



# Office of Inspector General

*Catalyst for Environmental Improvement*

## Elements of an Effective BioWatch Program

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**913-551-7528**

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# Agenda

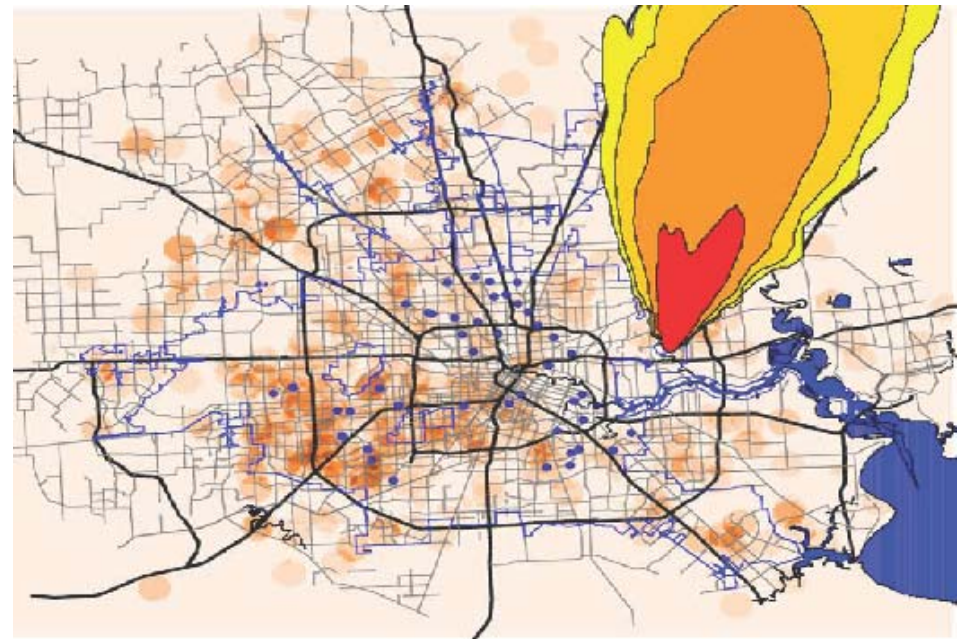
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- Requirements for an effective biological monitoring system.
- BioWatch process.
- Environmental Protection Agency (EPA) responsibilities for BioWatch.



# Background

- BioWatch is part of the Department of Homeland Security's (DHS) early-warning system, started in 2003, because of concern that terrorists could aerosolize a biological agent, potentially causing thousands of casualties.





# Elements of an Effective Biological Monitoring System

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- Capability
  - Rapidly recognize the release of likely biological agents before the onset of clinical illness.
  - Low false alarm.
  - Unattended for extended periods.
  - Sense several different threats simultaneously.
  - Portability.



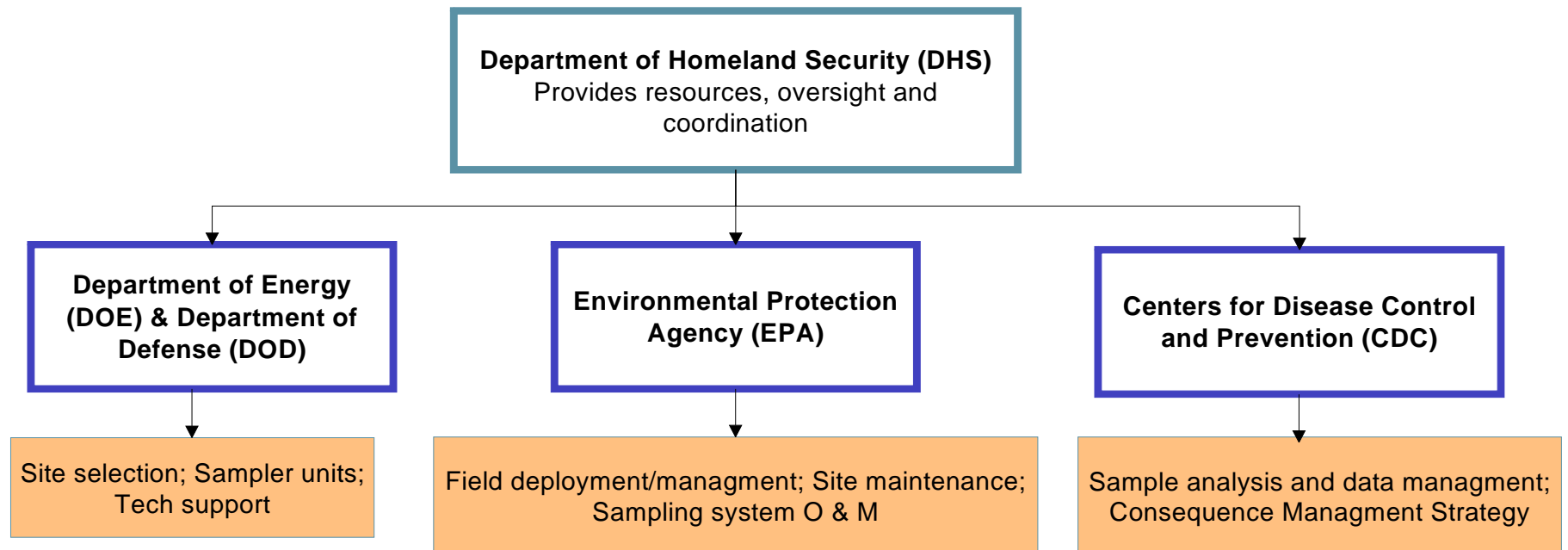
# Elements of an Effective Biological Monitoring System

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- Coverage
  - Desired coverage throughout the U.S. based on risk.
  - Major cities/populations.
- Cost
  - Cost-effective to deploy and maintain.
- Timing
  - Results known timely.
  - Officials notified when positive detection occurs.

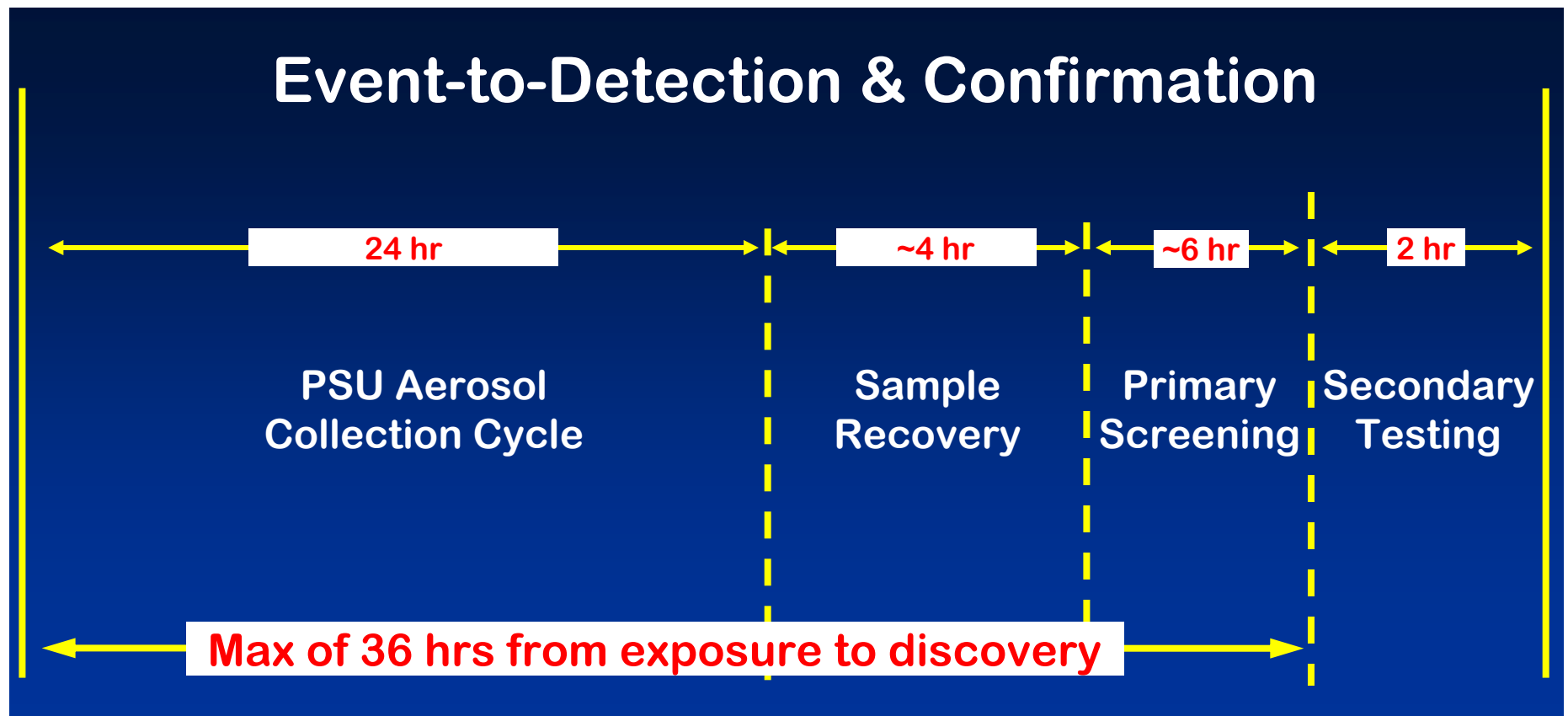


# BioWatch Responsibilities





# Bio-Watch Sampling and Processing Timelines





# EPA Responsibilities

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- DHS used EPA to quickly establish the BioWatch program due to EPA's existing Air Quality Monitoring Network.
- EPA also awards and manages cooperative agreements for State and local air monitoring agencies to collect filter samples.



# EPA Responsibilities

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- EPA's designated responsibilities include a crucial part of the BioWatch program – the sampling operations including:
  - monitor deployment,
  - site security,
  - oversight, and
  - assessing monitor technology.



# OIG Reports

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- We partnered with Inspector Generals from DHS and the Department of Health and Human Services to evaluate the BioWatch program.
- EPA OIG evaluation sought to answer the following questions:
  - What are EPA's designated responsibilities in the BioWatch program?
  - How well is EPA implementing its designated responsibilities in the BioWatch program?



# At a Glance

*Catalyst for Improving the Environment*

## Why We Did This Review

The Environmental Protection Agency (EPA) is an important partner in the BioWatch program and has a major role in sampling operations. We sought to answer the following questions:

- What are EPA's designated responsibilities in the BioWatch program?
- How well is EPA implementing its designated responsibilities in the BioWatch program?

## Background

BioWatch is an early-warning system designed to detect the release of biological agents in the air through a comprehensive protocol of monitoring and laboratory analysis. BioWatch is a "detect to treat" network intended to detect biological agents within 36 hours of release, so that there is time for Federal, State, and local officials to determine emergency response, medical care, and consequence management needs.

For further information, contact our Office of Congressional and Public Liaison at (202) 566-2391.

To view the full report, click on the following link:

[www.epa.gov/oig/reports/2005/20050323-2005-P-00012.pdf](http://www.epa.gov/oig/reports/2005/20050323-2005-P-00012.pdf)

## EPA Needs to Fulfill Its Designated Responsibilities to Ensure Effective BioWatch Program

### What We Found

The Department of Homeland Security (DHS) funds and oversees the BioWatch program while relying on the assistance and expertise of EPA and other agencies. DHS uses EPA to award and manage cooperative agreements to State and local air monitoring agencies to collect filter samples.

EPA's designated responsibilities include a crucial part of the BioWatch program – the sampling operations. These operations include monitor deployment, site security, oversight, and assessing monitor technology. However, we found that EPA did not provide adequate oversight of the sampling operations to ensure quality assurance guidance was adhered to, potentially affecting the quality of the samples taken. EPA completed a technology assessment of the existing BioWatch monitors, but also needs to be involved in assessing technologies that are more reliable and timely, and reduce costs. A lack of consequence management planning was highlighted when a biological agent was detected in Houston in 2003. After this incident, EPA collaborated with DHS and the Centers for Disease Control and Prevention on the development of consequence management plan guidance, but at the time of our review State and local consequence management planning was incomplete.

### What We Recommend

EPA's Assistant Administrator for Air and Radiation should ensure that EPA fulfills all of the BioWatch-designated responsibilities, including ensuring quality assurance guidance is adhered to. Further, although not a responsibility specifically designated to EPA as part of the BioWatch program, we suggest that the Assistant Administrator for Air and Radiation have EPA work closely with the BioWatch partners to:

- use its air monitoring experience to assist DHS in identifying and testing alternative technologies that are more reliable, timely, and efficient for detecting biological agents; and
- ensure the Agency is adequately prepared to assist with consequence management plans in the event of a biological agent release.

The Agency agreed with our report and stated it has begun working with EPA regions to address many of the issues that we identified.

# OIG Report

[www.epa.gov/oig/](http://www.epa.gov/oig/)



# What We Found

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- Network was not deployed and maintained adequately.
- Limited oversight and quality assurance.
- Technological assessment needed.
- A biological agent detected in Houston in 2003 highlighted that consequence management planning is incomplete.



## News

Posted on Wed, Nov. 02, 2005

### Terror germ detected in Santa Clara County, but threat downplayed

SUBSEQUENT AIR TESTS NEGATIVE

By Chuck Carroll  
Mercury News

Public health officials are downplaying the threat in Santa Clara County, saying it probably came from a nearby area.

On Sunday morning, an air monitor detected the tularemia bacteria, but a test of Public Health. No other air samples were positive.

Dr. Marty Fenstersheib, Santa Clara County health officer, said that the source was likely a test detecting a low amount of the bacteria.

"All of our subsequent follow-up tests were negative."

Area health officials were not notified for five days that sensors on the Mall had detected a potentially dangerous bacterium there last month because subsequent tests were not conclusively positive, a federal official said yesterday.

The Department of Homeland Security delayed in alerting the federal Centers for Disease Control and Prevention for the same reason, said Richard Besser, who directs the CDC's coordinating office for terrorism preparedness and emergency response. More than half a dozen sensors showed the presence of tularemia bacteria the morning after thousands of people gathered on the Mall for a book festival and antiwar rally, yet the CDC was not contacted for at least 72 hours.

The New York Times  
nytimes.com

November 16, 2003

### Government Provides Details of Bioterror Threats in 31 Cities

By THE ASSOCIATED PRESS  
WASHINGTON, Nov. 15 — The Homeland Security

Department on Tuesday provided details of a bioterrorism threat in 31 cities. The project, called Biowatch, is intended to protect neighborhoods covered in these 31 cities from a possible attack.

The network of nearly 500 sensors nationwide has been expanded to include 31 cities in Houston, San Francisco, San Diego and Boston.

The Bush administration recently expanded Biowatch to 31 cities from 20. Critics of Biowatch say it cannot detect small releases that could signal a possible attack and testing of air samples.

"Unless it is a major atmospheric release of large quantities of a biological agent, we are not going to detect it," said Chue, a research scientist at Johns Hopkins University.

Experts were surprised last month when two Biowatch sensors in Houston detected the presence of tularemia bacteria among rabbits, prairie dogs and rodents that sometimes



# Questions?

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