols by heterogeneous nucleation of decontamination solution onto the contaminants in the air stream. Solid, liquid, and gaseous chemical contaminants are neutralized and bio-aerosols are killed that are captured or that penetrate the filter. The portable DF200-AFA filter will provide air filtration for emergency shelters for first responders and medical isolation of contaminated personnel. The size and weight of the current portable prototype will allow for conceptual advancement, laboratory and field testing, and ease of transport and use by first responders.

The DF200-AFA filter addresses the Chemical, Biological, Radiological, Nuclear Defense Program (CBRNDP) capability gaps for collective protection identified in the Defense Baseline Capabilities Assessment (DBCA).

.Problems/Readiness/Champions

Problem Being Addressed:

Chemical and Biological Warfare (CBW) agents pose a threat to U.S. military combat platforms and personnel. Dry-media filters are ineffective against toxic gasses and CW agents and BW agents trapped in the filter remain viable. A new method of air filtration is required to kill hazardous bio-aerosols and neutralize toxic chemical gasses, and solid and liquid chemical aerosols.

Technology Readiness Level:

The technology achieved readiness level 4 in Phase 1. The technology of this Phase 2 project will achieve readiness level 5.

Champions:

-Dr. Mark Tucker, Senior Scientist at Sandia National Laboratories advocates combining the Sandia DF200 Decontamination Formulation with the Aqueous-Froth Air (AFA) filter and continues to work with Peletex.

-Hawaii Technology Development Venture (HTDV) funded Phase 1 proof-of-concept project with \$200,000 from the Office of Naval Research (ONR).

-Technology Development Ventures Corp. (TVC) has committed to consultation with Peletex.

Milestones

Deliverables

Date

Status

Design prototype	Design drawings	10 April 06	In progress
Fabricate prototypes	Ship prototype to Sandia	5 May 06	Future
Innovative design iterations	Design report	15 Oct 06	Future
DF200 efficacy test	Efficacy test report	31 Jan 07	Future
Aerosol removal-efficiency test	Final Project Report	31 Jan 07	Future