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September 11, 2019

Dr. Jane Close Conoley, President
California State University, Long Beach
1250 Bellflower Blvd.
Long Beach, CA 90840

Dear Dr. Conoley:

Subject: Audit Report 19-49, Health and Safety, California State University, Long Beach

We have completed an audit of *Health and Safety* as part of our 2019 Audit Plan, and the final report is attached for your reference. The audit was conducted in accordance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*.

I have reviewed the management response and have concluded that it appropriately addresses our recommendations. The management response has been incorporated into the final audit report, which has been posted to Audit and Advisory Services' website. We will follow-up on the implementation of corrective actions outlined in the response and determine whether additional action is required.

Any observations not included in this report were discussed with your staff at the informal exit conference and may be subject to follow-up.

I wish to express my appreciation for the cooperation extended by the campus personnel over the course of this review.

Sincerely,



Larry Mandel
Vice Chancellor and Chief Audit Officer

c: Timothy P. White, Chancellor

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The California State University
Audit and Advisory Services

HEALTH AND SAFETY

**California State University,
Long Beach**

Audit Report 19-49
July 25, 2019

EXECUTIVE SUMMARY

OBJECTIVE

The objectives of the audit were to ascertain the effectiveness of operational and administrative controls related to health and safety (HS) and to ensure compliance with relevant federal and state regulations; Trustee policy; Office of the Chancellor (CO) directives; and campus procedures.

CONCLUSION

Based upon the results of the work performed within the scope of the audit, the operational and administrative controls for HS as of May 24, 2019, were unlikely to provide reasonable assurance that risks were being managed and objectives were met.

Overall, we found that the many colleges and departments were in the early stages of implementing HS programs, and the campus did not have an effective monitoring process to ensure that responsibilities related to HS programs were performed. As a result, we found that important components of the HS program, such as self-inspections and hazard assessments to determine the necessary personal protective equipment (PPE), were not completed as required. We also found that the campus was not effectively administering various safety committees and had not implemented an effective HS training program to ensure that all employees and students who handled hazardous materials (HAZMAT) and hazardous waste (HAZWASTE) were identified and completed required training. In addition, the College of Engineering (COE) and the College of Health and Human Services (CHHS) needed to develop a laser safety program and Chemical Hygiene Plan (CHP), respectively, and other existing HS programs did not include all required elements and were not reviewed annually and updated as needed.

In addition, the campus did not always follow campus and regulatory policies and procedures, including proper labeling and storing of HAZMAT; labeling and disposal of HAZWASTE; and safety equipment inspections. Further, purchases of HAZMAT using campus procurement cards did not always meet campus requirements; spill kits were not always readily available or easily accessible to employees; and the campus did not properly notify employees about locations that contained asbestos.

Specific observations, recommendations, and management responses are detailed in the remainder of this report.

OBSERVATIONS, RECOMMENDATIONS, AND RESPONSES

1. EMPLOYEE HEALTH AND SAFETY TRAINING

OBSERVATION

The campus did not have an effective employee training program to ensure that all employees who handled HAZMAT and HAZWASTE completed HS trainings.

We noted that the campus *Injury and Illness Prevention Program* (IIPP) created a decentralized organizational structure giving campus departments responsibility for the development and maintenance of employee training programs. However, we found that departments did not always develop and maintain employee training programs that identified all employees required to take initial and refresher HS training, monitored compliance with required trainings, and documented and maintained training records to ensure that all employees received the required HS training applicable to their job duties.

Additionally, we found that the structure for administering employee HS training did not provide a campuswide process to monitor completion of required HS training or allow for follow-up with employees and/or their supervisors when training was incomplete or overdue.

Furthermore, we reviewed initial training records for 15 employees, and we found that seven did not complete new employee safety training, as required by the campus IIPP. In addition, we found that faculty affairs did not maintain records of completed IIPP training, as required by the campus IIPP and California Code Regulations (CCR) Title 8 §3203, *Injury and Illness Prevention Program*.

Effective administration of HS training helps to ensure compliance with program provisions, increases safety awareness, and reduces potential injuries, accidents, and liabilities to the campus.

RECOMMENDATION

We recommend that the campus:

- a. Develop campus requirements for effective college and departmental employee training programs that include identification of all employees who are required to take initial and refresher HS training, including specialized training; tracking and notifying employees with overdue or incomplete training; and documenting and maintaining training records.
- b. Communicate the above training program requirements and responsibility for developing, implementing, and maintaining college and departmental employee training programs to the appropriate personnel.
- c. Develop and implement a written process to monitor employee training compliance and report completion rates to appropriate management.

MANAGEMENT RESPONSE

We concur.

- a. The campus will develop an effective college and departmental training program that includes identification of all employees required to take initial and refresher HS training, including specialized training; tracking and notifying employees with overdue or incomplete training; and documenting and maintaining records.
- b. The campus will communicate the responsibility for developing and maintaining departmental employee training programs to the appropriate personnel.
- c. The campus will develop and implement a written process to monitor employee training compliance and report completion rates to appropriate management.

The anticipated completion date is January 15, 2020.

2. STUDENT HEALTH AND SAFETY TRAINING

OBSERVATION

Campus departments did not always maintain proper records showing student completion of HS training.

We reviewed the safety training provided to students for six courses in which students worked with HAZMAT and found that for two courses, documentation showing that safety training was provided to and understood by the students was not maintained.

Effective administration of the student HS training program helps to ensure that students are informed of potential hazards and necessary safety practices and that procedures will be used to reduce potential injuries, accidents, and liabilities to the campus.

RECOMMENDATION

We recommend that the campus:

- a. Establish and implement a process to document student HS training.
- b. Maintain proper records showing student completion of HS training.
- c. Remind all appropriate college administrators, staff, and faculty of the importance of performing and documenting student HS training.

MANAGEMENT RESPONSE

We concur.

- a. The campus will establish and implement a process to document student HS training.

- b. The campus will develop a process to maintain proper records showing student completion of HS training.
- c. The campus will remind all appropriate college administrators, staff, and faculty of the importance of performing and documenting HS training.

The anticipated completion date is January 15, 2020.

3. ROLES AND RESPONSIBILITIES

OBSERVATION

The campus did not clearly define and document roles and responsibilities for conducting periodic safety inspections, and the campus IIPP was not reviewed annually.

We found that campus and departmental HS programs did not clearly define who was responsible for conducting periodic safety inspections to identify unsafe conditions and work practices. The campus IIPP listed the responsibility under multiple department personnel; however, departments did not always formally define and document who was responsible. We also found that the IIPP did not identify the frequency or schedule of these safety inspections.

As a result, periodic safety inspections were not always performed. Specifically, we performed walkthroughs at ten locations where HAZMAT was located and found that:

- At six locations, inspections were not performed by the department or college during the audit period, as required by the campus IIPP.
- At four locations in the College of Natural Science and Mathematics (CNSM), self-audits were not performed by the principal investigator (PI) or lab supervisor, as required by the CNSM CHP. In addition, the CNSM safety office was not monitoring or enforcing completion of self-audits.
- At five locations, EHS did not perform audits during the audit period to monitor or verify the completion of inspections, as required by the campus IIPP.

Further, we found that there was no evidence that the IIPP had been annually reviewed and revised in 2017 and 2018, as required by the campus IIPP.

Clearly defined, documented, and communicated roles and responsibilities help to ensure that duties are performed to maintain a healthy and safe environment for employees and students and improve compliance with regulatory requirements.

RECOMMENDATION

We recommend that the campus:

- a. Clearly define, document, and communicate roles and responsibilities regarding periodic safety inspections.
- b. Define a schedule or frequency of periodic safety inspections in the IIPP, and communicate this information to key personnel.
- c. Perform periodic safety inspections in accordance with the IIPP for all locations.
- d. Review the IIPP annually, and revise it as needed.

MANAGEMENT RESPONSE

We concur.

- a. The campus will revise the IIPP to clearly define, document and communicate roles and responsibilities regarding periodic safety inspections.
- b. The campus will define a schedule or frequency of periodic safety inspections in the IIPP and communicate this information to key personnel.
- c. The campus will ensure periodic safety inspections are performed in accordance with the IIPP for all locations.
- d. The campus will review the IIPP annually and revise it as needed.

The anticipated completion date is January 15, 2020.

4. HAZARD ASSESSMENTS

OBSERVATION

The campus did not always perform written hazard assessments to determine the PPE necessary for employees, as required by 8 CCR §3380, *Personal Protective Devices*.

We noted that the campus *PPE Program* stated that EHS was responsible for conducting hazard assessments. However, we found that written hazard assessments were not always performed to identify the hazards associated with campus activities and assess the appropriate engineering controls and PPE necessary to ensure the HS of students and employees. Additionally, we found that the campus did not have a process to monitor the completion of these assessments.

We also found that the *PPE Program* did not reflect current campus practices, as student health services was responsible for conducting hazard assessments to determine proper PPE for the Student Health Center.

Performing hazard assessments to identify hazards in workplaces that necessitate the use of PPE helps to reduce potential injuries, accidents, and liabilities to the campus.

RECOMMENDATION

We recommend that the campus implement a process to ensure that hazard assessments are performed, documented, and monitored for all campus workplaces that necessitate the use of PPE, and update the campus *PPE Program* as necessary.

MANAGEMENT RESPONSE

We concur. The campus will implement a process to ensure that hazard assessments are performed, documented, and monitored for all campus workplaces that necessitate the use of PPE, and update the campus *PPE Program* as necessary.

The anticipated completion date is January 10, 2020.

5. SAFETY COMMITTEES

OBSERVATION

The campus did not have a Unit 6 Joint Safety Committee as required by the Unit 6 Collective Bargaining Agreement, Article 28.10, and other campus safety committees did not always retain meeting documents or meet as required.

We found that:

- The campus had a Facilities Management Safety Committee that included representation from Unit 6 employees, but the committee was discontinued in 2018 due to low attendance. In addition, prior to the discontinuance of the committee, meeting minutes were not always maintained.
- The Campus Health and Safety Committee did not always maintain meeting minutes or have adequate representation from union representatives.
- The associate vice president for research and sponsored programs did not attend the Institutional Biosafety Committee (IBC) meetings in 2017 and 2018, as required by the campus *Biosafety Executive Order*.

Safety committees help to facilitate communication of HS issues and requirements across campus units and recommend safety regulations, guidelines, training programs, and necessary corrective actions related to maintaining safe working conditions.

RECOMMENDATION

We recommend that the campus:

- a. Form a Unit 6 Joint Safety Committee that meets the requirements outlined in the collective bargaining agreement.

- b. Ensure that the safety committees noted above meet as required, and maintain minutes to document the meetings.
- c. Ensure that the IBC has adequate representation based on the campus *Biosafety Executive Order*.

MANAGEMENT RESPONSE

We concur.

- a. The campus will form a Unit 6 Safety Committee that meets the requirements outlined in the collective bargaining agreement.
- b. The campus will ensure that the safety committees noted above meet as required and maintain minutes to document the meetings.
- c. The campus will ensure that the IBC has adequate representation based on the campus *Biosafety Executive Order*.

The anticipated completion date is January 10, 2020.

6. CHEMICAL HYGIENE PLANS

OBSERVATION

Administration of college-specific CHPs needed improvement.

Specifically, we found that:

- The CHHS did not have a CHP.
- The COE CHP did not include a clear designation of the chemical hygiene officer (CHO), as required by 8 CCR §5191, *Occupational Exposures to Hazardous Chemicals in Laboratories*.
- The COE CHP was not evaluated annually for effectiveness and updated as needed.

Additionally, the following elements included in the COE CHP did not reflect campus practices:

- The COE CHP stated that EHS is responsible for the inspection of laboratory fume hoods; however, the campus practice was that the college was responsible for completing these inspections. As a result, at one COE lab, a fume hood was not always inspected annually.
- The COE CHP stated that waste generators were responsible for submitting a completed HAZWASTE transfer form to EHS and scheduling waste pick-ups. However, the campus practice was that waste generators emailed the COE department safety coordinator, who then coordinated with EHS for disposal.

- The COE CHP chemical procurement section did not include campus procurement requirements, such as initial pre-approval from the department safety coordinator and final pre-approval from EHS.

A complete and annually evaluated CHP with a clear designation of CHOs improves compliance with regulatory requirements and increases protection of employees and students working in laboratories from the health hazards of certain chemicals.

RECOMMENDATION

We recommend that the campus:

- a. Develop and implement a CHHS CHP and communicate the updated plan to employees.
- b. Evaluate the COE CHP and make necessary updates, including clear designation of the college CHO.
- c. Develop and implement a written process to annually evaluate and update the COE CHP.

MANAGEMENT RESPONSE

We concur.

- a. The campus will develop and implement a CHHS CHP and communicate the updated plan to employees.
- b. The campus will evaluate the COE CHP and make necessary updates, including clear designation of the college CHO.
- c. The campus will develop and implement a written process to annually evaluate and update the COE CHP.

The anticipated completion date is January 15, 2020.

7. ACCESS TO HAZMAT

OBSERVATION

Access to HAZMAT and equipment was not always adequately limited and supervised.

Specifically, during our review, we found that:

- Three COE laboratories did not have adequate safeguards to prevent unauthorized access, as undergraduate students had keys to these labs and were able to access hazardous chemicals and equipment without supervision. Additionally, one of the labs was not secured, and the key to two Class 4 lasers was kept in an unlocked filing cabinet.
- One location in the College of the Arts (COTA) remained unlocked beyond business hours. Additionally, we found that the hazardous equipment at this facility was not secured, and

campus employees were not always supervising the activities at the facility during the extended hours.

Appropriate safeguards and supervision reduce the risk of inappropriate and/or unauthorized access to campus facilities and misuse of HAZMAT.

RECOMMENDATION

We recommend that the campus review locations in which unsupervised access is permitted to campus buildings and facilities where HAZMAT is present, assess and document the risks associated with the unsupervised access for each building, and reduce building access hours and/or the keys provided to students, as necessary, to obtain acceptable levels of risk.

MANAGEMENT RESPONSE

We concur. The campus will review locations in which unsupervised access is permitted to campus buildings and facilities where HAZMAT is present, assess and document the risks associated with the unsupervised access for each building, and reduce building access hours and/or the keys provided to students, as necessary, to obtain acceptable levels of risk.

The anticipated completion date is January 15, 2020.

8. HAZARDOUS MATERIAL

OBSERVATION

Campus departments did not always properly label and store HAZMAT in accordance with regulatory and campus requirements.

We reviewed ten locations with HAZMAT, including four locations at CNSM, three at COE, one at College of the Arts (COTA), and one at EHS. We found that:

- At three COE locations and one CHHS location, HAZMAT container labels did not include a written or graphic hazard warning.
- At two COE locations, incompatible substances were stored near each other.
- At one COE location, HAZMAT container labels did not include the name of the substances or chemicals.
- At one COE location, HAZMAT containers were not securely closed.
- At one COTA location, propane gas cylinders were not properly secured, as they were stored on the top shelf.

Proper labeling and storage of HAZMAT communicates potential danger and reduces potential liability to the campus.

RECOMMENDATION

We recommend that the campus properly label and store all HAZMAT in accordance with regulatory requirements and provide training to the appropriate campus employees on these requirements.

MANAGEMENT RESPONSE

We concur. The campus will properly label and store all HAZMAT in accordance with regulatory requirements and provide training to the appropriate campus employees on these requirements.

The anticipated completion date is December 10, 2019.

9. HAZARDOUS AND UNIVERSAL WASTE

OBSERVATION

Campus departments did not always properly label and dispose of HAZWASTE and universal waste.

We reviewed 11 locations with HAZWASTE and/or universal waste, including five locations at CNSM, three at COE, and two at EHS, and one at Administration and Finance. We found that:

- At two COE locations and one EHS location, labels on HAZWASTE containers did not always identify the contents, hazardous properties, and accumulation start dates.
- At one COE location, a HAZWASTE container had been accumulating waste beyond the appropriate time period.
- At one Administration and Finance location, the label on a universal waste container did not identify the accumulation start date.

Proper labeling and disposal of HAZWASTE and universal waste reduces the risk of accidents and injuries from mismanagement and reduces potential liability to the campus.

RECOMMENDATION

We recommend that the campus properly label and dispose of all HAZWASTE and universal waste in accordance with regulatory requirements and provide training to the appropriate campus personnel on these requirements.

MANAGEMENT RESPONSE

We concur. The campus will properly label and dispose of all HAZWASTE and universal waste in accordance with regulatory requirements and provide training to the appropriate campus personnel on these requirements.

The anticipated completion date is December 10, 2019.

10. SAFETY EQUIPMENT MAINTENANCE AND INSPECTIONS

OBSERVATION

The campus did not always conduct regular maintenance and inspections of the working condition of safety equipment, and spill kits were not always readily available.

Facilities management is responsible for monthly inspections of eyewash and shower stations and fire extinguishers, while annual inspections of fume hoods and biosafety cabinets, as well as the availability of spill kits, are the responsibility of the colleges. We reviewed 11 locations to verify that safety equipment was readily accessible and inspections were performed as required. We found that:

- At one COE location and one CHHS location, spill kits were not readily available.
- At two locations, eyewash and shower stations were not always inspected and tested monthly.
- At one location, a fire extinguisher was not always visually inspected monthly.
- At one COE location, a biosafety cabinet was not inspected annually.

Regular inspections of safety equipment help to ensure that the equipment is available and in working condition and helps to ensure a healthy and safe environment for students and employees.

RECOMMENDATION

We recommend that the campus:

- a. Develop and implement a written process for conducting and documenting maintenance and inspections of safety equipment.
- b. Communicate and distribute the new process to appropriate campus employees and provide training as needed.

MANAGEMENT RESPONSE

We concur.

- a. The campus will develop and implement a written process for conducting and documenting maintenance and inspections of safety equipment.
- b. The campus will communicate and distribute the new process to appropriate campus employees and provide training as needed.

The anticipated completion date is January 10, 2020.

11. PROCUREMENT OF HAZARDOUS MATERIALS

OBSERVATION

Purchases of HAZMAT did not always align with the requirements in the campus *Hazard Communication Program*.

We noted that the requirements for purchasing HAZMAT in the campus *Hazard Communication Program* included initial pre-approval from the department safety coordinator and final pre-approval from EHS. We reviewed eight procurement card purchases of HAZMAT, and we noted that six had not been approved in advance by the department safety officer and seven had not been approved in advance by EHS.

Additionally, in discussions with several department safety coordinators and staff, we found that one department safety coordinator was not receiving HAZMAT purchase requisitions for advance approval. In addition, we found that campus professors purchased alcoholic beverages with their personal funds and used them to perform experiments.

Consistent enforcement of campus HAZMAT procurement procedures allows for improved oversight and monitoring of HAZMAT present on campus.

RECOMMENDATION

We recommend that the campus provide procurement training to cardholders, transaction approvers, and appropriate campus personnel of the campus requirements regarding the procurement of HAZMAT.

MANAGEMENT RESPONSE

We concur. The campus will provide procurement training to cardholders, transaction approvers, and appropriate campus personnel of the campus requirements regarding the procurement of HAZMAT.

The anticipated completion date is January 15, 2020.

12. LASER SAFETY PROGRAM

OBSERVATION

The COE did not have a written and comprehensive laser safety program or other policies and procedures to provide guidance for laser safety.

A written and comprehensive laser safety program reduces the risk of injuries associated with the use of lasers by establishing procedures for this type of work.

RECOMMENDATION

We recommend that the campus develop and implement a written laser safety program for the COE or other policies and procedures to provide guidance for laser safety, and communicate the program to employees.

MANAGEMENT RESPONSE

We concur. The campus will develop and implement a written laser safety program for the COE or other policies and procedures to provide guidance for laser safety, and communicate the program to employees.

The anticipated completion date is January 10, 2020.

13. ASBESTOS NOTIFICATIONS

OBSERVATION

The campus did not properly notify employees about locations that contained asbestos.

We found that the campus did not provide a written annual asbestos notification to each employee during 2016, 2017, and 2018, as required by Health and Safety Code (HSC) 25915.2(a).

Additionally, we reviewed five mechanical rooms where possible asbestos-containing materials (ACM) were located and found that one did not have proper signage providing notification to personnel of the potential presence of ACM.

Proper notification regarding asbestos decreases the risk that employees will be exposed to asbestos and decreases the risk of potential injuries, accidents, and liabilities to the campus.

RECOMMENDATION

We recommend that the campus provide employees with an annual written asbestos notification and establish and implement a written process to ensure that appropriate asbestos signage is posted in all required locations on campus.

MANAGEMENT RESPONSE

We concur. The campus will provide employees with an annual written asbestos notification and establish and implement a written process to ensure that appropriate asbestos signage is posted in all required locations on campus.

The anticipated completion date is January 10, 2020.

14. HEALTH FACILITY SAFETY AND CLEANLINESS

OBSERVATION

The campus did not have a written plan addressing HS risks associated with health facility operations that included the elements required in Executive Order (EO) 943, Section IX, *Health Facility Safety and Cleanliness*.

Specifically, we found that the campus did not have a written plan that addressed:

- Appropriate consultation with custodial staff to address health facility sanitation and safety issues and provide for the assignment of identified and trained custodial personnel to ensure appropriate cleanliness of the health facility.
- The unique conditions that determine the frequency and adequacy of cleaning of specific health facility areas.

A complete and comprehensive plan for health facility operations helps to ensure that employees are knowledgeable and adequately trained regarding the HS risks associated with operating a health facility in order to provide a safer environment for employees and patients.

RECOMMENDATION

We recommend that the campus develop and implement a written plan for health facility safety and cleanliness that includes the elements noted above, and communicate the plan to the appropriate personnel.

MANAGEMENT RESPONSE

We concur. The campus will develop and implement a written plan for health facility safety and cleanliness that includes the elements noted above and communicate the plan to the appropriate personnel.

The anticipated completion date is January 10, 2020.

15. ANNUAL REPORTING

OBSERVATION

The campus did not provide annual HS program reports to the CO.

We found that the campus did not prepare and submit the required annual HS program reports to the CO Systemwide Office of Risk Management for fiscal years 2016/17 and 2017/18, as required by EO 1039, *California State University – Occupational Health & Safety Policy*.

Annual HS program reports provide necessary information to the CO to provide systemwide oversight to campuses.

RECOMMENDATION

We recommend that the campus annually prepare and submit an HS program report to the CO.

MANAGEMENT RESPONSE

We concur. The campus will annually prepare and submit an HS program report to the CO.

The anticipated completion date is December 1, 2019.

GENERAL INFORMATION

BACKGROUND

California state regulations require all employers, including the California State University (CSU), to provide a safe and healthy work environment. Each campus has a designated EHS program administrator that is responsible for developing and maintaining a campus HS program.

All CSU campuses purchase HAZMAT for both instructional and research purposes, most prominently in colleges that focus on the sciences, fine arts, and liberal arts. In addition, campus maintenance departments such as custodial services, facilities, and auto shops may use materials that are known to have properties that are harmful to humans and the environment. Nearly all of the areas that use HAZMAT generate HAZWASTE that is subject to strict regulations for safe and proper storage, transport, and disposal.

California regulations relating to HS are primarily codified in the California *Health and Safety Code* and in Titles 8 and 22 of the CCR. California's Division of Occupational Safety and Health (Cal/OSHA) is primarily responsible for the enforcement of the state's occupational HS laws and regulations. Title 8 of the CCR addresses HAZMAT safety, including, but not limited to, training, communication, storage, and safety. Specific to laboratory environments, the *Occupational Exposure to Hazardous Chemicals in Laboratories* standard (8 CCR §5191) requires that the employer designate a CHO and have a written CHP that includes, among other things, provisions for worker training, criteria for the use of PPE and engineering controls, and standard operating procedures for handling HAZMAT. Title 22 of the CCR addresses HAZMAT waste management.

The primary CSU HS policy is EO 1039, *Occupational Health and Safety*. This policy requires campuses to develop, implement, and maintain a HS program and also addresses student HS training. EO 1069, *Risk Management and Public Safety*, delegates systemwide administration oversight and programmatic responsibility for environmental HS to Systemwide Risk Management.

At California State University, Long Beach (CSULB), the responsibility for establishing and maintaining the campus IIPP and effective EHS programs is delegated to the director of EHS, who reports to the associate vice president of physical planning and facilities management, who then reports to the vice president of administration and finance and chief financial officer. EHS oversees the EHS programs on campus; works to promote environmental stewardship; protects the HS of CSULB faculty, staff, and students; and provides technical expertise and support through the development of EHS programs, training, and consultations.

In 2017, due to HS concerns at two CSU campuses, the Joint Legislative Audit Committee directed the California State Auditor (CSA) to review HS compliance at four campuses (Channel Islands, Sacramento, San Diego, and Sonoma), as well as oversight by the CO. The review noted several issues, including observations relating to the annual evaluation of chemical plans; monitoring and documenting of student and employee HS training; and consistent and timely inspections of safety equipment. Based on the nature and trends of the observations noted in the CSA review, Audit and Advisory Services informed the Board of Trustees that it would perform reviews at all CSU campuses in 2019.

SCOPE

We visited the CSULB campus from April 8, 2019, through May 24, 2019. Our audit and evaluation included the audit tests we considered necessary in determining whether operational and administrative controls are in place and operative. The audit focused on procedures in effect from January 1, 2016, through May 24, 2019.

Specifically, we reviewed and tested:

- Oversight and administration of the campus HS program, including clearly defined roles and responsibilities; appropriate safety and chemical committees; departmental self-audits and monitoring practices; and current policies and procedures.
- The adequacy and availability of safety equipment, including evaluation of the chemical hygiene plan; provision of personal protective equipment; and regular inspections and monitoring of key safeguards and engineering controls.
- Proper storage and safety of hazardous materials, including procurement; maintenance of accurate inventories; appropriate labeling and storage practices; and access controls.
- Communications and training processes, including evaluation of the hazard communication plan; availability of material safety data sheets; asbestos notifications and signage; and documentation and monitoring of student and employee training.
- Whether appropriate safety programs were in place, when applicable, for radiation sources; laser safety; bloodborne pathogens; respiratory protection; and spill containment.
- Appropriate identification, storage, and monitoring of accumulated hazardous waste.

As a result of changing conditions and the degree of compliance with procedures, the effectiveness of controls changes over time. Specific limitations that may hinder the effectiveness of an otherwise adequate system of controls include, but are not limited to, resource constraints, faulty judgments, unintentional errors, circumvention by collusion, and management overrides. Establishing controls that would prevent all these limitations would not be cost-effective; moreover, an audit may not always detect these limitations.

Our testing and methodology, which was designed to provide a review of key operational and administrative controls, included interviews, walkthroughs, and detailed testing on certain aspects of the HS program. The review was limited to gaining reasonable assurance that essential elements of the HS program were in place and did not examine all aspects of the program.

CRITERIA

Our audit was based upon standards as set forth in federal and state regulations and guidance; Trustee policy; Office of the Chancellor directives; and campus procedures; as well as sound administrative practices and consideration of the potential impact of significant risks. This audit was conducted in conformance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*.

This review emphasized, but was not limited to, compliance with:

- ANSI Z136.1, *Safe Use of Lasers*
- 10 Code of Federal Regulations (CFR) Part 20, *Standards for Protection Against Radiation*
- 29 CFR Part 1910, *Occupational Safety and Health Standards*
- California HSC Division 20, *Miscellaneous Health and Safety Provisions*
- CCR Title 8, *Industrial Relations*
- CCR Title 17, *Public Health*
- CCR Title 19, *Public Safety*
- CCR Title 22, Division 4.5, *Environmental Health Standards for the Management of Hazardous Waste*
- EO 1031, *Systemwide Records/Information Retention and Disposition Schedules Implementation*
- EO 1039, *California State University - Occupational Health & Safety Policy*
- EO 1069, *Risk Management and Public Safety*
- EO 943, *Policy on University Health Services*
- Collective Bargaining Agreement, Unit 6, Article 28, *Health and Safety*
- CSULB *Asbestos Management Plan*
- CSULB *Biosafety Executive Order*
- CSULB *Employee Medical Monitoring Program*
- CSULB *Exposure Control Plan*
- CSULB *Hazard Communication Program*
- CSULB *Hazardous Goods Policy*
- CSULB *Hazardous Materials Contingency Plan*
- CSULB *Injury and Illness Prevention Program*
- CSULB *Personal Protective Equipment Program*
- CSULB *Radiation Safety Manual*
- CSULB *Respiratory Protection Program*
- CSULB CNSM *Chemical Hygiene Plan*
- CSULB CNSM *Laser Safety Program*
- CSULB CNSM *Safety Program Manual*
- CSULB COE *Chemical Hygiene Plan*

AUDIT TEAM

Audit Manager: Jennifer Rethwisch
 Senior Auditor: Laura Vazquez