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##### FACILITIES MANAGEMENT

MAINTENANCE & ALTERATIONS

##### KEY SECURITY

AUDIT REPORT #20-2004

##### Audit & Advisory Services

April 2020

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# Background

## In accordance with the UCLA Administration fiscal year 2019-20 audit plan, Audit & Advisory Services (A&AS) conducted an audit of internal controls and procedures associated with key maintenance and security administered by the Maintenance & Alterations division within the Facilities Management (FM) department.

Within FM’s Maintenance & Alterations division, the Hardware Shop (aka Key Shop) is responsible for key administration. This includes creating keying systems, maintaining up-to-date keying systems and master key ring (MKR) records, fabricating and issuing keys, and performing lock work. The purpose of key security is to provide optimal physical security, safety and reasonable convenience for building occupants, effective control of campus facilities, and protection of University assets.

Within a typical master keying system group, there can be up to 7,500 different key cut combinations made within that group. The group contains a master key and sub-master keys. The sub-master keys open a subset of the master key’s group. When off-master keys are approved and issued, the master and sub-master keys will not open those locks. However, there is a super-master that will open all locks within a group. Super-master keys are never issued and are maintained by FM personnel under stringent physical security measures.

Master key systems are utilized for several reasons including convenience, organizational efficiency, theft deterrence, and limiting access.

Master keys allow authorized individuals to use one key instead of sorting through multiple keys, to gain access to multiple spaces or a pre-determined set of spaces within a facility. Master keying also provides management information as to who has access to spaces at each facility.

The Hardware Shop uses a printed card system and electronic information for tracking and monitoring the issuance and return of MKRs, and other specific keys. The primary control is the printed card system on which the key and key ring numbers, employee name and signature, and date of issuance and return are recorded. When keys are returned, it is documented on the face of the card with the date of return, and the employee signature. The electronic key tracking and monitoring information consists of spreadsheets containing “keys in circulation” and “keys returned” data. The electronic data provides convenient search functionality and is used in conjunction with the printed card system.

## Purpose and Scope

The primary purpose of the review was to ensure that Maintenance & Alterations’ organizational structure and controls, and the related systems and procedures surrounding key security are conducive to accomplishing its business objectives. Where applicable, compliance with campus and University policies and procedures was also evaluated.

The scope of the audit focused on the following areas:

* Issuances and Returns
* Key Inventory
* Tracking and Monitoring
* Key Scrap Administration

The review was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing* and included interviews, tests, and other procedures considered necessary to achieve the objective.

#### Summary Opinion

Based on the results of the work performed within the scope of the audit, Maintenance & Alterations organizational structure and controls are generally conducive to accomplishing its business objectives related to key security. However, controls and business practices could be further strengthened by implementing the following:

*Off-Master Key Requests*

* Management should develop and implement written Hardware Shop standard operating procedures (SOPs) that outline the procedural steps to administer off-master key requests. The procedures should include but not be limited to matching the off-master key requestor’s name to the key control coordinator information in SpaceWeb.

*Master Key Ring Issuance*

* Management should develop and implement written Hardware Shop SOPs that outline the procedural steps governing MKR issuances. Management should also consider creating a departmental email folder to track and maintain all master key ring requests for campus staff working outside of the FM’s Maintenance & Alterations division.

*Key Return Notification and Physical Return*

* Management should develop and implement a written Hardware Shop SOP that details the procedures necessary for key returns to be processed. This procedure should include updating the printed key cards and electronic key “in-circulation” and “returned” lists; completion of the key return receipt forms; and the appropriate retention and maintenance of the data and documentation for internal control purposes. Additionally, the Hardware Shop should collaborate with FM Human Resources to ensure timely written notification is transmitted to Hardware Shop management to facilitate the timely return of keys.

*Key Scrap*

* Management should develop and implement written SOPs to ensure proper administration of Hardware Shop scrap. The procedures should cover the entire life cycle of the scrap – beginning with the Hardware Shop and concluding with the deposit of the scrap recycling vendor’s remittance.

The audit results and corresponding recommendations are detailed in the following sections of the report.

Audit Results and Recommendations

Key Issuances

Sample Selection – Issuances

Hardware Shop management provided its electronic “keys in circulation” listing, as of August 5, 2019. This data was reconciled to payroll data to determine whether listed employees are currently active within the noted department. The listing includes over 900 line items and contains employee name and university identification number (UID), cost center, and issued MKR identification numbers. From the issuance list, a judgmental sample of 35 items was selected for audit testing.

There were no significant control weakness noted in this area.

Key Requests

Interviews were conducted with the Hardware Shop’s supervising locksmith to obtain an overview of controls governing the requests for MKRs, take home keys, and off-master keys. UCLA Policy 825, *Key Administration and Control*, UCLA Procedure 825.1, *Building Entrance Keying and Control*, and FM’s MKR Guidelines were reviewed to obtain an understanding of existing requirements.

The Hardware Shop issues MKRs to FM staff based on their job responsibilities. Individuals on official business from outside of FM who request keys must provide properly approved written justification prior to obtaining keys. For the selected issuance test items, job descriptions were evaluated to verify that the FM employee’s responsibilities required an MKR. Where the selected test item was for an employee outside of FM, written justifications were obtained from Hardware Shop management and examined to verify that an appropriate approval and justification were received prior to the issuance of the keys.

Take home keys are those that allow authorized FM staff to access the FM building at the beginning of a normal business day or for official required entry during off hours. A sample of five recent take home key requests was provided by Hardware Shop Management for audit review. These requests were reviewed to verify that the individual requesting take home keys for FM staff was appropriate based on their supervisory job title. For off-master key requests, current Hardware Shop procedures were assessed for adequacy and consistency with UCLA Policy 825 and UCLA Procedure 825.1. Within the issuance sample selected earlier, 10 were for various off-master key requests for services such as: changing a current off-master lock to a different off-master lock; replacing an on-master lock with an off-master lock; and fabricating extra keys for an existing off-master lock. For each of the 10 items tested, A&AS reviewed documentation to verify proper approval and appropriate written justification were obtained prior to the fulfillment of the request per UCLA Policy 825 and UCLA Procedure 825.1. Audit testing was also performed to verify the off-master key requestor’s name matched the authorized person listed in FM’s SpaceWeb space inventory database as having authority to change access to a building or room. SpaceWeb is a comprehensive database inventory of building space occupied by UCLA programs, including off campus and residential properties.

1. Off-master Key Requests

Off-master key ring requestors’ names do not always match the key coordinator name in the SpaceWeb system. Of the 10 items tested, three key requestor’s names did not match the key coordinator name in the SpaceWeb system. UCLA Policy 825 provides that building entrance/department key control coordinators will provide FM with a list identifying individuals in each department who are authorized to request keys. The building entrance/department key control coordinator provides the Hardware Shop with the names of persons authorized to request keys via the SpaceWeb system. By not matching each requestor’s name to the corresponding key coordinator name in SpaceWeb, off-master keys could be issued to unauthorized persons, and University assets that are secured by those keys are at risk of loss.

Recommendation: Management should develop and implement written Hardware Shop SOPs that outline the procedural steps to administer off-master key requests. The procedures should include but not be limited to matching the off-master key requestor’s name to the key control coordinator information in SpaceWeb.

Response: Agree. A standard operating procedure will be developed.

1. Master Key Ring Issuance

The Hardware Shop was unable to provide documentation of proper approval and appropriate justification for three MKRs issued to employees that work outside of FM. UCLA Policy 825 provides that for additional or replacement keys, a Facilities Service Request (FSR) with the proper signature authorization is required from the Department Head or his/her designee. UCLA Procedure 825.1 provides that a request for such a key issuance require an appropriate written justification.

By not maintaining documentation of proper approval and appropriate justification for the issuance of MKRs to campus staff outside of FM, an adequate audit trail is not maintained, and University assets that are secured by those keys are at risk of loss.

Recommendation: Management should develop and implement written Hardware Shop SOPs that outline procedural steps governing MKR issuances. These procedures should include identifying the various types of MKR requestors that are required to have proper approval and appropriate written justification. Additionally, management should consider creating a departmental email folder to track and maintain all master key ring requests for campus staff outside of the FM Maintenance & Alterations division.

Response: Agree. A standard operating procedure and an email folder to track requests will be developed.

Key Pick-up and Delivery

A&AS held discussions with Hardware Shop management to gain an understanding of how keys are distributed to the requesting clients. Clients have the option of having their keys delivered by an authorized FM courier or of picking them up. For clients that opt to have their keys delivered, the FSR for the keys is attached to a Hardware Shop delivery tracking form. These forms contain relevant information such as the person authorized to sign for the keys, delivery location, FM courier’s name, and signature lines for the courier and authorized client representative. The courier observes the client representative’s UID upon delivery. A sample of 10 recently completed Hardware Shop delivery tracking forms were examined to verify their completeness. All tested items were found to be properly completed and in good order.

To evaluate the process for those clients that opt to pick-up their keys, A&AS examined the Hardware Shop’s key sign-out log to assess for adequacy and completeness. Generally, the same protocol is followed when a client picks-up keys at the Hardware Shop – the work order is reviewed to identify the client’s authorized representative that can sign for keys; the client representative presents their UID to Hardware Shop staff to verify their identity; and then the log is signed by the representative to evidence their receipt of the keys. Recently completed key sign-out log entries were observed to verify completeness. All observed items were found to be properly completed and in good order.

There were no significant control weakness noted in this area.

Key Returns

Sample Selection – Returns

Hardware Shop management provided A&AS personnel with electronic data on returned keys, as of August 5, 2019. This data was reconciled to separated employee payroll data for the period July 1, 2018, to August 21, 2019, to identify separated employees that should have returned their keys upon separating from the university. Based on this reconciliation of returned key data with separated employee data, 10 items were identified for audit testing. Additionally, the key issuance testing discussed later in this report yielded an additional five items for testing because some returned keys were still being reported as “in-circulation” in the electronic data. As a result, A&AS was able to perform audit testing on a total of 15 “returned key” items.

Key Return Notification and Physical Return

For the selected test items, A&AS compared the verified separation dates with the dates contained in the key “in-circulation” and “key returned” electronic data. This test was conducted to verify the accuracy of the electronic data provided by the Hardware Shop.

Since the primary internal control for key returns is the printed card system, the printed key card data for each selected return test item was reconciled to the electronic “key returned” data to verify whether they match. Audit testing was also performed to determine whether Hardware Shop key receipt forms were properly completed and maintained upon return of keys.

Master Key Ring Returns

Master key rings and other issued keys are not always returned on a timely basis upon employee separation from FM. Of the 15 items tested, the following were identified:

* Six returned items were not recorded on the electronic “returns” list.
* Eight returned items were still recorded on the electronic “in circulation” list.
* Three returned items were not recorded on the printed key card.
* One returned item was immediately reissued but not recorded as reissued on the printed key card.
* Six returned items did not have completed key return receipt forms.
* Five items were not returned on a timely basis.

It should be noted that the Hardware Shop relies on FM’s Human Resources to receive timely notification of an employee separation for whom keys have been issued. By not maintaining accurate and timely key return data and forms, misuse of the unreturned keys may occur, and University assets that are secured by those keys are at risk of loss.

Recommendation: Management should develop and implement a written Hardware Shop SOP that details the procedures necessary for key returns to be processed. The procedure should include updating the printed key cards and electronic key “in-circulation” and “returned” lists, completion of the key return receipt forms, and the appropriate retention and maintenance of the data and documentation for internal control purposes. Additionally, the Hardware Shop should collaborate with FM Human Resources to ensure timely written notification is transmitted to Hardware Shop management to facilitate the timely return of keys.

Response: Agree. A standard operating procedure will be developed. M&A management has contacted FM Human Resources and they have agreed to explore how Hardware Shop personnel could be informed when an FM employee is about to leave FM’s employment.

Key Inventory

Discussions with Hardware Shop management were conducted to strengthen our understanding of master key ring inventory processes and procedures, including periodic shop audits of MKRs and other keys. The most recent MKR shop audit was coordinated between the Hardware Shop and FM management and staff to ensure the daily workflow was not interrupted. The MKR audit covered over 600 MKRs, was completed over a two-year period (2015-2017), and included physical observation of each key by its identification number on the related key ring. An FM MKR inventory audit checklist form is used to account for every key on each MKR being audited. Ongoing MKR and key inventory is controlled by a printed key card system and corresponding electronic spreadsheets that contain various supporting data such as employee name, UID, cost center, etc. A&AS determined that the Hardware Shop’s inventory practices over MKRs and keys provide adequate safeguards against loss.

There were no significant control weaknesses noted in this area.

Tracking and Monitoring

A&AS performed an analysis of both the printed key card system and electronic information used by the Hardware Shop for tracking and monitoring the issuance and return of keys. The printed information is the primary tracking and monitoring internal control for key administration. This information is maintained on issuance cards, which are 5” x 7” card stock. Key issuance and return cards show the key ring number, cost center, employee name, specific key numbers on the key ring, and the employee's initials acknowledging receipt for each key. The employee signature and UID, and the date of issuance are also recorded on the issuance card. When keys are returned, pertinent information is documented on the face of the card, such as the date of return, employee printed name and signature, employee contact information, and reason for turning in the keys.

The electronic key tracking and monitoring information is maintained within an Excel spreadsheet workbook. There are two worksheets in the workbook: “in circulation” and “returned.” The listing is organized by cost center and includes over 900 line items, each containing one or more MKR identification numbers for issued MKRs. The card system is used in conjunction with the tracking data on the spreadsheet. The cards and the electronic information should mirror each other such that when an update is made to either, the other should receive the same update, etc.

Tracking and Monitoring – Keys issued

Documentation of master key rings and other issued keys was examined to determine whether key status is monitored and records are maintained on a current basis. Based on A&AS review of 35 sample items tested, the following were identified:

* Six keys were returned but still reported on the “in-circulation list.”
* Five separated employees are still reported on “in-circulation list.”
* Three data entry errors were noted with employee UIDs.
* One unknown person that was unable to be identified via historical data.

Additionally, a subsequent review of the remaining key issuance data on the “in-circulation list” that was separate from the 35-item test sample disclosed the following:

* Twenty-seven employees either had no UID, or had missing or too many digits listed in their UID.
* Four employees had no cost center associated with them.

UCLA Policy 825 provides that the Hardware Shop is responsible for maintaining up-to-date records of master keys issued to other departments as well as the central key control files. By not maintaining a comprehensive and current "in-circulation” listing; the validity, accuracy, and reliability of key issuance records is diminished. Moreover, University assets that are secured by those keys are at greater risk of loss.

Recommendation: Management should develop and implement a written Hardware Shop SOP that outlines the steps necessary for when keys are issued or returned. This procedure should include updating the electronic key “in-circulation” and “returned” lists, and the appropriate data maintenance and preservation of documentation for internal control purposes.

Response: Agree. A standard operating procedure will be developed.

Key Scrap Administration

Interviews were conducted with the Hardware Shop’s supervising locksmith. Since the prior key security review was conducted in 2015, A&AS determined that FM’s Custodial & Grounds division (Grounds) now administers and controls key scrap via a blanket work order with the Hardware Shop. Therefore, additional discussions were held with the Superintendent of FM’s Grounds division. Grounds personnel picks-up the scrap from the Hardware Shop and processes it through an authorized scrap recycling vendor. The vendor collects the scrap from the Grounds division, weighs it, and then pays the current rate per pound.

Key Scrap

There are no documented standard operating procedures to ensure proper administration of Hardware Shop scrap. There are two types of Hardware Shop scrap: key scrap (which consists of solid brass, actual keys that no longer work, those that were mis-cut, or those from locks that are no longer in service); and other metal scrap consisting of old locks, door hardware, etc. The key scrap is maintained in the shop in a round, heavy duty blue bin. This blue metal bin fits inside a 55-gallon trash can which is kept on a dolly with wheels for ease of transport.

The Key Shop contacts Grounds personnel about twice per year to pick-up the key scrap and transport it to an FM parking area where both types of scrap are co-mingled and stored in a six-foot bin to await pick up by the designated recycling vendor. As a result of co-mingling the scrap, the university receives less value per pound than if the brass was recycled separately.

Although the area is monitored by security cameras, the scrap is not transported to the parking area under dual custody, and there is no documentation maintained showing the transfer of scrap from the custody of Key Shop to Grounds personnel. It is unknown whether Grounds personnel have received adequate training for their role and responsibilities related to the handling of key scrap. Additionally, due to the weight of the scrap (potentially a few hundred pounds if the bin is full), FM staff could be at risk for injury from lifting and transferring the scrap into the bin.

Standard operating procedures provide guidance for employees that covers accountability, responsibilities, and makes supervision easier by clarifying management expectations. Without formal documented standard operating procedures directing key scrap work practices, efficiency and effectiveness of scrap recycling may be affected, and the risk for employee injury may be increased. Additionally, necessary knowledge could be at risk of loss in the event of staff attrition and/or separation.

Recommendation: Management should develop and implement written SOPs to ensure proper administration of Hardware Shop scrap. The procedures should cover the entire life cycle of the scrap – beginning with the Hardware Shop and concluding with the deposit of the scrap recycling vendor’s remittance. The procedures should include the following:

* Safety
* Staff Roles and Responsibilities
* Separation of Duties
* Dual Custody / Transfer of Accountability
* Recycling Best Practices
* Maintaining an Adequate Audit Trail

Response: Agree. A standard operating procedure will be developed.

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