OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

INSPECTION REPORT

DOE-OIG-19-32

May 2019

MITIGATION OF RISKS FROM NATURAL DISASTERS AT LAWRENCE BERKELEY NATIONAL LABORATORY

Department of Energy
Washington, DC 20585

May 20, 2019

MEMORANDUM FOR THE MANAGER, BAY AREA SITE OFFICE

FROM: Michelle Anderson
Deputy Inspector General
for Audits and Inspections
Office of Inspector General

SUBJECT: INFORMATION: Inspection Report on "Mitigation of Risks from Natural Disasters at Lawrence Berkeley National Laboratory"

BACKGROUND

The Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Laboratory) is charged with conducting unclassified research across a wide range of scientific disciplines. Located on a 202-acre site in the hills adjacent to the University of California Berkeley campus and within yards of the Hayward Fault, Berkeley Laboratory is at risk for a variety of natural disasters, including earthquakes and wildland fires. In August 2017, an arsonist caused a wildland fire in the hills near Berkeley Laboratory, and in January 2018, a magnitude 4.4 earthquake occurred near Berkeley Laboratory and the surrounding area.

A natural disaster occurrence could considerably impact Berkeley Laboratory and the surrounding communities. Because of the potential impact a natural disaster could have on the site, Berkeley Laboratory must have an Emergency Management System ready to respond promptly, efficiently, and effectively to any emergency involving Department facilities, activities, or operations.

The Department's Order 151.1D[1], *Comprehensive Emergency Management System*, states that each Department site/facility must develop and participate in an integrated and comprehensive Emergency Management System. The Emergency Management System is designed to ensure that the Department can respond effectively and efficiently to operational emergencies and can provide emergency assistance so that appropriate response measures protect workers, the public, and the environment. We initiated this inspection to determine if Berkeley Laboratory implemented required planning and coordination activities for responding to and recovering from operational emergencies.

[1] This inspection was initiated when Department Order 151.1C (November 2005) was in place. New Department Order 151.1D, which was approved August 2016, replaced Order 151.1C. Berkeley Laboratory implemented Department Order 151.1D in October 2017.

RESULTS OF INSPECTION

We found that Berkeley Laboratory generally implemented the planning and coordination activities that were required by Department and site policy. Berkeley Laboratory established and conducted training and drills for the protective action of evacuation to minimize the consequences of emergencies, and to protect the health and safety of workers and the public. In addition, we found that Berkeley Laboratory developed and documented pre-incident plans for each occupied building to ensure that Berkeley Laboratory first responders (i.e., Alameda County Fire Department) were aware of what to do in case of an emergency (e.g., fire). In 2017, Berkeley Laboratory's Emergency Management Program received an award for its earthquake preparedness activities. However, we identified issues with the hazardous material screening process, protective action drills, and building emergency plans that needed improvement. Specifically:

- Berkeley Laboratory officials could not demonstrate that it had a comprehensive hazardous material screening process to fully identify specific hazardous materials (i.e., National Fire Protection Association health hazard 3 or 4 chemicals) that would require a quantitative analysis in an Emergency Planning Hazard Assessment (EPHA) upon procurement. Specifically, we noted that the official responsible for initiating the screening process was not receiving notices of hazardous material procurements, and a Berkeley Laboratory official informed us that users did not always enter accurate information into the Chemical Management System (CMS). Furthermore, Berkeley Laboratory officials were unable to provide evidence that six of the seven materials we reviewed received the hazardous material screening process per Department requirements. A Berkeley Laboratory official interpreted the requirement to mean that Berkeley Laboratory was not required to maintain this documentation. Specifically, the official stated that if a material does not meet certain threshold, there is no write-up involved. However, Department Order 151.1D requires field element managers to ensure EPHAs are adequately reviewed and approved. Therefore, sufficient evidence is necessary to permit verification of the screening process (i.e., based on the results of the hazardous material screening process).

- Prior to our inspection, Berkeley Laboratory had not performed drills on the protective actions of shelter-in-place and lockdown as required by Berkeley Laboratory's Comprehensive Emergency Management Plan (CEMP). After we brought this to Berkeley Laboratory's attention, Berkeley Laboratory officials stated that the laboratory performed protective action drills in August and December 2017.

- Prior to our inspection, Berkeley Laboratory had not established building emergency plans in each occupied building as required by its own CEMP. Since bringing the issue to its attention in early 2017, Berkeley Laboratory completed building emergency plans for 30 of 82 occupied buildings onsite as of September 2018.

The issues that we identified occurred, in part, because Berkeley Laboratory did not maintain an accurate and timely method for tracking changes in operations and processes involving

hazardous materials. Additionally, Berkeley Laboratory did not consistently implement its policy of notifying the Emergency Management Program of specific hazardous materials when procured. Finally, there was a lack of prioritization by line management.

The improvements to Berkeley Laboratory's Emergency Management Program recommended in this report will enhance Berkeley Laboratory's ability to protect workers, the public, and the environment.

MANAGEMENT RESPONSE

Management concurred with the report's recommendation. In response to the recommendation, the Manager of the Bay Area Site Office will direct Berkeley Laboratory to develop a corrective action plan to comply with the current standards described in Department Order 151.1D in order to address the report's recommendation.

Attachments

cc: Deputy Secretary
Chief of Staff
Deputy Director for Science Programs, Office of Science
Acting Deputy Director for Field Operations, Office of Science

MITIGATION OF RISKS FROM NATURAL DISASTERS AT LAWRENCE BERKELEY NATIONAL LABORATORY

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DETAILS OF FINDINGS

The Department of Energy's Lawrence Berkeley National Laboratory's (Berkeley Laboratory) Emergency Management Program operates as an Operational Emergency Hazardous Materials Program due to the type and quantity of hazardous materials used and stored at the site. As a Hazardous Materials Program, there are additional requirements, primarily the identification of risks caused by hazardous materials. For example, the Emergency Management Program uses Emergency Planning Hazards Assessments (EPHA) to identify hazards and the potential consequences from unplanned releases of (or loss of control over) hazardous materials. The EPHAs also include a determination of the size of the Emergency Planning Zone, or the surrounding geographical area. Within the Emergency Planning Zone, special planning and preparedness actions are necessary to reduce or minimize the impact to Berkeley Laboratory personnel, as well as public health and safety in the event of an operational emergency.

The Emergency Management Program provides Berkeley Laboratory with planning and coordination functions necessary for responding to, mitigating, and recovering from emergencies while protecting the health and safety of workers and the public, and preventing damage to the environment.

We found that Berkeley Laboratory generally implemented the required planning and coordination activities that provided for the response to and recovery from operational emergencies. However, we identified issues with the hazardous material screening process, protective action drills, and building emergency plans that needed improvement. Specifically, we found that Berkeley Laboratory did not:

- Have a comprehensive hazardous material screening process in place to fully identify specific onsite hazardous materials (i.e., National Fire Protection Association health hazard 3 or 4 chemicals). Berkeley Laboratory needs to identify these hazardous materials upon procurement or add them to an existing hazardous material inventory in order to conduct a required quantitative analysis in an EPHA.

- Perform drills on the protective actions of shelter-in-place and lockdown as required by Berkeley Laboratory's Comprehensive Emergency Management Plan (CEMP).

- Establish building emergency plans in each occupied building as required by Berkeley Laboratory's CEMP.

Hazardous Materials Screening Process

Our inspection found that Berkeley Laboratory did not have a comprehensive hazardous material screening process to fully identify and perform the required screening of National Fire Protection Association health hazard 3 or 4 chemicals upon acquisition. In addition, Berkeley Laboratory did not consistently notify the Emergency Management Program of changes to facility operations or hazardous material inventories.

Berkeley Laboratory's CEMP states that the Procurement division flags certain purchase requests for hazardous chemicals and forwards this information to the Emergency Management Program. The hazardous material screening process consists of Berkeley Laboratory Chemical Management System[1] (CMS) reviews, facility walkthroughs, and procurement notifications sent by the Procurement division to the Emergency Management Program upon procurement of specific hazardous materials. However, a Berkeley Laboratory official informed us that users did not always enter accurate information into CMS. Further, personnel responsible for hazardous material did not always receive notifications of hazardous material procurements. Procurement of new hazardous materials or significant changes to existing inventories should generate the hazardous material screening process, identifying all hazardous materials that require further analysis in an EPHA. However, when the CMS is not accurate and when emergency personnel do not receive hazardous material notifications, potential changes in the existing hazardous material inventory or EPHA may not be accounted for or identified until the walkthrough is performed up to 3-years following procurement. This could result in inaccurate EPHAs, from which the Emergency Management Program forms the basis for protective action selection.

During our fieldwork, we reviewed the five required EPHAs documented by Berkeley Laboratory's Emergency Management Program. Each EPHA identified one or more hazardous materials that may pose a significant risk to workers, the public, and the environment in the event of an unplanned release. Following this review, we selected a sample of hazardous materials procured after each of these five EPHAs were established to determine whether materials were subjected to a hazardous material screening process. We identified seven hazardous materials, such as nitric acid, sodium hydroxide, and hydrochloric acid, procured for three EPHA building locations. Berkeley Laboratory's Emergency Management Program could not provide evidence of completion of the hazardous material screening process for any of the sampled materials. Likewise, Berkeley Laboratory officials were unable to confirm that these hazardous materials were subjected to the required hazardous material screening process upon procurement.

Berkeley Laboratory experienced longstanding issues associated with its hazardous materials screening process. In 2012, the Bay Area Site Office identified unresolved issues related to Berkeley Laboratory's hazardous material screening process from 2007 through 2012. Specifically, the Bay Area Site Office consistently identified an unresolved issue beginning in 2007 that Berkeley Laboratory did not have a process to notify Emergency Services of changes to facility operations or hazardous material inventories. Notification prior to changes being made is necessary so that appropriate documentation (i.e., the EPHA) can be updated as required by Department Order 151.1D[2], *Comprehensive Emergency Management System*. Based on our review of these unresolved issues identified from 2007 through 2012, we determined that this issue was not fully corrected during the period of our review. The screening process for hazardous materials is initiated when hazardous materials are purchased. Once the Emergency

[1] A site-wide chemical inventory database used to provide accurate and up-to-date lists of chemicals stored on site.
[2] This inspection was initiated when Department Order 151.1C (November 2005) was in place. New Department Order 151.1D, which was approved August 2016, replaced Order 151.1C. Berkeley Laboratory implemented Department Order 151.1D in October 2017.

Management Program is notified of the acquisition, the Emergency Management Program can begin the screening process for a specific hazardous material to determine exclusion or perform further analysis in an EPHA.

Training and Drills

Our inspection found that Berkeley Laboratory officials did not perform protective action drills for shelter-in-place and lockdown as required by Berkeley Laboratory's CEMP. Further, our review of training records showed that the training for the protective actions of shelter-in-place and lockdown generally had been met.

According to Department Order 151.1D, all Department facilities must determine if additional drills and the frequency of such drills should be conducted for other protective actions that workers may be expected to take. Berkeley Laboratory's CEMP placed additional requirements for the protective action drills of shelter-in-place and lockdown.

During our review, we interviewed 7 of Berkeley Laboratory's 58 Building Emergency Team leads, and all of them stated that they had not performed site-wide drills for the protective actions of shelter-in-place and lockdown. We reviewed Berkeley Laboratory's CEMP, Protective Action Plan, and Training and Drills Program Plan and did not identify, and Berkeley Laboratory officials were unable to provide, documentation to indicate the performance of shelter-in-place or lockdown drills for any of the site's 82 occupied buildings. Berkeley Laboratory officials stated that shelter-in-place and lockdown drills were not completed, as priority was given to Federal regulations for evacuation over Berkeley Laboratory's CEMP.

Since bringing this to a Berkeley Laboratory official's attention in early 2017, the official stated that Berkeley Laboratory performed protective action drills for lockdown and shelter-in-place on August 7, 2017, and December 19, 2017, respectively.

Building Emergency Plans

Our inspection found that Berkeley Laboratory did not establish building emergency plans for each occupied building in accordance with its own CEMP. According to Berkeley Laboratory's CEMP, the Emergency Management Program assigns Building Emergency Teams[4] to conduct emergency planning activities, such as building emergency plans, and ensure emergencies are reported for incidents within their buildings. Building Emergency Plans are also required under Berkeley Laboratory's Continuity Program Plan in order to facilitate mission recovery following an emergency. According to a Berkeley Laboratory official, as of February 2017, none of Berkeley Laboratory's 82 occupied facilities had an established building emergency plan in place. Additionally, seven Berkeley Laboratory officials confirmed that they did not have an

[4] Building Emergency Team members are assigned to each occupied facility to conduct emergency planning activities (i.e., conducting evacuation drills or developing a building emergency plan) and ensure emergencies are reported for incidents within their facilities. Building Emergency Teams can be used to support emergency response personnel by providing building or occupant-specific information. Most importantly, Building Emergency Teams are used to coordinate protective actions, conduct personnel accountability, and provide crowd control at emergency assembly areas.

established building emergency plan in their respective facilities. After briefing Berkeley Laboratory officials and prior to the conclusion of our inspection, Berkeley Laboratory officials provided us with evidence that they completed 30 building emergency plans for onsite, occupied buildings.

Contributing Factors

Berkeley Laboratory did not always implement required planning and coordination activities for response to and recovery from emergencies related to the mitigation of risks associated with natural disasters. Specifically, Berkeley Laboratory did not have a comprehensive hazardous material screening process in place to fully identify hazardous materials, in part, because Berkeley Laboratory: (1) did not maintain an accurate and timely method for tracking changes in operations and processes that involve hazardous materials, and (2) did not consistently implement its policy of notifying the Emergency Management Program of all hazardous material when procured. Further, we concluded that drills were not performed for all protective actions (i.e., shelter-in-place and lockdown), and building emergency plans were not completed because of a lack of prioritization by line management.

Berkeley Laboratory did not have a comprehensive hazardous material screening process in place to fully identify hazardous materials because Berkeley Laboratory's CMS inventory is a system manually updated by individual users and is not always accurate. This system is one source of information the Emergency Management Program uses to review up-to-date hazardous material inventories. However, during our review of Berkeley Laboratory's CMS inventories, we found evidence that information in the CMS was not always accurate. For example, according to a Berkeley Laboratory official, Berkeley Laboratory relied on individual users and laboratory managers to input accurate information into CMS in a timely manner in order to maintain accurate hazardous material inventories. The Berkeley Laboratory official also provided CMS reports and explained that there were hazardous materials either not listed in the CMS inventory but physically present in the laboratory, or listed as present in the CMS inventory but not actually in the laboratory. Another Berkeley Laboratory official explained that the CMS and Procurement systems are not linked and cannot share information. If Berkeley Laboratory's CMS inventory were properly maintained, the Emergency Management Program would be able to rely on the information as part of completing the hazardous material screening process. Automating the CMS input by electronically linking the Procurement and CMS inventory systems together could increase the accuracy of the CMS inventory and help the Emergency Management Program maintain more accurate EPHAs to better mitigate the risks associated with natural disaster impacts on hazardous materials.

Additionally, Berkeley Laboratory did not have a comprehensive hazardous material screening process in place to fully identify hazardous materials because Emergency Management Program officials were not always notified upon procurement of hazardous materials. The Emergency Management Program conducts walkthroughs of occupied buildings triennially as part of the hazardous material screening process (i.e., 33 percent annually over a 3-year period), and walkthroughs of EPHA buildings occur annually. A Berkeley Laboratory official stated that he/she would often find previously unaccounted for hazardous chemicals during his/her walkthroughs, despite the notification requirement. When we brought this to their attention,

Berkeley Laboratory officials responded that the Laboratory had experienced some turnover of its subject matter expert position, or Hazard Analyst, who should have received these notifications. Berkeley Laboratory officials stated that these notifications may have been missed/lapsed when the subject matter expert position was vacant. For this reason, Berkeley Laboratory may not have subjected hazardous materials to the required screening process. Subsequent to informing Berkeley Laboratory officials of this issue, an Emergency Management Program official told us that, in early 2018, Berkeley Laboratory modified its notification process to ensure that notifications were provided to a general email account that can be accessed by several Emergency Management Program personnel to ensure that email notifications are not missed.

Furthermore, Berkeley Laboratory did not perform protective action drills for shelter-in-place and lockdown, or complete building emergency plans for each occupied building because, according to Emergency Management Program personnel, there was a lack of resources to ensure these protective action drills and building emergency plans were completed. We recognize that availability of resources may provide challenges to the Emergency Management Program at Berkeley Laboratory. However, the fact that Emergency Management Program officials were able to respond and correct nearly all of the issues once we brought them to their attention leads us to conclude that prioritization by management is likely the single most important factor. In addition, the Bay Area Site Office identified this in its fiscal year 2018 mid-year feedback report to Berkeley Laboratory, which occurred during the course of our inspection. In fact, we found that many of the issues could have been addressed earlier, when first identified in the *FY2015 and FY2016 Emergency Management Self-Assessments* corrective action plan processes. However, Berkeley Laboratory closed the corrective actions without completely resolving them.

Impact

The continued improvements to Berkeley Laboratory's Emergency Management Program recommended in this report will enhance Berkeley Laboratory's ability to protect workers, the public, and the environment. Specifically, by conducting the hazardous material screening process on procured hazardous materials, Berkeley Laboratory will be able to more effectively manage the risk if an unplanned release or loss of control over hazardous materials occurs.

In addition, Berkeley Laboratory should expand its drills for the protective actions of shelter-in-place and lockdown. If Berkeley Laboratory had performed the required drills prior to the real-life lockdown that took place August 2, 2017, employees would have had a better understanding of what to do in the event of such an emergency. Drills and building emergency plans are critical in addressing the Berkeley Laboratory Director's most important consideration during an emergency situation: protecting the 4,000 employees and affiliates. The consequence of Berkeley Laboratory personnel not participating in periodic protective action drills for the specific protective actions may lead to confusion or uncertainty regarding the appropriate protective action to take to best protect the health and safety of workers. Our recommendation will facilitate Berkeley Laboratory's ability to further mitigate the risk of serious injury to workers during an emergency event.

Finally, by establishing building emergency plans, emergency operations personnel will be more familiar with building information, floor plans, emergency exits, assembly areas, and shelter areas in the event of an emergency. According to Berkeley Laboratory's CEMP, Building Emergency Teams are utilized to support emergency response personnel by providing building or specific protective action information to building occupants. The presence of building emergency plans will significantly increase the effectiveness of the Building Emergency Teams' contribution during an emergency.

RECOMMENDATION

To address the concerns identified in this report, we recommend that the Manager of the Bay Area Site Office:

1. Develop and implement a corrective action plan to:

    a. Ensure that Berkeley Laboratory maintains an accurate CMS database for tracking changes in hazardous material inventories, that is sufficient for the Emergency Management Program to execute the hazardous material screening process;

    b. Effectively implement existing requirements to notify Berkeley Laboratory's Emergency Management Program when hazardous materials have been approved for procurement at Berkeley Laboratory;

    c. Develop a procedure to periodically review Berkeley Laboratory to ensure that drills for each protective action are conducted in accordance with Berkeley Laboratory's CEMP, Training and Drill Program Plan, and Protective Action Plan; and

    d. Ensure that Berkeley Laboratory develops a plan to incrementally complete building emergency plans for all occupied buildings at Berkeley Laboratory and develops a process to periodically review/update building emergency plans for accuracy and completeness.

MANAGEMENT RESPONSE

Management concurred with the report's recommendation. In response to the recommendation, the Manager of the Bay Area Site Office will direct Berkeley Laboratory to develop a corrective action plan to comply with the current standards described in Department Order 151.1D in order to address the report's recommendation.

Management's comments are included in Appendix 3.

INSPECTOR COMMENTS

Management's comments and proposed actions are responsive to our findings and recommendation.

OBJECTIVE, SCOPE, AND METHODOLOGY

Objective

We conducted this inspection to determine if the Department of Energy's Lawrence Berkeley National Laboratory implemented required planning and coordination activities for responding to and recovering from operational emergencies.

Scope

This inspection was performed from November 2016 through February 2019 at the Lawrence Berkeley National Laboratory, located in Berkeley, California. The inspection covered safety and health procedures, emergency planning, and disaster mitigation plans from fiscal year 2014 through fiscal year 2017. The inspection was conducted under Office of Inspector General project number S16IS014.

Methodology

To accomplish the inspection objective, we:

- Reviewed applicable laws, regulations, policies and procedures, and tested compliance with key provisions;
- Reviewed prior reports by the Office of Inspector General and external audit/review groups;
- Evaluated whether previously identified vulnerabilities and weaknesses had been resolved;
- Reviewed the established National Fire Protection Association health hazard category rating materials at levels of 3 or more;
- Reviewed controls in place to ensure that operational emergencies are properly addressed and evaluated; and
- Interviewed key officials from the Bay Area Site Office and contractor personnel at the Lawrence Berkeley National Laboratory.

We conducted this inspection in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*. Those standards require that we plan and perform the inspection to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions and observations based on our inspection objective. We believe that the evidence obtained provided a reasonable basis for our conclusions and observations based on our inspection objective. Accordingly, the inspection included tests of controls and compliance with laws and regulations to the extent necessary to satisfy the inspection objective. Because our review was limited, it would not necessarily have disclosed all

internal control deficiencies that may have existed at the time of our inspection. We relied on computer-processed data to satisfy our objective. Based on our comparison of computer-processed data to supporting documents and inventory, we determined that the data was sufficiently reliable.

An exit conference was held with management officials on April 15, 2019.

PRIOR REPORTS

- Audit Report on *Mitigation of Natural Disasters at Los Alamos National Laboratory* (OAS-M-13-04, June 2013). The report concluded that Los Alamos National Laboratory's seismic issues affecting the Plutonium Facility remain to be addressed. Specifically, Los Alamos' fire suppression system and glove box stand improvements to mitigate the adverse consequences of a seismic event were not scheduled to be completed until 2014 and 2015, respectively. Los Alamos' fire protection and prevention vulnerabilities in the Area G Waste Storage and Disposal Facility (Area G) continued to exist. In particular, Los Alamos had not resolved all known fire suppression and lightening protection system deficiencies. There were several known risks that existed with compensatory measures implemented in Area G that may lessen their efficacy in mitigating natural disasters. Los Alamos was credited for completing key compensatory measures, including physical upgrades to reduce seismic risk for the Plutonium Facility, and other additional upgrades were in process. In addition, Los Alamos implemented actions to mitigate the risk of fire from natural disasters at Area G.

- Audit Report on *Fire Protection Deficiencies at Los Alamos National Laboratory* (DOE/IG-0816, June 2009). The report concluded that Los Alamos National Security, LLC had not resolved many of the fire protection deficiencies that had been identified in early 2006. Specifically, of the 296 pre-existing deficiencies selected for the audit, 174 (59 percent) had not been corrected, and a substantial portion of the uncorrected deficiencies, 86 (49 percent), were considered by the walk-down teams to be significant enough to warrant compensatory actions until the deficiency was corrected or was tracked to closure through implementation of corrective actions. In addition, 32 of the significant deficiencies had been closed by the previous Los Alamos contractor, prior to Los Alamos National Security, LLC assuming responsibility for operation of the Los Alamos National Laboratory, even though the deficiencies had not been corrected.

MANAGEMENT COMMENTS

U.S. DEPARTMENT OF ENERGY | Office of Science

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MAR 28 2019

MEMORANDUM FOR MICHELLE ANDERSON
DEPUTY INSPECTOR GENERAL
FOR AUDITS AND INSPECTIONS
OFFICE OF INSPECTOR GENERAL

FROM: PAUL M. GOLAN 3/28/19
SITE OFFICE MANAGER
BAY AREA SITE OFFICE

SUBJECT: Response to Inspector General's Draft Report, "Inspection Report on "Mitigation of Risks from Natural Disasters at Lawrence Berkeley National Laboratory"

Thank you for the opportunity to review and comment on the subject draft report. Our response to the specific recommendations follow.

Recommendation 1: *Develop and implement a corrective action plan to:*

a. Ensure that Berkeley Laboratory maintains an accurate CMS database for tracking changes in hazardous material inventories that is sufficient for the Emergency Management Program to execute the hazardous material screening process;

b. Effectively implement existing requirements to notify Berkeley Laboratory's Emergency Management Program when hazardous materials have been approved for procurement at Berkeley Laboratory;

c. Develop a procedure to periodically review Berkeley Laboratory to ensure that drills for each protective action are conducted in accordance with Berkeley Laboratory's CEMP, Training and Drill Program Plan, and Protective Action Plan; and

d. Ensure that Berkeley Laboratory develops a plan to incrementally complete building emergency plans for all occupied buildings at Berkeley Laboratory and develops a process to periodically review/update building emergency plans for accuracy and completeness.

Management Response: *Concur.*

Action Plan: *The Manager of the Bay Area Site Office will direct the laboratory to develop a corrective action plan to comply with the current standards described in DOE Order 151.1D, "Comprehensive Emergency Management System," in order to address the recommendations.*

Estimated Completion Date: *September 30, 2019*

General/Technical Comments: *Page 1, Details of Findings, Paragraph 2, please update, "Protective Services, a group within the Facilities Division" to "Emergency Management Program."*

If you have any questions on these comments, please contact Mercedes Downing at mercedes.downing@science.doe.gov or by phone at (510) 486-4346.

FEEDBACK

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