

**INTRODUCTION**

Building Protection Systems, Inc. (BPSI) is a direct manufacturer of “Next Generation” Chemical, Biological, Radiological, Nuclear (CBRN) detection technologies known as the BPSI Sentry One family of products [www.BPSIglobal.com](http://www.BPSIglobal.com)

Critical facilities, buildings, transit, airports and public gathering places are extraordinarily vulnerable to an airborne CBRN release or targeted terrorist attack. CBRN material introduced either internally or externally to a building or other venue will be rapidly circulated throughout the facility’s HVAC system killing and injuring personnel, ruining the facility asset, interrupting business continuity and prolonging a recovery.

**DETECTION / RESPONSE**

BPSI’s Sentry One™ active CBRN detection and identification system is the first U.S. Department of Homeland Security SAFETY Act Designated “Next Generation” solution which reliably detects, identifies, automatically activates predetermined mitigation protocols, and relays real time data to first responders (or anywhere) to expedite rescue and recovery.

The BPSI Sentry One™ system has been selected because of its proven ability to:

- Operate continuously in the absence of false positives / false negatives
- Provide reliable high-speed detection
- Automatically activate the desired mitigation protocol
- Handle harsh environments due to robust engineering
- Incorporates N+1 redundancy
- Offers broad spectrum sensing (TIC) (RAD) Standard. (CWA) (BIO) Optional
- Optional UPS battery back-up
- Provide real-time toxin and location data allowing for 24/7/365 remote monitoring
- Easily installed into existing facilities or new construction because of the modular backbone “plug and play” design
- Flexibly to integrate into virtually any resident Building Management System (BMS)
- Operate with low lifecycle costs, requiring no specialized labor because there is no calibration or custom monitoring required.
- Achieved U.S. Department of Homeland Security SAFETY Act Designated Technology
- Made in the USA

**EXAMPLE:**

Below is an example of a direct act of terrorism where the fresh air intake is at street level. It is as easy as a vehicle simply stopping next to a building’s fresh air intake, opening the side door, wheeling the cylinder to the intake and opening a valve – all in less than 1 minute. Most structures utilize a fresh air source to deliver oxygen to areas where people are present. The fresh air is necessary to offset the exhaled carbon dioxide of humans. Once the toxin is introduced, if no detection equipment installed, the toxin would circulate without regard to loss of life. It is estimated that it would take less than 8-12 minutes to kill upwards of 4,000 people in the average large commercial building.



**UNPROTECTED BUILDING**



**PROTECTED BUILDING**

**BPSI PRODUCTS/APPLICATIONS/SOLUTIONS**

**Building Sentry One™** – Large buildings and facilities requiring unlimited networked sensor sets

**Alpha Sentry One™** – Smaller facilities, vulnerable air intakes, lobby control, or perimeter security requiring (4) networked sensors or less

**Metro Sentry One™** – Transit stations, campus and open air environments requiring unlimited networked sensor sets

**Mobile Sentry One™** – Mobile trailer solution for secure special events and perimeter security

### **BPSI SENTRY ONE™ TECHNOLOGY**

BPSI's Sentry One™ products are a sensor-based system that detect a defined spectrum of toxic compounds as well as a library of radiological isotopes and select biological agents on a continuous 24/7/365 basis. Through the integration with programmable logic controllers and sensor arrays, linked to a PC infrastructure with multi-layer communications protocols, the Sentry One™ product solution offers a dynamic set of customized security measures. The Sentry One™ architecture simply mesh into existing systems, in a seamless process. The Sentry One™ solution is a mechanical system installed in areas of CBRN concern (example being a commercial office building and the Building Sentry One™ (BSO) being deployed) for monitoring, both directly and/or remotely, airborne toxins in the building and its HVAC system. The BSO then enacts a sequence of alerts and mechanical protocols to isolate toxins and prevent their distribution in order to disrupt the desired outcome of targeted terrorist activity, prevent loss of life, preserve building assets, and to provide an early warning system in real-time. The BSO is an autonomous backbone system installed as an all-in-one building retrofit and integrates directly into existing building management systems (BMS). The BSO has been designed in modular fashion to support continued advances in sensory technology, with a “Plug and Play” overlay technology. No known similar systems exist. BSO is the only technology that fully integrates sensory technology into a market ready building retrofit product, with embedded building controls, logic, software, mechanical protocols and remote monitoring with multiple security means to prevent tampering and false positive or false negative readings.

### **SENSORS AND DETECTORS**

#### **CHEMICAL:**

The BPSI Chemical Sensor Arrays (CSA) is a COTS based detector comprised of a twin-sensor array engine design for elimination of false alarms. The CSA is completely housed in a NEMA 4 enclosure with connection hardware that meets the IP 67 standard for protection. The basis of the CSA utilizes a sensor technology that is a mature and has been utilized in the field for many years and is recognized in the gas detection industry as the most rugged, reliable and accurate technology for our application.

#### **RADIOLOGICAL/NUCLEAR:**

The BPSI Radiological Area Detector (RAD) is a COTS based single instrument combining a 3” x 3” Sodium Iodide Scintillation probe. The RAD will not only provide needed detection capability but also performs isotope identification in real time (within 1-3 seconds). The RAD has a library of over 120 nuclides and is field configurable for all listed isotopes.

#### **BIOLOGICAL:**

The BPSI Biological Trigger Sensor (BTS) is a Laser-Induced Fluorescence Biological Agent detector designed to detect materials of a biological nature and of the correct particle size of a Biological Weapon agents in less than 30 seconds. The BTS has default programming to trigger on the six (6) most prevalent biological agent signatures that a terrorist may obtain such as: Anthrax, Botulism, Plague, Smallpox, Tularemia and Viral Hemorrhagic Fever.

#### **WARFARE AGENT:**

The BPSI Warfare Agent Module (WAM) is a module designed for additional safety to high value asset facilities and military applications. The WAM is “plug and play” and the following nerve agents are to be utilized in the WAM:

- SOMAN
- SARIN
- MUSTARD
- TABUN
- CHLOROPICRIN
- VX

#### **BPSI SUPPORT**

BPSI factory trains and certifies technicians on the Sentry One™ detection system. Certification training will include system selection, system placement, installation, commissioning, maintenance and service. BPSI engineers are available for engineering plan review, system consultation and any necessary system support. BPSI can also assist on special projects by providing review and on location services.

#### **CONTACT:**

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