DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of Inspector General

Washington, D.C. 20201

DEC 17 2010

TO: Thomas R. Frieden, M.D., M.P.H.
Director
Centers for Disease Control and Prevention

FROM: George M. Reeb
Acting Deputy Inspector General for Audit Services

SUBJECT: Review of the Centers for Disease Control and Prevention's [redacted] Compliance With Select Agent Regulations [redacted]

The attached final report provides the results of our review of the Centers for Disease Control and Prevention's [redacted] Laboratory's compliance with select agent regulations. This review is one of six reviews of Federal laboratories' compliance with select agent regulations.

This report contains restricted, sensitive information that may be exempt from release under the Freedom of Information Act, 5 U.S.C. § 552. The report will not be posted on the Internet. If information in the report is released pursuant to a request under the Act, the restricted, sensitive information and other information exempt from release will be redacted.

If you have any questions or comments about this report, please do not hesitate to call me, or your staff may contact Lori S. Pilcher, Assistant Inspector General for Grants, Internal Activities, and Information Technology Audits, at (202) 619-1175 or through email at Lori.Pilcher@oig.hhs.gov. We look forward to receiving your final management decision within 6 months. Please refer to report number [redacted] in all correspondence.

Attachment

Department of Health & Human Services

OFFICE OF
INSPECTOR GENERAL

REVIEW OF THE CENTERS FOR DISEASE CONTROL AND PREVENTION'S [redacted] LABORATORY'S COMPLIANCE WITH SELECT AGENT REGULATIONS

[redacted]

Daniel R. Levinson
Inspector General

December 2010

[redacted]

Office of Inspector General

http://oig.hhs.gov

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OFFICE OF AUDIT SERVICES FINDINGS AND OPINIONS

The designation of financial or management practices as questionable, a recommendation for the disallowance of costs incurred or claimed, and any other conclusions and recommendations in this report represent the findings and opinions of OAS. Authorized officials of the HHS operating divisions will make final determination on these matters.

EXECUTIVE SUMMARY

BACKGROUND

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002, 42 U.S.C. § 262a, requires the Department of Health & Human Services (HHS) to regulate select agents, which are biological materials that have the potential to pose a severe threat to public health and safety. Within HHS, this responsibility has been assigned to the Centers for Disease Control and Prevention (CDC), Division of Select Agents and Toxins (DSAT). In collaboration with the U.S. Department of Agriculture, CDC establishes select agent regulations and monitors and enforces compliance with the regulations.

Any government agency (Federal, State, or local), academic institution, research organization, or other legal entity that possesses, uses, or transfers select agents must register with CDC and comply with Federal select agent regulations. (We refer collectively to these organizations as "entities.") Entities must, among other things, appoint a Responsible Official to ensure compliance with the regulations; restrict access to select agents to individuals approved by the HHS Secretary based on a security risk assessment by the Attorney General (referred to as "approved individuals"); develop and implement security, biosafety, and incident response plans; provide training on biosafety and security; maintain detailed select agent inventory and access records; and comply with select agent transfer requirements.

Following the 2001 terrorist attacks and anthrax release, we conducted a series of reviews of compliance with Federal select agent regulations by State, local, nonprofit, and university laboratories. In April 2008, we began a series of similar reviews at six Federal entities. This review, one in the series, addresses compliance by CDC's [redacted] Laboratory [redacted]

OBJECTIVE

Our objective was to determine whether [redacted] complied with Federal select agent regulations.

SUMMARY OF FINDINGS

[redacted] complied with some Federal select agent regulations. Specifically, [redacted] had appointed a Responsible Official and developed and implemented an incident response plan. However, [redacted] did not always:

- ensure the physical security of select agents or restrict access to select agents to approved individuals,
- ensure that individuals received select agent training,

- maintain required inventory records or ensure that select agent inventory was stored only in registered areas, or

- obtain DSAT approval to transfer select agents or ensure that only approved individuals accepted delivery of select agents.

These weaknesses could have compromised [redacted] ability to safeguard select agents from accidental or intentional loss and to ensure the safety of individuals who work with select agents.

RECOMMENDATIONS

We recommend that [redacted]:

- follow its security plan requirements regarding physical security measures,

- ensure that only approved individuals are allowed access to select agent areas,

- ensure that all required training is provided to approved individuals,

- ensure that inventory records describe the precise location of all select agents and that select agents are stored only in areas listed on the certificate of registration, and

- include in its biosafety plan a requirement to confirm that materials are inactive before transferring them without authorization.

CENTERS FOR DISEASE CONTROL AND PREVENTION COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

In comments on our draft report, CDC concurred in principle with our recommendations and provided detailed information on its current and planned security measures. CDC did not concur with some of our findings. CDC also submitted technical comments, which we addressed as appropriate. The complete text of CDC's comments is included as Appendix B.

In response to CDC's comments, we revised three findings and one recommendation.

TABLE OF CONTENTS

APPENDIXES

INTRODUCTION

BACKGROUND

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002, 42 U.S.C. § 262a, requires the Department of Health & Human Services (HHS) to regulate select agents, which are biological materials that have the potential to pose a severe threat to public health and safety.[1] Within HHS, this responsibility has been assigned to the Centers for Disease Control and Prevention (CDC), Division of Select Agents and Toxins (DSAT). In collaboration with the U.S. Department of Agriculture (USDA), CDC establishes select agent regulations and monitors and enforces compliance with the regulations.[2]

Any government agency (Federal, State, or local), academic institution, research organization, or other legal entity that possesses, uses, or transfers select agents must register with CDC and comply with Federal select agent regulations. (We refer collectively to these organizations as "entities.")

Federal Select Agent Regulations

Federal select agent regulations (42 CFR part 73) require that entities, among other things, appoint a Responsible Official to ensure compliance with the regulations; restrict access to select agents to individuals approved by the HHS Secretary based on a security risk assessment by the Attorney General (referred to as "approved individuals"); develop and implement security, biosafety, and incident response plans; provide training on biosafety and security; maintain detailed select agent inventory and access records; and comply with select agent transfer requirements. Appendix A contains the specific Federal regulations relevant to this review.

[redacted] Laboratory

CDC owns and operates the [redacted] Laboratory [redacted]. [redacted] is registered with DSAT as a single entity. [redacted] consists of biosafety level (BSL) 2, 3,

[1] For purposes of this report, "select agents" refers to all agents and toxins listed in 42 CFR §§ 73.3 and 73.4.

[2] CDC regulates select agents that could pose a severe threat to public health and safety. USDA's Animal and Plant Health Inspection Service (APHIS) regulates select agents and toxins that could pose a severe threat to animal or plant health. CDC and APHIS coordinate regulatory activities for those agents that affect both humans and animals (known as overlap select agents and toxins).

and 4 laboratories that are covered by [redacted] registration to possess, use, and transfer select agents.[3] As of July 29, 2008, 549 approved individuals worked at [redacted]

Office of Inspector General Reviews

Following the 2001 terrorist attacks and anthrax release, we conducted a series of reviews of compliance with Federal select agent regulations by State, local, nonprofit, and university laboratories. In April 2008, we began a series of similar reviews at six Federal entities. This review is one in the series.

In addition, in a prior review, we determined whether only approved individuals accessed select agents transferred to and from [redacted][4] We found that unapproved individuals accessed the majority of transfers at the receiving entities. Of these transfers, more than half were shipped from non-CDC entities to [redacted] We made several recommendations to CDC to address the deficiencies that we found, and CDC concurred in principle with our recommendations.

OBJECTIVE, SCOPE, AND METHODOLOGY

Objective

Our objective was to determine whether [redacted] complied with Federal select agent regulations.

Scope

Our review covered the period April 18, 2005, the effective date of HHS's final rule for implementing select agent regulations,[5] through April 2009. We did not perform an indepth review of [redacted] internal control structure. Rather, we limited our review to controls related to [redacted] compliance with select agent regulations.

We performed our fieldwork at [redacted] in [redacted].

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[3] BSL 2 is suitable for work involving agents that pose a moderate potential hazard to personnel and the environment. BSL 3 is appropriate for a laboratory with select agents that have a known potential for aerosol transmission, that may cause serious and potentially lethal infections, and that are indigenous or exotic in origin. BSL 4 applies to a high-containment laboratory equipped to handle exotic agents that pose a high individual risk of life-threatening disease by infectious aerosols and for which no treatment is available.

[4] *Review of Select Agent Transfers To and From the [redacted] Laboratory During the Period January 1, 2006, Through March 31, 2007* (A-02-07-02010), issued December 22, 2008.

[5] 70 Fed. Reg. 13294–13325 (Mar. 18, 2005).

Methodology

To accomplish our objective, we:

- reviewed applicable Federal laws, regulations, and guidance;
- reviewed CDC records related to [redacted] registration;
- reviewed [redacted] select agent security plan, biosafety plan, and incident response plan;
- held discussions with [redacted] and DSAT officials to gain an understanding of policies and procedures for implementing select agent regulations;
- tested [redacted] security, biosafety, and incident response procedures;
- reviewed [redacted] records related to biosafety and security training provided to a judgmentally selected sample of 30 approved individuals;
- reviewed [redacted] select agent inventory and access records; and
- reviewed [redacted] procedures for transferring select agents.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

FINDINGS AND RECOMMENDATIONS

[redacted] complied with some Federal select agent regulations. Specifically, [redacted] had appointed a Responsible Official and developed and implemented an incident response plan. However, [redacted] did not always:

- ensure the physical security of select agents or restrict access to select agents to approved individuals,
- ensure that individuals received select agent training,
- maintain required inventory records or ensure that select agent inventory was stored only in registered areas, or

- obtain DSAT approval to transfer select agents or ensure that only approved individuals accepted delivery of select agents.

These weaknesses could have compromised [redacted]ability to safeguard select agents from accidental or intentional loss and to ensure the safety of individuals who work with select agents.

SELECT AGENT ACCESS

Pursuant to 42 CFR § 73.11(a), entities must develop and implement a written security plan to safeguard select agents against unauthorized access, theft, loss, or release. Further, 42 CFR § 73.11(c)(5) states: "The security plan must ... [d]escribe ... protocols for changing access numbers or locks following staff changes ...."

Pursuant to 42 CFR § 73.10(a), entities may authorize access to select agents only to approved individuals.[6] In addition, 42 CFR § 73.10(j) states that the Responsible Official must immediately notify CDC when an individual's access to select agents is terminated and the reasons for the termination.

Physical Security of Select Agents

[redacted]

[redacted]did not fully adhere to its security plan requirements. Specifically:

- Doors to six select agent laboratories were sometimes propped open, and we observed [redacted].
- All of the BSL 2 and 3 laboratories had mechanical locks with keys that were not controlled. [redacted]

[6] Pursuant to 42 CFR § 73.11(d)(2), an entity may allow an unapproved individual to conduct routine cleaning, maintenance, repairs, or other activities not related to select agents if the individual is continuously escorted by an approved individual.

[redacted]

[redacted]

- Twenty-four alarms designed to detect unauthorized entry to select agent laboratories and storage areas were sometimes turned off. In addition, none of the BSL 2 and 3 laboratories were equipped with video cameras on entrance doors, and a video camera providing surveillance at the entrance of one of two BSL 4 laboratories was not working.

Approved Individuals

According to [redacted] security plan, individuals awaiting notification of approval by the HHS Secretary were allowed to access select agent laboratory and storage areas only if escorted by an approved individual. However, during our audit period, [redacted] issued an encoded badge to one individual whose approval was pending. The access control records indicated that the individual used the encoded badge to access a select agent laboratory 23 times between July 5, 2007, and October 3, 2007 (the date of her approval by the HHS Secretary).

SELECT AGENT TRAINING

Pursuant to 42 CFR § 73.15(a), entities must provide biosafety and security training to individuals before they access select agent areas. In addition, 42 CFR § 73.15(b) states that entities must provide annual refresher training to approved individuals.

We could not verify that 10 of 30 sampled approved individuals had received the required training. For three individuals, there was no documentation that they had received any training. For seven individuals, there was no documentation that they had received annual refresher training.

SELECT AGENT INVENTORY

Pursuant to 42 CFR § 73.17(a)(1), entities must maintain an accurate, current inventory, which includes information showing where each select agent is stored (e.g., building, room, and freezer). In addition, pursuant to 42 CFR § 73.7(g), entities must have a valid certificate of registration for one physical location (a building, a room, or a group of buildings) for select agents.

Incomplete Inventory Records

Not all select agent inventory records at [redacted] contained the building number, room number, freezer number, or other information required by regulations. [redacted] security plan did not require that these records fully describe the precise storage location of the select agents. The plan stated: "The inventory record does not need to fully describe the location; for example, the rack/box/vial number may be specified explicitly, but the building/floor/room/freezer information may be the same for all, understood by the accountable scientist, and omitted from the record." After our fieldwork, [redacted] officials advised us that [redacted] had revised its security plan to require that inventory records fully describe the storage location of select agents.

Agents Stored in Areas Not Listed in [redacted] Registration

[redacted] stored some select agents in areas not listed in its registration. In April 2008, during a reorganization of laboratory space, a [redacted] scientist found one vial of *Brucella abortus*[9] and one vial of *Brucella suis*[10] stored in a drawer in a laboratory that was not listed on [redacted] certificate of registration. The area was not secured for select agents. The scientist's supervisor arranged to have the vials transferred to a registered laboratory.

Additionally, in July 2008, another [redacted] scientist discovered that 16 vials of *Francisella tularensis* were stored in an unsecured freezer located in a room that was not approved for select agent storage. This material was reportedly left over from an outbreak investigation many years earlier. The scientist's supervisor arranged to have the vials transferred to a registered laboratory.[11]

SELECT AGENT TRANSFERS

Pursuant to 42 CFR § 73.7(a), "[u]nless exempted under § 73.5, an individual or entity shall not possess, use, or transfer any HHS select agent or toxin without a certificate of registration issued by the HHS Secretary. Unless exempted under § 73.6 or 9 CFR part 121.6, an individual or entity shall not possess, use, or transfer overlap select agents or toxins, without a certificate of registration issued by the HHS Secretary and Administrator [of APHIS]." Furthermore, 42 CFR § 73.16(a) states: "... a select agent or toxin may only be transferred to individuals or entities registered to possess, use, or transfer that agent or toxin. A select agent or toxin may only be transferred under the conditions of this section and must be authorized by CDC or APHIS prior to the transfer." Additionally, pursuant to 42 CFR § 73.10(a), entities may authorize access to select agents only to approved individuals.

Unauthorized Transfers

On two occasions in 2006, [redacted] transferred viable *Bacillus anthracis* without authorization to do so.[12] In late March 2006, [redacted] made an unauthorized transfer of *Bacillus anthracis* DNA preparation containing viable (live) *B. anthracis* to a registered entity. On April 26, 2006,

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[9] *Brucella abortus* is the causative agent of brucellosis, a highly contagious disease that is easily transmitted from animals to humans.

[10] *Brucella suis*, which also causes brucellosis, has been categorized by CDC as having a high potential for use in bioterroism.

[11] *Francisella tularensis* is the causative agent of tularemia, or rabbit fever, a highly infectious disease with severe flulike symptoms.

[12] *Bacillus anthracis* is the causative agent of anthrax, a disease that CDC has categorized as having a high potential for use in bioterrorism.

[redacted] made an unauthorized transfer of *Bacillus anthracis* DNA preparation containing viable *B. anthracis* to another organization that was not a registered entity.

In addition, on October 12, 23, and 30, 2006, [redacted] transferred without authorization viable *Clostridium botulinum* to a laboratory that was not a registered entity.[13]

[redacted] did not obtain authorization for these transfers because scientists believed that they were sending inactivated versions of *Bacillus anthracis* and *Clostridium botulinum* that would not meet the definition of a select agent.[14] The scientists had performed procedures that they believed would inactivate the organisms. However, the procedures did not do so, and the scientists did not perform tests that would have detected activation. [redacted] biosafety plan did not require scientists to perform tests to confirm that select agent organisms were successfully inactivated before transferring them.

Packages Received by Unapproved Individuals

During our audit period, six unapproved individuals—five individuals from [redacted] delivery contractor and one security guard—received and signed for packages containing select agents transferred to [redacted]. These deliveries occurred between July 17, 2007, and September 6, 2008. During our previous review, we identified weaknesses in [redacted] procedures designed to mitigate the risk that packages containing select agents might be delivered to unapproved individuals. Our report contained several recommendations to ensure that only approved individuals accept delivery of select agent packages. Because these recommendations were still being addressed while this review was in process, we are not making additional recommendations regarding [redacted] receipt of select agent transfers.

RECOMMENDATIONS

We recommend that [redacted]

- follow its security plan requirements regarding physical security measures,
- ensure that only approved individuals are allowed access to select agent areas,
- ensure that all required training is provided to approved individuals,

[13] *Clostridium botulinum* is a bacterium that produces the neurotoxin botulin, which is the most potent toxin known, producing a potentially fatal paralysis known as botulism.

[14] Inactivated materials are not live and cannot replicate; thus, they no longer have the potential to pose a severe threat to public health and safety.

- ensure that inventory records describe the precise location of all select agents and that select agents are stored only in areas listed on the certificate of registration, and

- include in its biosafety plan a requirement to confirm that materials are inactive before transferring them without authorization.

CENTERS FOR DISEASE CONTROL AND PREVENTION COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

In comments on our draft report, CDC concurred in principle with our recommendations and provided detailed information on its current and planned security measures. CDC did not concur with some of our findings. CDC's comments on those findings and our responses are summarized below. CDC also submitted technical comments, which we addressed as appropriate. The complete text of CDC's comments is included as Appendix B.

In response to CDC's comments, we revised three findings and one recommendation.

Propped-Open Doors

Centers for Disease Control and Prevention Comments

CDC stated that although it prohibits the unauthorized propping open of doors to select agent areas, it allows propped-open doors in certain situations, such as when equipment is being moved or laboratories are being maintained. CDC added that when doors are allowed to be propped open, CDC monitors the doors through its alarm system.

Office of Inspector General Response

We observed laboratory doors that were propped open every day for a 60-day period. The laboratories were not shut down for maintenance during that period, and it is unlikely that equipment was being moved over such an extended period.

Keys

Centers for Disease Control and Prevention Comments

CDC did not concur that keys to mechanical locks were not controlled. CDC stated that it issues keys to principal investigators for emergency use only. CDC also stated: "The issuance of keys for emergency access is mitigated by the fact that the use of the key would cause a force door alarm in the security operation center, a record of the event in the access control system and security officers would be dispatched to the lab for investigation."

Office of Inspector General Response

[redacted] records showed that keys to select agent areas were issued and still outstanding to several persons who were not approved for select agent access, were no longer working in the area, or were retired. Furthermore, alarms on doors to these select agent areas were disabled during core hours.

Alarms

Centers for Disease Control and Prevention Comments

CDC did not concur that 24 alarms were sometimes turned off. CDC stated that alarms were disabled only if they were malfunctioning and to prevent an alarm from sounding when an individual exited a select agent laboratory during core hours. CDC also stated that alarms on exit doors were deactivated during core hours because exit readers are not required by the select agent regulation and would pose an unnecessary burden on the scientific community.

Office of Inspector General Response

[redacted] alarms do not recognize the difference between an entrance and an exit. Furthermore, CDC's security plan requires access controls and intrusion detection to provide reasonable assurance that only authorized personnel are allowed to enter and exit select agent areas without escort.

Cameras

Centers for Disease Control and Prevention Comments

CDC stated that cameras at the entrances to BSL 2 and 3 laboratories are not required by regulation and that cameras inside BSL 4 laboratories have overlapping views.

Office of Inspector General Response

[redacted] security plan requires equipment and monitoring as appropriate to prevent or detect unauthorized access to select agent areas. Moreover, the overlapping cameras mentioned in CDC's comments were inside BSL 4 laboratories, whereas our finding addressed the camera observing the corridor and entrance door to a BSL 4 laboratory. We revised our finding to clarify the position of the camera.

Approved Individuals

Centers for Disease Control and Prevention Comments

Regarding the matter of a retired scientist, CDC commented: "... the RO [Responsible Official] had expressly been instructed by DSAT *not* to cancel the security risk assessment (SRA) approval status for the individual that had retired until Amendment 093029 was approved by DSAT." (Emphasis in original.)

Office of Inspector General Response

After reviewing CDC's comments on the retired scientist, we deleted the related finding and modified the corresponding recommendation.

Select Agent Transfers

Centers for Disease Control and Prevention Comments

In its technical comments, CDC stated that two unapproved, previously unidentified individuals who had received select agent materials worked for [redacted] delivery contractor.

Office of Inspector General Response

We modified our finding to reflect the fact that the two individuals were contractor employees.

APPENDIXES

APPENDIX A: FEDERAL SELECT AGENT REGULATIONS

- Regulations (42 CFR §§ 73.3 and 73.4) list select agents and toxins, which are biological materials that have the potential to pose a severe threat to public health and safety (referred to as "select agents" for purposes of the report and this Appendix).

- Regulations (42 CFR § 73.7(a)) require that an individual or entity not possess, use, or transfer select agents without a certificate of registration issued by the Secretary of the U.S. Department of Health & Human Services (HHS).

- Regulations (42 CFR § 73.7(b)) require each entity to designate an individual to be its Responsible Official.

- Regulations (42 CFR § 73.7(g)) require entities to have a valid certificate of registration for one physical location (a building, a room, or a group of buildings) for select agents.

- Regulations (42 CFR § 73.7(h)) require an entity to amend its registration to reflect changes in circumstances (personnel changes, changes in the activities involving any select agent, or the addition or removal of select agents).

- Regulations (42 CFR § 73.9(a)) require that the Responsible Official have the authority and responsibility to act on behalf of the entity and ensure the entity's compliance with requirements of the select agent regulations.

- Regulations (42 CFR § 73.10(a)) require an entity to authorize access to select agents only to individuals approved by the HHS Secretary following a security risk assessment by the Attorney General (referred to as "approved individuals").

- Regulations (42 CFR § 73.10(j)) require the Responsible Official to immediately notify the Centers for Disease Control and Prevention (CDC) (or the U.S. Department of Agriculture) when an individual's access to select agents is terminated and the reasons for the termination.

- Regulations (42 CFR § 73.11(a)) require entities to develop and implement a written security plan. The security plan must be sufficient to safeguard select agents against unauthorized access, theft, loss, or release.

- Regulations (42 CFR § 73.11(b)) require that the entity's security plan be designed according to a site-specific risk assessment and provide protection in accordance with the risk of the select agent, given its intended use.

- Regulations (42 CFR § 73.11(c)) require the entity's security plan to contain procedures for physical security, inventory control, and information systems control, as well as provisions for controlling access to select agents. In addition, each entity's plan must contain provisions for routine cleaning, maintenance, and repairs and procedures for removing

unauthorized or suspicious persons. Each plan must describe procedures for addressing the loss or compromise of keys, passwords, or combinations and protocols for changing access numbers or locks following staff changes. Plans also must contain procedures for reporting unauthorized or suspicious persons or activities; the loss, theft, or release of select agents; or the alteration of inventory records, as well as procedures for ensuring that all approved individuals understand and comply with security procedures.

- Regulations (42 CFR § 73.11(d)) require entities to allow access to select agents only to approved individuals. However, unapproved individuals who conduct routine cleaning, maintenance, repairs, or other activities not related to select agents may access select agent areas only when continuously escorted by an approved individual. In addition, freezers, refrigerators, cabinets, and other containers where select agents are stored are required to be secured against unauthorized access. The security plan also must contain procedures for intraentity transfers of select agents, the avoidance of sharing individuals' unique means of access to select agents, and the separation of select agent areas from public areas.

- Regulations (42 CFR § 73.11(f)) require entities to review annually and revise, as necessary, their security plan. Further, entities must conduct drills or exercises at least annually to test and evaluate the effectiveness of their plan. The plan must be reviewed and revised, as necessary, after any drill or exercise and after any incident.

- Regulations (42 CFR § 73.12(a)) require entities to develop and implement a written biosafety plan that is commensurate with the risk of the agent, given its intended use. The biosafety plan must contain sufficient information and documentation to describe the biosafety and containment procedures.

- Regulations (42 CFR § 73.12(d)) require entities to review annually and revise, as necessary, their biosafety plan. Further, entities must conduct drills or exercises at least annually to test and evaluate the effectiveness of their plan. The plan must be reviewed and revised, as necessary, after any drill or exercise and after any incident.

- Regulations (42 CFR § 73.14(a)) require entities to develop and implement a written incident response plan. The incident response plan must be coordinated with any entitywide plans, kept in the workplace, and available to employees for review.

- Regulations (42 CFR § 73.14(c)) require each entity's incident response plan to contain information related to names and contact information for responsible entity and building officials, personnel roles and lines of authority and communication, planning and coordination with local emergency responders, procedures for employees performing rescue or medical duties, a list of personal protective and emergency equipment, site security and control, procedures for emergency evacuation, and decontamination procedures.

- Regulations (42 CFR § 73.14(d)) require entities to review and revise, as necessary, their incident response plans. Further, entities must conduct drills or exercises at least annually to

test and evaluate the effectiveness of their plan. The plan must be reviewed and revised, as necessary, after any drill or exercise and after any incident.

- Regulations (42 CFR § 73.15(a)) require entities to provide information and training on biosafety and security to individuals before they access select agent areas.

- Regulations (42 CFR § 73.15(b)) require entities to provide annual refresher training for approved individuals.

- Regulations (42 CFR § 73.15(c)) require entities to maintain a record of training provided to each individual. The record must include the name of the individual, the date of the training, a description of the training, and the means used to verify that the employee understood the training.

- Regulations (42 CFR § 73.16) require entities to transfer a select agent only to an entity registered to possess that particular select agent. Each transfer must be authorized by CDC (or the U.S. Department of Agriculture) before the transfer. In addition, the sender must comply with all laws concerning packaging and shipping.

- Regulations (42 CFR §§ 73.17(a)(1) and 73.17(a)(2)) require entities to maintain complete records relating to select agent inventories.

- Regulations (42 CFR § 73.17(a)(3)) require entities to maintain a current list of all approved individuals.

- Regulations (42 CFR § 73.17(a)(4)) require entities to maintain complete records related to all entries into areas containing select agents, including the name of the individual, name of the escort (if applicable), and date and time of entry.

- Regulations (42 CFR § 73.17(b)) require entities to implement a system to ensure that all records and databases created under 42 CFR part 73 are accurate, that access to them is controlled, and that their authenticity may be verified.

APPENDIX B: CENTERS FOR DISEASE CONTROL AND PREVENTION COMMENTS

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control and Prevention (CDC)
Atlanta GA 30333

JUL 28 2010

TO: Daniel R. Levinson
Inspector General
Department of Health and Human Services (HHS)

FROM: Director
Centers for Disease Control and Prevention

SUBJECT: Office of Inspector General's Draft Report: "Review of the Centers for Disease Control and Prevention's [redacted] Laboratory's Compliance With Select Agent Regulations" June 23, 2010 [redacted]

The Centers for Disease Control and Prevention (CDC), Office of Surveillance, Epidemiology, and Laboratory Services (OSELS) and the Office of Security and Emergency Preparedness (OSEP) appreciate the opportunity to review and provide comments on the Office of Inspector General's draft report, "Review of the Centers for Disease Control and Prevention's [redacted] Laboratory's Compliance with Select Agent Regulations" [redacted]. Thank you for your review of this important issue.

OBJECTIVE

As stated in the draft, the objective of this review was to determine whether [redacted] complied with Federal select agent regulations. The draft identified five findings regarding the CDC [redacted] Laboratory's compliance with select agent regulations.

SUMMARY OF FINDINGS

The draft provided a summary of findings (Page i) that stated that [redacted] complied with some Federal select agent regulations in that, specifically, [redacted] had appointed a Responsible Official and had developed and implemented an incident response plan. The draft summary of findings further indicated that [redacted] did not always: 1) ensure the physical security of select agents or restrict access to select agents to approved individuals; 2) ensure that individuals received select agent training; 3) maintain required inventory records or ensure that select agent inventory was stored only in registered areas; 4) or obtain DSAT approval to transfer select agents or ensure that only approved individuals accepted delivery of select agents. The summary of findings also stated that these weaknesses could have compromised [redacted] ability to safeguard select agents from unintentional or intentional loss and to ensure the safety of individuals who work with select agents.

CDC [redacted] Response: CDC concurs in principle with some of the summary of findings. It should be noted that in addition to the appointment of a Responsible Official and development and implementation of an incident response plan, the [redacted] also developed and implemented an entity-wide security plan, laboratory-specific security plans, laboratory-specific biosafety plans and provided extensive training to laboratorians.

RECOMMENDATIONS

The draft report identified five recommendations regarding the [redacted] Laboratory's compliance with select agent regulations.

Office of Inspector General (OIG) Recommendation: [redacted] follow its security plan requirements regarding physical security measures.

CDC [redacted] Response: CDC concurs in principle with this recommendation. In accordance with the Select Agent Regulations (42 C.F.R. Part 73.11), CDC strives to ensure that security measures described in the entity-wide and laboratory-specific security plans are followed and that select agents and toxins at the [redacted] are safeguarded against unauthorized access, as well as against theft, loss, or release. CDC has created a robust physical security program and a biosecurity plan that protects select agents from unauthorized access, theft, loss, or release, while at the same time meets the needs of the science community by not hindering the critical research needed to protect the public health and national security. CDC's current biosecurity plan for select agents at the [redacted] achieves the highest level of security through a partnership between the security and science communities at CDC.

The high level of security established for the protection of select agents and toxins at the [redacted] is achieved through a principle of layered security, which mitigates the failure or malfunction of any one layer of security. [redacted]

It is important to note that this principle of layered security and its effectiveness to protect select agents and toxins has been verified and validated several times by outside entities including federal agencies such as the Government Accountability Office (GAO). This layered security approach—along with CDC's personnel security program and visitor management program—greatly reduces the likelihood of an unauthorized access, theft, loss or release due to any one layer of security malfunctioning or the disabling of an alarm. In addition, CDC is constantly upgrading and improving its security systems. Prior to the release of this draft report, and during the past year, CDC upgraded the select agent alarm monitor to a 42 inch, high definition, wall mount monitor which increased its visibility to all security assistants working in the Security Operations Center and improved the response time to select agent alarms. Thus, the CDC [redacted]

[redacted] is constantly evaluating its overall campus security and in particular select agent areas and making necessary and appropriate upgrades to prevent unauthorized access to sensitive areas.

OIG Recommendation: Ensure that only approved individuals are allowed access to select agent areas and that DSAT is notified when an individual's access rights are terminated.

CDC [redacted] Response: CDC concurs in principle with this recommendation. The CDC Internal Select Agent Compliance Team strives to ensure that only approved individuals are provided with unescorted access to select agent registered areas. The current access request process is under review to ensure risk for access by unapproved individuals is minimized and that termination of an individual's access rights is accomplished in accordance with requirements of Section 73.10.

Currently, the in and out processing for all employees at the [redacted] resides on several CDC automated systems. Driven by HSPD 12 and the need for a better in and out processing structure in support of all CDC's programs, including physical security and the protection of select agents and toxins, CDC is developing an automated people processing system that would allow for the exchange of information between all systems. This would include an automated notification upon an employee's discontinuation of service that would expedite the disabling of access to select agent areas and the notification to DSAT. It would also assist in granting access rights to select agent areas once SRA approval was received.

OIG Recommendation: Ensure that all required training is provided to approved individuals.

CDC [redacted] Response: CDC concurs in principle with this recommendation. Section 73.15 of the Select Agent Regulations (42 C.F.R. 73.15) requires that an entity must provide information and training on biosafety and security to each individual with access approval from the HHS Secretary or Administrator before he/she has such access. Refresher training must be provided annually, and a record of the training must be maintained. The record must include the name of the individual, the date of the training, a description of the training provided, and the means used to verify that the employee understood the training.

To meet the requirements of Section 73.15 of the Select Agent Regulations, CDC Internal Select Agent Compliance Team has developed a series of on-line training modules for approved individuals at the entity. Training modules are updated on an annual basis, and notification is posted electronically via e-mail regarding availability of annual refresher training modules. The CDC Internal Select Agent Compliance Team has implemented tracking for completion of annual and basic select agent training requirements to include an on-line exam. Data on scores achieved as well as training certificates is maintained in a [redacted]. Tracking information is extracted from the [redacted] and is maintained on a [redacted]. The spreadsheet is reviewed for compliance with annual training requirements. Currently, over 700 individuals maintain SRA approval at the [redacted]. Access procedures are under review to ensure that completion of select agent training requirements is documented in the access approval and out-processing procedures.

OIG Recommendation: Ensure that inventory records describe the precise location of all select agents and that select agents are stored only in areas listed on the certificate of registration.

CDC [redacted] Response: CDC concurs in principle with this recommendation. It should be noted that the July 22, 2008, edition of the entity-wide security plan was updated after review to eliminate ambiguity in inventory management requirements and further required that the information maintained in the select agent inventory record (e.g., database fields) must include the following at a minimum, as required by 42 C.F.R. 73.17(a)(1)(iii):

- Location where stored:
  The inventory record must describe the location (e.g., building, room, and freezer)

The CDC Internal Select Agent Compliance Team strives to maintain accurate Form 1 registration application data. Amendments and updates to pending amendments are submitted upon discovery of any inconsistencies. The annual inspection process will be revised to include review of registration documents for consistency with registered laboratory and storage locations.

OIG Recommendation: Include in its biosafety plan a requirement to confirm that materials are inactive before transferring them without authorization

CDC [redacted] Response: CDC concurs in principle with this recommendation. At the time of shipments, the scientists truly believed that they were sending inactivated materials. Subsequent to these incidents, [redacted] program ensured that safety plans are in place for required testing of inactivated materials before transfer to other entities by issuing and posting an "RO Alert" to all registered Principal Investigators on June 23, 2006. Subsequent annual review of safety manuals provided verification that the safety testing requirement had been added to laboratory-specific safety manuals.

General and specific technical comments are attached to the CDC [redacted] response to the OIG, "Review of the Centers for Disease Control and Prevention's [redacted] Laboratory's ComplianceWith Select Agent Regulations" [redacted] dated June 23, 2010. While the CDC generally concurs in principle with findings in the report, there are several areas we would like to clarify and reiterate that policies and procedures are already in place after we self reported many of the finding indicated in the OIG report. The additional clarification is provided in the attached general and specific technical comments.

Thomas R. Frieden, M.D., M.P.H.
Director

Attachments: General Comments and Specific Technical Comments

CDC General Comments on the Draft OIG Report "Review of the Centers for Disease Control and Prevention's [redacted] Laboratory's Compliance With Select Agent Regulations" [redacted]

General Comments:

The Centers for Disease Control and Prevention (CDC) appreciates the opportunity to submit additional comments regarding the Office of Inspector General (OIG) Findings and Recommendations beginning on Page 3. Thank you for your consideration for the following comments.

CDC's Division of Select Agents and Toxins (DSAT) is the lead agency with oversight of the CDC [redacted] select agent compliance program because of the greater number of Department of Health and Human Services (HHS) and HHS/USDA overlap agents maintained at the entity. DSAT consistently has conveyed to the CDC [redacted] select agent compliance program that it is not the intent of the regulations that govern the possession, use, and transfer of select agents and toxins to hinder scientific research activities. The CDC [redacted] has been issued three certificates of registration for select agent compliance purposes since 2003 and has undergone many inspections by regulating agencies, including DSAT, United States Department of Agriculture/Animal and Plant Health Inspection Service (USDA/APHIS), and Department of Transportation. The entity has always addressed inspection report findings in accordance with regulatory requirements. Please see additional comments below.

Page 3, First Paragraph of FINDINGS AND RECOMMENDATIONS:

Compliance is an issue that only CDC and USDA regulatory groups can determine. Please change the wording to indicate that this was an assessment that showed that there were occasional lapses in adherence to the regulations.

Moreover, CDC's goal has been to create a robust physical security program and biosecurity plan that protects select agents from unauthorized access, theft, loss, or release. CDC's current biosecurity plan for select agents at the [redacted] establishes a partnership between the security community and the science community at CDC to ensure minimal disruption to CDC's critical public health mission. The plan has been commended many times through inspections by outside entities, including federal agencies such as the GAO.

Page 4, First Bullet

OIG Finding: Doors to six select agent laboratories were sometimes propped open.

CDC [redacted] Response: CDC prohibits the unauthorized propping of doors to select agent areas and monitors for this type of prop door activity through the select agent alarm monitoring system. In order to meet the needs of the science community and not to hinder critical research, exceptions are allowed in such instances as the movement of equipment or lab maintenance.

OIG Finding: [redacted]

CDC [redacted] **Response:** [redacted]

Page 4, Second Bullet

OIG Finding: All of the BSL 2 and 3 laboratories had mechanical locks with keys that were not controlled. [redacted]

CDC [redacted] **Response:** CDC does not concur with this finding. All keys are controlled and only issued to authorized personnel. [redacted]

Page 4, Third Bullet

OIG Finding: Twenty-four alarms designed to detect unauthorized entry to select agent laboratories and storage areas were sometimes turned off.

CDC [redacted] **Response:** CDC does not concur with this finding. In order to not impede scientific research, access control alarms are only disabled if the alarm is malfunctioning in which case it is logged and a repair request is immediately initiated. In addition, federal select agent regulations do not require exit readers. Exit readers installed on labs prior to the final rule would cause an unnecessary burden to the scientific community. Therefore it was agreed by OSEP Physical Security that the exit readers would not be used during core hours and the alarms produced from these doors would be shunted during designated core hours to allow lab exit without using the exit reader.

Page 4, Third Bullet

OIG Finding: In addition, none of the BSL 2 and 3 laboratories were equipped with video cameras on entrance doors, and a video camera providing surveillance in one of two BSL 4 laboratories was not working.

CDC [redacted] Response: CDC does not concur with this finding. Cameras on BSL 2 and 3 laboratory entrances are not a requirement under the regulations. Cameras inside the BSL4 laboratories have overlapping views. In order not to unduly hinder the very important scientific research occurring in these labs, malfunctioning equipment not of a life safety concern, is repaired when the labs are taken down for scheduled maintenance.

Page 4, Fifth Paragraph

This paragraph references an immediate self-report of the entity by RO to DSAT upon discovery with immediate follow-up actions and corrective measures fully implemented. Please note that DSAT concurred with some responsibility that led to the individual being granted access to select agents at [redacted]. Procedures were modified and communicated to select-agent registered principal investigators to ensure this event would not happen again. (See "RO Alert," 10-01-07, http://intranet.cdc.gov/od/osep/sap/roComAlert/10-01-07.htm)

Page 5, Second Paragraph

Per discussion with the OIG auditor at the end of the OIG discussion meeting on April 20, 2010, the auditor conveyed to the responsible official (RO) that she was aware that the RO had expressly been instructed by DSAT *not* to cancel the security risk assessment (SRA) approval status for the individual that had retired until Amendment 093029 was approved by DSAT. The request to do so in April 2008 would result in a significant delay in approval of the amendment (Amendment 093029 added high-containment-level laboratory space in Building 18 to the entity's registration). DSAT did not provide the [redacted] with approval of Amendment 093029 until October 8, 2008. On April 20, 2010, the OIG auditor instructed the RO to submit this clarification in the CDC response report to the OIG draft report and this was done as advised.

Page 5, Fourth Paragraph

CDC concurs that training records were incomplete in some cases. Entity SRA-approval roster size (numbering more than 700 personnel) with limited personnel resources contributed to this finding. To ensure that regulatory required training has been completed, the [redacted] RO's office has implemented procedural changes to verify training on an annual basis for all personnel with SRA approval at the entity and maintain necessary documentation.

Page 5, Sixth Paragraph

The November 2007 entity security plan stated, "The inventory record does not need to fully describe the location; for example, the rack/box/vial number may be specified explicitly, but the building/floor/room/freezer information may the same for all, understood by the accountable scientist, and omitted from the record." The citation by OIG may have taken the intent of the statement out of context, however. The instructions are clear that "location where stored" is a

requirement of inventory data management. The intent of the statement, rather, was to state that if the exact location had already been provided, it was unnecessary to repeat the information for every line in the database associated with the initial entry. The security plan is reviewed on at least an annual basis, and updates are made when operations indicate a need for modification or when there may be uncertainty about requirements. It should be noted that this particular statement was unclear and was therefore modified in the July 22, 2008, update of the security plan: "The information maintained about each inventory record (e.g., database *fields*) must include the following at a minimum, as required by 42 CFR 73.17 and consistent with 7 CFR 331.17 and 9 CFR 121.17:

- *Name and strain of the Select Agent*
  —Source of the Select Agent
  How and when was the isolate acquired? Specific, private information about samples from human individuals is *not* required to meet 42 CFR 73 requirements, although it may be recorded for research purposes.
- *Location where stored*
  —The inventory record must describe the location (e.g., building, room, and freezer). Additional information, for example, the rack/box/vial number may be specified as well..." (See page 32, *CDC Biosecurity Plan For Select Agents at the* [redacted], July 22, 2008.)

Page 6, First and Second Paragraphs

These citations were based on self reports by the [redacted] select agent compliance program to DSAT. The report of the discovery of 16 vials of *Francisella tularensis* located in an unregistered room resulted from a campus-wide inventory review initiated by the RO's office during summer 2008. No additional discoveries were made during the review, and no discoveries have been reported since that review.

Page 6, Fourth Paragraph

At the time of shipments, the scientists truly believed that they were sending inactivated materials. Subsequent to these incidents, [redacted] program ensured that safety plans are in place for required testing of inactivated materials before transfer to other entities by issuing and posting an "RO Alert" to all registered Principal Investigators on June 23, 2006. Subsequent annual review of safety manuals provided verification that the safety testing requirement had been added to laboratory-specific safety manuals. (See "RO Alert," http://intranet.cdc.gov/od/os-sp/sap/roComAlert/roComAlert_06-23-06.htm)

Page 7, Fourth Paragraph

As a result of the Region II, HHS OIG review of [redacted] select agent transfers, a collaborative DSAT/DOT inspection (December 2007), and an entity-initiated Internal Measures and Controls Review, processing of entity in-bound and out-bound select agent transfers now occurs through a registered temporary holding area at the Transshipping Facility in Building 34.

Procedures governing the processing of in-bound and out-bound select agent shipments have been modified, and all personnel that handle select agent shipments have security risk assessments approvals and must complete annual training.

CDC Technical Comments on the Draft OIG Report "Review of the Centers for Disease Control and Prevention's [redacted] Laboratory's Compliance With Select Agent Regulations"[redacted]

General Technical Comment Applicable to Draft OIG Report

All references to "[redacted] should be changed to [redacted]

All references to [redacted] should be changed to [redacted]

Page i, Summary of Findings

Change wording in the Summary of Findings to reflect the following wording.

Although the Centers for Disease Control and Prevention's (CDC) [redacted] complied with the majority of federal select agent regulations, this assessment provides recommendations for further improvements. Specifically, [redacted] had appointed a responsible official (RO); developed a safety plan, security plan, and training program; and implemented site-specific safety and security plans that are consistent with regulatory requirements. Within our review, we found occasional incidents that were mostly self-reported by staff to the Select Agent Program at the time of the incident. The [redacted] did not always—

- Adhere to its established security plan requirements or restrict access to select agents to approved individuals;
- Ensure that individuals received select agent training;
- Ensure that select agent inventory was stored only in registered areas, or
- Obtain DSAT approval to transfer select agents or ensure that only approved individuals accepted delivery of select agents.

These weaknesses could have compromised the [redacted] ability to safeguard select agents from accidental or intentional loss and the ability to ensure the safety of individuals who work with select agents.

Page ii, RECOMMENDATIONS

The first letter of each word for each bulleted recommendation should appear in upper case type.

Page 2, Methodology

The first word in each bulleted item should appear in upper case type.

Page 2, Methodology, Second Bullet

This bullet should be reworded to indicate that, "Reviewed some of the CDC records related to [redacted] registration, since the auditor did not request to review the Form 1 registration amendment records."

Page 3, Methodology, Seventh Bullet

The wording in this bullet should be reworded to reflect that the auditor, "Reviewed the [redacted] RO's portion of the select agent inventory and access records; and....(It should be noted that the RO's portion of the select agent inventory record did not provide the full representation of data captured by [redacted] select agent inventory management requirements.)

Page 3, FINDINGS AND RECOMMENDATIONS

The second sentence in the first paragraph of the "FINDINGS AND RECOMMENDATIONS" should be reworded to reflect the following statement: "Specifically, the [redacted] had appointed a Responsible Official and developed and implemented an integrated emergency management plan, an entity-specific and laboratory-specific incident response plans; an entity-wide security plan and laboratory-specific security plans; and laboratory-specific biosafety plans."

The first letter of each bulleted item should appear in upper case type.

Page 5, SELECT AGENT ACCESS

The last sentence of the second paragraph appears to imply that the scientist intentionally used his encoded badge for the purpose of gaining unescorted access to a storage area containing unsecured freezers. This sentence should be restructured to indicate that the individual had not yet been officially removed from the [redacted] registration at the direction of DSAT and that the entry did not result in access to select agent by the scientist or theft, loss, or release of select agent at the time of the entry.

Page 7, Unauthorized Transfers

Fifth line, the word "always" should be added after the word "not", "scientists did not always..."

Page 7, Packages Received by Unapproved Individuals

Second line, regarding the statement, "and two individuals whom [redacted] could not identify," it should be noted that [redacted] did identify the two individuals to be contract PGO personnel working at the [redacted] as part of the Advance Federal contract.

Page 7 and Page 8, RECOMMENDATIONS

The first word in each bulleted item should appear in upper case type.