

**FACTS ABOUT THE BOSTON UNIVERSITY PROPOSAL  
TO BUILD A NATIONAL BIOCONTAINMENT LABORATORY  
AT BOSTON UNIVERSITY MEDICAL CENTER**

**BACKGROUND**

**WHAT:** The National Institute of Allergy and Infectious Diseases (NIAID) announced that it will provide funds to Boston University (BU) to build a National Biocontainment Laboratory (NBL) where research will be performed on deadly viruses and other organisms, such as anthrax, smallpox, plague, botulism, tularemia, and viral hemorrhagic fevers, for which there is no known cure and that pose the greatest risk to people in the event of a bioterrorist attack. The NBL will encompass 223,000 square feet and include Biosafety Level 3 and 4 (BSL 3 and 4) laboratories and supporting facilities. BSL 4 is the level of security required for research on the most dangerous and exotic category of disease causing organisms. According to federal guidelines, BSL 4 pathogens pose a “high risk of exposure and infection to personnel, the community, and the environment.” These pathogens cause incurable deadly illnesses, are transmitted through the air, and may be used in bioterrorism and biowarfare. A chart defining the BSL numbers is on page 7 of this fact report.

**WHERE:** BU intends to build the NBL adjacent to the Boston University Medical Center in an area known as BioSquare, between Albany Street and the Massachusetts Avenue Connector, east of Massachusetts Avenue, where the South End and Roxbury meet. More than 25,000 people live within one mile of the location and more than one million people live within ten miles of the location. A site map is on page 8 of this fact report.

**WHY:** NIAID published a Request for Proposals (RFP) for applications to construct a NBL. On September 30, 2003, it announced that it would fund the construction of two NBLs, one in Boston, MA, and one in Galveston, TX, through its Biodefense Research Agenda, a part of its bioterrorism initiative.

- ▶ **This report provides information that BU has failed to provide about its proposed NBL.**

**1. NO TRANSPARENCY AND NO LOCAL OVERSIGHT OF THE RESEARCH  
PERFORMED IN THE NBL**

The state and city will be unable to regulate the types of research done at the NBL and may be unaware of the dangerous toxins that are in the NBL. The public may not be informed of any accidental or intentional releases of pathogens from the NBL.

- NIAID’s funding of BU to construct the NBL does not mean that BU will perform research in the NBL. NIAID will hold a separate competitive bidding process to determine the entity that will perform research in the NBL. An outside entity with no local ties or control may operate the NBL. (NIAID RFP) Thus, BU cannot give any assurance of the type of research that will be performed in the NBL or that the city or state will have access to the facility.

- There will be secret research performed in the NBL. NIAID funding gives NIAID a 20-year right to require the NBL to perform the research it wants to have done, which will include biodefense research on dangerous and exotic agents that pose a high or yet to be determined risk of life threatening disease and that are capable of aerosol transmission. NIAID may require the NBL to perform new and perhaps more dangerous research, including Recombinant DNA research, all under national security guidelines so that local government and residents will have no right to know what goes on in the NBL. (NIAID RFP, 42 USC 262a(h), 42 CFR Part 73.)
- The Public Health Security and Bioterrorism Preparedness and Response Act of 2002, PL 107-188, prohibits federal officials from disclosing the use or transport of listed biological agents and toxins that are deemed a threat to public health. The law also prohibits the disclosure of a release, theft, or loss of a listed biological agent or toxin except to the U.S. Department of Health and Human Services (HHS) and state and local law enforcement and public health officials. Any person violating the law can be subject to a penalty of up to \$500,000. If a release occurs, the Secretary of HHS has the discretion to determine if the release poses a threat. The public will only find out in the event of an extreme public health emergency. If the Secretary determines that no threat exists, federal law mandates that the public never know about the release or theft. Not only does the public not have a right to the information, the law prohibits the public from ever obtaining the information. (42 USC 262a(h) and 42 CFR Part 73.)

## **2. COMMUNITY SAFETY IS A CONCERN**

There are dangers in having a NBL located in Boston. The NBL will perform research on live strains of viruses and other fully functioning organisms that pose a high or yet to be determined risk of causing life threatening disease and that can be transmitted by air. Most of those deadly organisms would not be in Boston -- unless the NBL is in Boston.<sup>1</sup> Those rare diseases could be released into Boston from: a) accidental and intentional releases from the NBL; b) infections of workers in the NBL, who then go home from the NBL while infected; c) transit accidents; and d) terrorist attacks on the facility and on the viruses while in transit to the NBL. For example:

- A BSL 4 laboratory has never been situated in such a densely populated urban neighborhood as the South End/Roxbury. The US Center for Disease Control (CDC) has written that BSL4 laboratories that study aerosol transmission of diseases should be located in geographic areas where “the risk of accidental establishment of the agent in a susceptible ecological focus is minimal.” (Classification of Etiological Agents on the Basis of Hazard.) In internal documents, NIAID admits that it located its Rocky Mountain Laboratory, a biodefense laboratory, in a small, rural, low-density population area so that a major health disaster could

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<sup>1</sup> For example, research would likely be performed on Viral Hemorrhagic Fevers, a group of illnesses that include life-threatening diseases such as Ebola, Marburg, and Lassa that cause a severe multisystem syndrome (multiple parts of the body are affected) and damage the vascular system and the body’s ability to regulate itself. With the exception of yellow fever and Argentine hemorrhagic fever, no vaccines exist that can prevent these diseases. Prevention efforts must concentrate on avoiding contact with carriers of the virus. There are no reported cases of Ebola, Lassa, or Marburg in the United States ([www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/vhf.htm](http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/vhf.htm)) but if the NBL is built in Boston, live Ebola, Lassa, and Marburg viruses, among other deadly organisms, will be imported to Boston.

be avoided in the event of an accident at the laboratory. (Communication with Citizens for a Safe Lab, Hamilton, Montana.) Reportedly, the National Institutes of Health has been unable to operate a BSL4 laboratory on its own campus due to the fear of its neighboring Bethesda, Maryland, residents. (Letter from the Mayor of Davis, California, to the Provost of the University of California at Davis.<sup>2</sup>)

- In 2002, a worker at the Army bioterrorism laboratory at Ft. Detrick, Maryland, tested positive for exposure to anthrax spores. Anthrax spores were also detected in a hallway and administrative room; investigators do not know how the spores escaped from the biocontainment laboratory. (Reported in the Baltimore Morning Sun.)
- In 2001, two workers at the Center for Disease Control in Atlanta died after being exposed to strains of meningitis that they were studying in the laboratory. (Council for Responsible Genetics.) NIAID admits to accidental infection of researchers in BSL 3 and 4 laboratories, noting that “rare accidents such as needle sticks may cause exposure of laboratory staff,” even while claiming that there are no accidents at such laboratories. ([http://www.niaid.nih.gov/factsheets/detrick\\_qa.htm](http://www.niaid.nih.gov/factsheets/detrick_qa.htm))
- In 2003, a hazardous waste site cleanup at Ft. Detrick uncovered more than 100 vials, many containing live bacteria and some containing nonvirulent anthrax, that the military did not know were at the site. Discovery of the pathogens resulted in the biggest cleanup in Army history. (Reported in the Washington Post and Chemical & Engineering News.)
- During the early 1990s, 27 sets of laboratory specimens of anthrax spores, Ebola virus, and other pathogens disappeared from the Army’s biological warfare research facility at Ft. Detrick. The other pathogens included hantavirus, simian AIDS, and two specimens labeled “unknown,” the Army label for classified research. Experts disagree whether the lost specimens pose a danger. (Reported in the Hartford Courant.)
- Investigators believe that the anthrax mailed to various persons and organizations after September 11, 2001, came from the US Army biological warfare laboratory at Ft. Detrick. (Widely reported.)
- In 2002, a three-hour power failure, combined with a failure of the back-up generator, undermined the containment system for biological agents at the USDA infectious disease laboratory at Plum Island, New York. Workers had to use duct tape to seal doors when inflatable seals failed. Senator Clinton called upon the USDA to stop using the laboratory until the electrical problems could be resolved. (Reported in the Suffolk Times.)
- The live viruses and other fully functioning organisms that pose a high risk of causing life threatening disease and that are capable of aerosol transmission will be transported to and from the NBL by registered mail or other equivalent (e.g., UPS or FedEx). (42 CFR

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<sup>2</sup> In response to the application of the University of California at Davis (UC Davis) to NIAID for funding for a NBL, the Davis California City Council voted unanimously to send a letter to UC Davis and NIH, informing them that a NBL would not be welcome in Davis. That February 26, 2003, letter from the Mayor of Davis is found at [www.davis.ca.us](http://www.davis.ca.us).

72.3(f).) As a result of the terrorist attacks of September 11, 2001, and subsequent threats related to biological materials, the federal government has stated that infectious agents such as anthrax may pose a security risk in transport and admitted that it needs to determine if additional federal rules are necessary to assure the safety of hazardous materials in transit. (67 Federal Register 157, p.53131 (August 14, 2002).) Nevertheless, the deadly live viruses will be carried through Boston by standard US Postal trucks.

- In 2003, a package containing West Nile virus exploded at the Federal Express facility in the Port Columbus International Airport, Ohio, forcing the evacuation of about fifty workers. (Reported in the Cincinnati Enquirer.)

### **3. NO JOBS AND NO ECONOMIC OPPORTUNITY FOR THE COMMUNITY**

The NBL will not help spur economic development of the area. BU has made no commitment to provide community benefits in exchange for city and state support of its NBL proposal.

- There is no provision to ensure that community residents will be hired to work in the NBL or on construction of the facility. At most, no more than 75 construction workers will be employed during construction on any day. (BU Draft Environmental Impact Report (DEIR).)
- The jobs created by the NBL will not be available to community residents who need work. A 1991 survey of Boston biomedical research facilities showed that only 5% of research-related jobs are open to those with a high school diploma and no prior experience. Biomedical research and development (R&D) does not generate significant economic opportunities for local residents without college degrees unless linked to manufacturing of biomedical products. If R&D is not linked to production, “Boston becomes a city of laboratories serving the manufacturing plant located elsewhere.” (*Boston: A Biomedical Frontier, Hype or Hope?* by Eswaran Selvarajah, South End Neighborhood Action Program of ABCD, 1991.) There is no plan or opportunity to link the research at the NBL to manufacturing in the area.
- The security requirements of the NBL will require that development in other parts of BioSquare be reduced, resulting in the loss of over 100,000 square feet in private research space in BioSquare and eliminating the location of a proposed hotel -- reducing the number of jobs available in BioSquare. (Memorandum from BU representative to State officials; BU DEIR.)
- The security requirements of the NBL will limit opportunities to develop commercial activities at the site (*e.g.*, manufacturing, retail, offices, hotel, childcare) that might bring jobs and economic opportunities for area residents.
- The NBL would displace thousands of blue-collar jobs from the community if it attracts biotech businesses and professionals to the area. There are no plans to mitigate the harms of the resulting job losses, neighborhood gentrification, and community displacement.
- There is no promise that federal research funds will flow to the NBL. NIAID has said that it can provide no assurance as to the level of contracts and grants placed in the NBL. (NIAID

RFP) The NBL may seldom be used, resulting in under use of an important parcel of land and an economic burden on the community.

- The City will pay the State \$1,239,090 to purchase two small parcels of land (Parcel Q and Q 1) adjacent to BU property that BU needs for security and parking for the NBL. The City intends to give one of the two parcels to BU for free. (BRA memorandum.) Through these land transactions, BU estimates that the City will be “foregoing \$4,500,000 (in lost revenue) as a contribution to the NBL.” (Memorandum from BU representative to State officials.) There has been no open and public process to determine if that is the best use of City resources.
- The City will lose property tax revenues because BU, a tax-exempt institution, will own the NBL.
- There will be increased costs for the City to provide fire, police, and other safety services for a BSL4.

#### **4. NO ENVIRONMENTAL JUSTICE/NO COMMUNITY INPUT**

The community has not been consulted about and does not want the proposed NBL.

- The state has designated Roxbury as an Environmental Justice (EJ) community. The state’s EJ policy is a recognition that low income communities and communities of color, such as Roxbury, historically have not had an effective voice in determining the types of facilities that locate in their communities and that their communities host a disproportionate share of polluting industries and contaminated sites. The EJ policy was intended to provide EJ communities with opportunities for input into decisions about whether to site industries in their neighborhoods. Here, BU intends to site a NBL in an EJ community, and the state and city have expressed support for the NBL, without informing the community or giving the community an opportunity for input.
- BU was required to develop and implement a proactive community relations plan that would demonstrate an effective means of acquiring and maintaining community acceptance of the NBL. (NIAID RFP). It has failed to do so. It has provided little information to the community about the proposal. Other applicants for NBL funding, the University of California and the University of Texas, have provided redacted copies of their applications for community review. (Council for Responsible Genetics.) BU has refused requests to provide a redacted copy of its application or any information to support its claims about the NBL.
- The NBL will cause a large increase in traffic. BU proposes to construct a 1,400 car parking garage to increase the parking at the site to over 3,000 spaces. (Memorandum from BU representative to State officials; BU DEIR.) Further traffic will exacerbate air pollution in an area with high ozone levels and high levels of asthma.

- BU's NBL application and the state agency approvals for the NBL violate the Massachusetts Environmental Policy Act. They have taken place without environmental review or public input.
- The security required for a BSL4 is incompatible with where BU proposes to place the NBL. There will be armed guards and a security perimeter limiting access to the NBL, separating the community residents from a portion of their community and exacerbating traffic problems in the area. Shown below is the security at the entrance to a BSL4 facility.



Fort Detrick, MD, home of the U.S. Army Medical Research Institute of Infectious Diseases biocontainment laboratories (credit: U.S. Army)

Security measures here typically include combinations of the following:

- Perimeter fencing
- Security guards
- Closed-circuit TV surveillance
- Intrusion alarms
- Nighttime security lighting

## 5. FURTHER INFORMATION

Other resources for information on the proposed NBL include:

- Alternatives for Community and Environment ([www.ace-ej.org](http://www.ace-ej.org))
- The Council for Responsible Genetics ([www.gene-watch.org](http://www.gene-watch.org))
- BUGBLOC ([www.bugbloc.org](http://www.bugbloc.org))
- Article in the Weekly Dig ([www.weeklydig.com/dig/content/3838.aspx](http://www.weeklydig.com/dig/content/3838.aspx))
- Article in SAMPAN ([www.aaca-boston.org/SampanWeb/ehhtml/2003/1121/biosafety.htm](http://www.aaca-boston.org/SampanWeb/ehhtml/2003/1121/biosafety.htm))

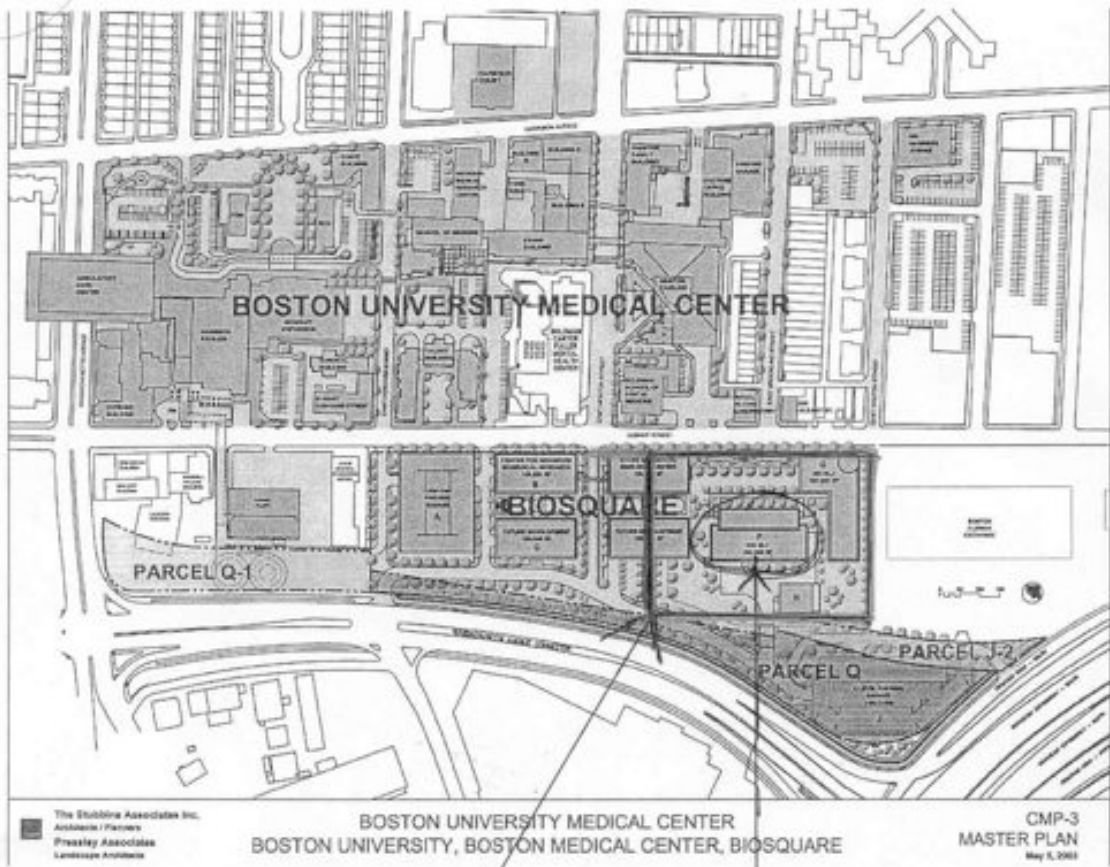
(The next page is a chart of BioSafety Lab definitions. The page after that is the site plan for the NBL.)

What do the BSL numbers mean? ([http://www.niaid.nih.gov/factsheets/detrick\\_qa.htm](http://www.niaid.nih.gov/factsheets/detrick_qa.htm))

Biosafety Level	Appropriate for Types of Facilities	Applies for Types of Biological Agents	Safety Considerations (see <i>Biosafety in Microbiological and Biomedical Laboratories</i> , 4th Edition, HHS Publication 93-8395, May 1999.)
BSL-1	Educational	Strains of viable microorganisms not known to consistently cause disease in healthy adults	
BSL-2	Clinical or Diagnostic	Moderate-risk agents that are present in the community and can cause disease of varying severity (for example, testing blood or body fluids of unknown infectivity for hepatitis B or salmonella).	Samples can be handled at the laboratory bench if the potential for producing splashes or aerosols is low. Scientists and technicians must wear splash shields, face protection, gowns, and gloves while using extra care with needles and glass, and they must decontaminate the work area and materials after each procedure. Biological Safety Cabinets (BSCs) are used to work with concentrated cultures or procedures that generate aerosols.
BSL-3	Clinical, Research, or Production	Indigenous or exotic agents that may cause serious or potentially lethal infection and have potential for respiratory transmission by personnel exposure to infectious aerosols (for example, <i>Mycobacterium tuberculosis</i> , the cause of tuberculosis, and <i>Coxiella burnetii</i> , the cause of Q fever)	BSL-3 laboratories are required to include BSCs, controlled double-door laboratory access, and engineering controls, including maintaining negative air pressure relative to the surrounding rooms (so that all air flow is directed into the BSL-3 suites, not out into the surrounding rooms); microfiltration of air; and air-lock buffer zones. As necessary, before an individual can begin work in a BSL-3 laboratory, he or she will be required to undergo special training and receive preventive vaccines. Operational safeguards to ensure that infectious agents are properly contained or destroyed include long-time, high-temperature decontamination of all materials produced in a BSL-3 suite.
BSL-4	Research	Dangerous or exotic agents that have a high risk of a life-threatening disease for which there is no available vaccine or therapy (for example, Ebola virus)	<b>BSL-4 laboratories use all of the safety measures required for BSL-3. A BSL-4 facility also requires security measures to control access. Some BSL-4 laboratories may require personnel to use "space suits" with positive-pressure air supply. Decontamination is required of all materials produced in BSL-4 laboratories, either chemical decontamination or decontamination at high temperature for long periods.</b>

There are three operational BSL4 laboratories in the United States, located at the CDC in Atlanta, GA, Ft. Detrick in Frederick, MD, and San Antonio, TX. There also is a small BSL4 facility in Bethesda, MD, that is in standby mode and not operational. NIAID is constructing a BSL4 laboratory at its Rocky Mountain Laboratories in Hamilton, Montana.

(<http://www.niaid.nih.gov/dir/infobs4/bsl4faq.htm>)



*Security  
Perimeter  
Needed for  
NBL*

*Proposed  
National Biocontainment  
Laboratory location*