

HAZMAT / PPE

Biohazard Detection System

Supersedes:

Effective: 05-20-04

The Biohazard Detection System (BDS) is an environmental detection device designed to detect anthrax in certain postal facilities using an automated air sampling and internal testing system. This system is now operational at the South Boston Postal Annex. The Postal Annex is the largest mail processing facility in New England and consists of two large buildings that have separate HVAC systems. The BDS operates in only one of these buildings (commonly referred to as “the new building”).

Sampling and Testing: BDS continuously collects air samples in the area of pre-identified aerosol-generating machines. Every 30 minutes a sample is analyzed by an automated polymerase chain reaction (PCR) test. A positive PCR test results in a “positive BDS signal” which triggers the system to sound an alarm. These systems are specifically designed to detect *B. anthracis* (anthrax). Sensitivity and specificity of these tests are high, but a false positive is expected to occur about once a year. Any environmental specimen positive by BDS testing will automatically have subsequent confirmatory testing done at the Massachusetts State Laboratory Institute. Confirmatory testing consists of PCR and culture. PCR test results at SLI are expected to be available within 8-12 hours of the BDS alarm.

PROCEDURE

1. Initial Notification

- 1.1. In the event of a Biohazard Detection System (BDS) alarm at the South Boston Postal Annex, a unit supervisor from the United States Postal Service (USPS) will call 9-1-1 and request to be transferred to EMS. Simultaneously, the BDS machine will send an automatic notification to 19 other agencies, including the FBI and Department of Homeland Security.
- 1.2. The Boston EMS calltaker will enter the call using the TYPE Code “**BIOC**” with comments indicating an activation of the BDS Alarm system, whether there were any reported injuries, and other pertinent information.

2. Building Evacuation

- 2.1. In the event of a BDS alert, any potentially aerosol-generating equipment will be shut down to minimize the extent of contamination. HVAC units serving the production/processing area will be shut down, and all elevators in the old and new buildings will be shut down.

- 2.2. All employees and persons at the South Boston Postal Annex will be evacuated according to pre-determined risk groups to a designated area to minimize cross-contamination.
3. EMS Response and Notifications
 - 3.1. Upon receipt of a BDS Alarm activation with evacuation, Boston EMS will dispatch the following units, when available: 1 ALS, 2 BLS, Division Supervisor, Shift Commander
 - 3.2. The Boston EMS Supervisor will transmit the “**BIOC**” and “**PHC**” Group pages with pertinent information.
 - 3.3. The CMED Operator will notify the Conference of Boston Teaching Hospitals (COBTH) via the disaster radio that there has been a BDS Alarm at the South Postal Annex, and that further information will be forthcoming when available.
4. On-Scene Decontamination
 - 4.1. A decontamination shower will be done at the facility for those at highest risk of exposure (those who were in the immediate area of a high pressure generating postal processing machine). As part of an interim plan, persons at moderate risk (those on the production floor, but not in close proximity to high pressure generating postal processing machines) will also be offered a decontamination shower on site.
 - 4.2. Decontamination is not being recommended for persons who were in not in the “new building” around the time of the BDS alert.
5. Post-Exposure Prophylaxis (PEP):
 - 5.1. Post-exposure antibiotics and vaccine are used for the prevention of inhalational anthrax.
 - 5.2. Post-exposure prophylaxis (PEP) will be initiated only after PCR testing at the SLI confirms anthrax.
 - 5.3. If antimicrobial prophylaxis is necessary, a post event prophylaxis (PEP) clinic will take place the following morning for all appropriate South Boston Postal Annex employees. Individuals will be given a five-day supply of antibiotics while awaiting culture results from the SLI.
 - 5.4. If the culture results from the SLI are positive, a 60-day course of antibiotics and a 3-dose regimen of anthrax vaccine (using IND protocols) will be initiated.
 - 5.5. South Postal Annex employees who present for post exposure prophylaxis following a BDS alert can be referred to the PEP clinic. In addition, symptomatic employees should be evaluated for potential anthrax.
 - 5.6. Additional information on treatment and PEP clinics will be provided to health care providers should a BDS alert be confirmed.