Building Vulnerability Assessment & Mitigation Program (BVAMP)

How Do Building Managers Identify Vulnerability?

Preparation and advanced planning can reduce the likelihood and severity of chemical, biological, and radiological attack. However, it can be difficult for building managers to determine key vulnerabilities and prioritize implementation of mitigation strategies, because most information that treats these subjects is intended for technical consultants or design professionals. The Building Vulnerability Assessment and Mitigation Program (BVAMP) provides facility managers with an easy-to-use software tool for identifying basic steps to secure buildings and develop building specific mitigation plans.

BVAMP develops building-specific advice for:

- Improving emergency preparedness

- Developing building system control protocols for use during emergencies

- Planning for shelter-in-place responses

- Restricting access to building systems and information


Simple Software Tool

1. Survey building using simple straightforward questionnaire

2. Complete BVAMP by answering "yes/no" questions.

    - emergency response plans

    - buildings and building system access

    - HVAC systems and controls

    - special risk areas

3. Print out building-specific report detailing areas of potential vulnerability and ways to reduce risk.
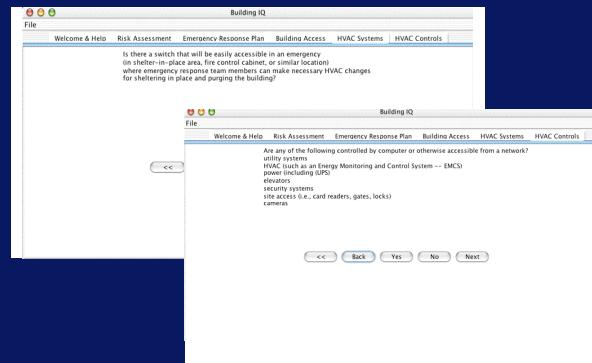
The figure shows the easy-to-use screens of BVAMP. Users work through a series of questions about the building and response planning

Preparedness Saves Lives

Building response managers who have planned and prepared for emergencies can respond quickly and appropriately during times of crises, reducing injuries and deaths in the event of an accidental or intentional release of a hazardous substance. The figure shown below shows the benefit of shutting down an HVAC system to shelter from an outdoor contaminant plume. In this example, shutting down the HVAC system before the plume arrives reduces the peak indoor concentration by more than 70% and the total indoor exposure during the first two hours by more than 50%.
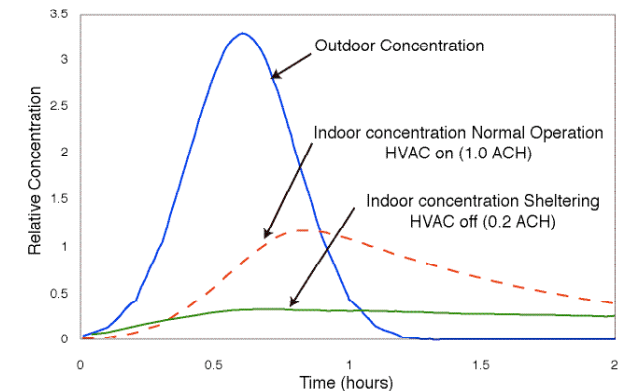
Some key preparatory steps to take include:
- Developing shelter-in-place locations

- Establishing comprehensive emergency response teams

- Modifying HVAC controls to facilitate sheltering and purging response modes

BVAMP is designed for use by **building owners, facility managers, safety managers, and private contractors.** Using the program recommendations, users can take basic steps to reduce building vulnerability from attack by chemical, biological, or radiological agents.

Steps that facility managers can take to address these issues are:

- Download the BVAMP software, either directly or through their contractors.
- Use the software to assess building vulnerabilities
- Examine the BVAMP recommendations for action and implement as indicated, based on available time and funds.
- Tell other facility managers and law enforcement agencies about BVAMP's availability.
- Submit BVAMP change suggestions to LBNL staff.

Lawrence Berkeley National Laboratory (LBNL) has many resources, including BVAMP, available to address building security issues. These are available at **http://SecureBuildings.lbl.gov**

The Energy Commission's PIER Program final report describing BVAMP's development, including sample reports, is available at: http:/energy.ca.gov/pier/buildings/reports.html

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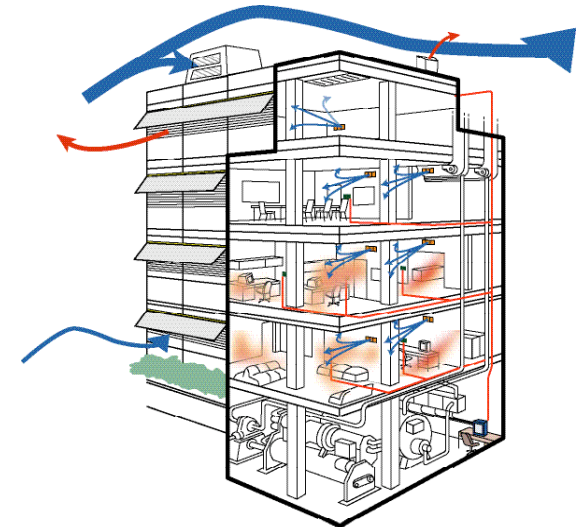Public Interest Energy Research Program

Contact information:

California Energy Commission
www.energy.ca.gov/pier/index.html

Don Aumann
daumann@energy.state.ca.us

Richard Sextro,
LBNL Project Lead
rgsextro@lbl.gov

Tracy Thatcher,
LBNL Program Coordinator
tlthatcher@lbl.gov

ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY
BERKELEY LAB

DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

Building Vulnerability Assessment & Mitigation Program (BVAMP)

Helping Facility Managers Reduce Vulnerability to Chemical, Biological, and Radiological Agents

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