

**Centers for Disease Control and Prevention's
Responses to Questions for the Record from July 28, 2015 hearing,
"Continuing Concerns with the Federal Select Agent
Program: Department of Defense Shipments of Live Anthrax"
Energy and Commerce Subcommittee on Oversight and Investigations**

The Honorable Frank Pallone, Jr.

1. DoD completed a review of the inadvertent anthrax shipments and found that procedures to irradiate and kill anthrax spores may be ineffective. The review determined that there is a lack of standardized procedures across DoD labs, and there may be insufficient scientific information on how best to irradiate anthrax.

a. What is CDC doing to ensure that inactivation procedures across the Federal Select Agent Program are effective?

Response: Action by Laboratory Scientists at Centers for Disease Control and Prevention. Scientists from the Centers for Disease Control and Prevention (CDC) are participating in interagency scientific discussions with the Department of Defense (DOD) and other agencies to identify needed research that could identify the reasons for the failure of spore inactivation and sterility testing. These discussions are to guide research intended to inform the development of safer and more effective procedures that may allow the exclusion of inactivated *B. anthracis* spores from the select agent regulations.

Action by CDC under Federal Select Agent Program. The Federal Select Agent Program (FSAP) is a collaboration between CDC's Division of Select Agents and Toxins (DSAT) and the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS), Agriculture Select Agent Services (AgSAS). On June 2, 2015, the FSAP obtained a moratorium on the use and transfer of inactivated *B. anthracis* to prevent inadvertent exposure until safer and more effective procedures regarding inactivated *B. anthracis* can be developed based on the interagency scientific discussion and research into the matter. FSAP also developed a policy regarding the "Inactivation of *Bacillus anthracis*." The policy states that all regulated vegetative cell and spore preparations of *Bacillus anthracis* strains will continue to be regulated as select agents even after inactivation. And HHS and USDA plan to publish Notices of Proposed Rulemaking (NPRM) in the Federal Register in 2016 requesting public comment on proposed biosafety requirements, including specific provisions for the inactivation of select agents. Until the reasons for failure of inactivation and sterility testing can be determined, and consistently safe and effective procedures established, select agent strains of *B. anthracis* that have been through inactivation procedures will remain select agents as stated in the FSAP policy.

b. Is the agency considering additional rule making or other guidance to ensure that labs are using scientifically validated methods of inactivating dangerous pathogens and toxins?

Response: Yes. In 2016 HHS and USDA plan to publish NPRMs in the Federal Register to request public comment on proposed biosafety requirements, including specific provisions for the inactivation of select agents.

2. In the past year, the Centers for Disease Control and Prevention (CDC) reported a number of incidents in its high-containment laboratories.

a. What steps has the CDC taken in the past year to address the incidents involving CDC's laboratories and prevent them from recurring?

Response: In 2014, there were incidents at CDC labs involving research samples of anthrax, influenza A (H5N1), and Ebola virus. Comprehensive internal and external reviews were conducted of each incident, and CDC created both internal and external workgroups to more broadly review the Agency's laboratory safety procedures and protocols, which resulted in recommendations for improving safety.

In addition to addressing these specific recommendations, CDC has taken broad steps to enhance laboratory performance and safety across the agency. Highlights of improvements made at CDC in the past year to address the incidents involving CDC's laboratories include:

- Establishing an external Laboratory Safety Workgroup comprised of leading experts in the fields of biosafety, laboratory science, and research to provide input into laboratory safety improvements.
- Establishing a new leadership position that reports to the CDC Director to provide agency-wide leadership and accountability for laboratory science, safety, and quality
- Establishing a Laboratory Safety Review Board to review and approve all existing and new protocols for the inactivation and/or transfer of biological materials from BSL-3 and BSL-4 laboratories to lower levels of containment.
- Expanding biosafety training at CDC, including a complete review of the current biosafety training to prioritize training objectives and identify any existing or new training courses to support the development of a standardized, competency-based training curriculum at CDC.
- Establishing a new Biological Risk Assessment Course to train staff to identify and mitigate risks associated with laboratory procedures involving work with biological agents.
- Initiating a pilot project to expand external accreditation for CDC laboratories to realize the full implementation of strong quality management systems across CDC
- Conducting a search of approximately 1,000 rooms of lab-related space to ensure proper storage of select agents.
- Completing a self-initiated, box-by-box and vial-by-vial inventory of more than seven million samples in long-term storage for the infectious disease laboratories.
- Providing information for the public about laboratory safety at CDC on our website.¹

3. The July 28, 2015, hearing focused both on the Department of Defense's (DoD) inadvertent shipments of live anthrax from Dugway Proving Ground over a period of more than 10 years and incidents at CDC's laboratories in the past year or so.

a. Are these two situations related, and if so, how?

¹ www.cdc.gov/lab-safety

Response: Both incidents involved inadvertent potential exposures to live *B. anthracis* that had undergone inactivation procedures. However, the causes of the potential exposures were different. The CDC incident resulted from the use of an experimental inactivation protocol directed by an individual scientist. The DoD incident involved an error in institutional oversight and the routine use of a procedure that was inadequate to ensure effective inactivation.

4. In July 2015, CDC Director Tom Frieden announced a comprehensive review of how the CDC regulates laboratory safety and security, nationwide. Dr. Frieden noted that the report will be managed by the director of the Office of Public Health Preparedness and Response.

a. What motivated CDC to conduct this comprehensive review?

Response: Although much work has been done to enhance the effectiveness of CDC's regulatory oversight of laboratories that handle select agents and toxins, more work remains. This internal review of CDC's Division of Select Agents and Toxins in its role as part of the FSAP announced by Dr. Frieden in July is part of CDC's ongoing work to improve safety at laboratories that handle some of the most dangerous pathogens. The time was right, with new leadership in our Office of Public Health Preparedness and Response, for a thorough review of our program to ensure it is meeting its mandate and objectives, especially in light of recent incidents involving select agents.

b. How is this new review different from last year's examination of CDC lab safety?

Response: The new review focuses on the role of CDC's Division of Select Agents and Toxins as a regulator of facilities throughout the United States that possess, use, or transfer select agents and toxins. By contrast, the various internal and external reviews conducted last year focused on safety practices within CDC laboratories, and focused both on select agent and non-select agent laboratories.

c. Will there be overlap between the two reports?

Response: Although, broadly speaking, the various reviews have a common aim—to promote safety at laboratories that handle dangerous materials—each has a distinct focus. The review of CDC's regulatory program is focused on CDC's Division of Select Agents and Toxins, and its role in administering the Federal Select Agent Program. The various internal and external reviews conducted last year focused on safety practices within CDC laboratories.

**CDC Responses to Member Requests for the Record (Attachment 2)
from July 28, 2015 hearing,
"Continuing Concerns with the Federal Select Agent
Program: Department of Defense Shipments of Live Anthrax"**

The Honorable Tim Murphy

Please provide the policy memo referenced in the USA Today article regarding CDC's requirement that reports be sent to the top lab safety office.

Response: The attached guidance was shared widely with CDC laboratory staff and leadership in 2013, prior to the establishment of a CDC-wide office of laboratory science and safety. When Dr. Steve Monroe was named as Acting Associate Director for Laboratory Science and Safety in May 2015, he began receiving notifications of incidents relevant to lab safety. Updated guidance (attached) was distributed to staff in July 2015 and revised in November 2015 reflecting this and other enhancements to the notification procedures.

The Honorable Diana DeGette

1. Please describe to the Committee steps that CDC may take to increase the culture of safety at the labs that are a part of the Federal Select Agent Program.

Response: As noted in response to Representative Pallone's question #2, CDC has taken a number of significant steps to increase the culture of safety at laboratories across CDC (including those that are regulated under FSAP), including institutional changes that reflect the commitment going forward to sustain and build on these improvements. Highlights include:

- Establishing a new leadership position that reports to the CDC Director to provide agency-wide leadership and accountability for laboratory science, safety, and quality.
- Establishing a Laboratory Safety Review Board to review and approve all existing and new protocols for the inactivation and/or transfer of biological materials from BSL-3 and BSL-4 laboratories to lower levels of containment.
- Expanding biosafety training at CDC, including establishing a new Biological Risk Assessment Course to train staff to identify and mitigate risks associated with laboratory procedures involving work with biological agents.
- Establishing an external Laboratory Safety Workgroup comprised of leading experts in the fields of biosafety, laboratory science, and research to provide input into laboratory safety improvements.

In addition, as noted at the hearing, CDC is conducting an internal review of the Division of Select Agents and Toxins, which includes consideration of safety at laboratories under the FSAP. When finalized, CDC will provide the report to the Committee.

2. Please provide additional detail as to why the CDC believes that the problems discussed in this hearing took place at one specific lab, the Dugway Proving Ground.

Response: Based on its on-site investigation under the FSAP, inspectors from CDC's Division of Select Agents and Toxins determined that Dugway's Standard Operating Procedures for the

irradiation of *B. anthracis* spore suspensions did not account for the variable amounts of spores treated in the gamma cell irradiator. Inspectors from that Division also determined that the method used for inactivation of the *B. anthracis* spore suspensions, Cobalt 60 gamma irradiation, had not been validated using standardized control spore samples at varying concentrations, volumes, and levels of irradiation. In responding to this incident under the FSAP, the Division also contacted other institutions that perform similar inactivation procedures and had them test their stocks for viability using a standard protocol developed by CDC subject matter experts. Only materials inactivated at Dugway showed evidence of growth using this protocol.

The Honorable Michael C. Burgess

1. Please provide to the Committee the materials that the CDC provided to the emergency rooms around the breach area.

Response: As part of the response efforts, CDC provided materials to state and local health departments, who used their local-level expertise to determine how and to whom to disseminate the information. These materials were designed to help state and local health departments assist laboratories and healthcare providers in affected areas to monitor for symptoms and signs of anthrax illness in laboratory employees who either handled the samples or worked in the laboratories where these samples were handled. These materials were provided to assist with clinical monitoring in the very unlikely event that an exposed individual were to develop anthrax illness. CDC also provided a link to the latest clinical management guidelines for anthrax.²

The referenced materials, which are attached, included:

- Instructions for monitoring for anthrax symptoms;
- Form that laboratory staff can use to monitor their symptoms each day;
- Tool that healthcare providers can use to monitor workers' symptoms each week;
- Fact sheet about the symptoms of anthrax;
- Fact sheet about ciprofloxacin; and
- Fact sheet about doxycycline.

2. What was the geographic radius used to determine which emergency rooms should receive those materials?

Response: As noted above, decisions as to dissemination of information were made by state and local health departments. As part of the response effort, CDC provided the materials to state and local health departments.

² http://wwwnc.cdc.gov/eid/article/20/2/13-0687_article

The Honorable Paul Tonka

1. How many times has a lab lost its registration?

Since 2003, there have been two registrations for possession, use, and transfer of select agents and toxins that have been revoked.

2. Please provide details on the specific enforcement actions that the CDC has taken against labs that have violated the Federal Select Agent Program.

Response: As part of the Federal Select Agent Program, CDC has taken the following administrative or enforcement actions:

- Administrative actions: Since 2003, there have been four denials of registration, seven suspensions of registrations and two revocations of registration.
- Referrals to the HHS Office of the Inspector General (HHS-OIG): Since 2003, there have been 79 referrals to HHS-OIG for alleged violations of the select agent regulations. In that time, HHS-OIG has levied over \$2,414,000 in civil monetary penalties against 20 entities for violations of HHS select agent regulations.
- Referral to the Federal Bureau of Investigations (FBI): Since 2003, there have been 55 such referrals requesting further investigation. To date, no referral has resulted in a criminal prosecution.

The Honorable Susan Brooks

Please provide a detailed explanation of how the process for death certificates work, including what information is required to be included in the certificate.

Response: Since the FSAP applies only to select agents and toxins, it does not regulate substances that were but no longer are select agents or toxins. Accordingly, the FSAP regulations do not require a certificate of analysis or inactivation with transfer of an inactivated select agent.

However, in light of recent incidents that raise questions about the adequacy of inactivation in some circumstances, and in order to improve safety in our own laboratories, one of the steps CDC has taken internally in the last year is to institute a requirement for Material Transfer Certificates (MTC) (*i.e.*, death certificate) for the movement (within CDC as well as from CDC laboratories to external sites) of all materials from higher to lower levels of biosafety containment. MTCs are required to be completed prior to the movement of the materials and to contain: information on the unique sample identifiers; information on whether or not the material is live or inactivated; the inactivation protocol if material is inactivated; contact information for both the sender and recipient; and signatures from the laboratory scientist and their supervisor.

The Honorable Richard Hudson

Please provide additional detail on the practice of sending death certificates with inactivated materials. In particular, why was the death certificate sent with the "blind sample" test not provided until much later?

Response: We defer to DOD on this issue, which pertains to DOD practices related to transfers by DOD. As noted in response to the previous question, death certificates are not required under the FSAP regulations.