

The logo for UC Irvine, featuring the letters 'UC' in a large, bold, serif font, followed by 'IRVINE' in a smaller, all-caps, serif font. A vertical line separates the 'UC' from 'IRVINE'.The logo for Internal Audit Services, featuring the words 'INTERNAL' and 'AUDIT SERVICES' stacked vertically in an all-caps, serif font.

Student Housing
Physical Security Audit
Internal Audit Report No. I2020-109
February 7, 2020

Prepared By

Julie Chung, Senior Auditor

Reviewed By

Helen Templin, Principal Auditor

Approved By

Mike Bathke, Director



INTERNAL AUDIT SERVICES
IRVINE, CALIFORNIA 92697-3625

February 7, 2020

**TIMOTHY TREVAN
EXECUTIVE DIRECTOR
STUDENT HOUSING**

**Re: Student Housing Physical Security Audit
No. I2020-109**

Internal Audit Services has completed the review of the Student Housing Physical Security and the final report is attached.

We extend our gratitude and appreciation to all personnel with whom we had contact while conducting our review. If you have any questions or require additional assistance, please do not hesitate to contact me.

Mike Bathke

Mike Bathke
Director
UC Irvine Internal Audit Services

Attachment

C: Audit Committee

I. MANAGEMENT SUMMARY

In accordance with the fiscal year (FY) 2019-2020 audit plan, Internal Audit Services (IAS) reviewed the UC Irvine (UCI) Student Housing (SH) policies on key controls in addition to the procedures and processes for the inventory and management of University keys. The review identified that procedures, processes, and internal controls were not established and implemented to minimize business risks, promote best business practices, or ensure compliance with University policies. The following observations were noted.

University Policy – Key SH management and designated staff in all six on-campus housing communities who were assigned key administrator duties and responsibilities were not aware of the University policy on key control which was last revised in July 2012. In addition, the current directors in each of the six on-campus housing communities, some who hold responsibilities in establishing the SH internal key control policies, were not aware that the University policy was revised and has been in effect since July 2012. Details related to this observation is provided in section V.1.

Policy Requirements – All housing communities did not maintain a record of all Great Grand Master and Grand Master keys as required by policy. A physical inventory of keys issued to staff and student residents was not performed and/or not documented as required by policy. The proper key use form issued along with the University policy was not completed by staff as of July 2012. In addition, the key use forms were not completed by required staff, or were not properly completed or in a timely manner. Also, key retrievals were not documented on the key use form when staff transferred to another department or separated from the University. Furthermore, University keys that were no longer used or needed were not returned to the Facilities Management Lock Shop as required by policy. Further details related to these observations are provided in section V.2.

SH Internal Key Policy – Key SH management and designated staff in four housing communities, who were assigned key administrator duties and responsibilities, were not aware of the SH internal policy on key control although the newly revised policy was issued in July 2019. Also, the internal policy did not address, provide details, or outline procedures to ensure consistencies in handling and documenting lock out fees, lost key charges, or key use forms. In addition,

key controls for subleases was not addressed in the internal policy. Details related to these observations are provided in section V.3.

KeyTrak – Four of the six housing communities did not perform an audit in KeyTrak at the end of each business day as required. For example, several key fobs checked out in 2014, 2017, and 2018 had not been returned to KeyTrak according to KeyTrak reports. The housing communities also did not document their audits and/or note explanations to account for the missing keys. In addition, user access to KeyTrak was not deleted upon transfer or separation, or entered properly in order to determine users' identities. Further details related to these observations are provided in section V.4.

II. BACKGROUND

On the UCI campus, SH manages and operates six student housing communities, which includes two residence halls and four apartment complexes that are tailored to meet the needs of a diverse student population. Currently, SH offers housing to over 9,000 single undergraduates and graduate students as well as students who are married, in a domestic partnership, or living with children.

In SH, the director in each of the six student housing community oversees the facilities, residence life, and business/finance operations. In addition, through collaboration with campus partners, UCI Police Department (UCIPD), and Facilities Management, the directors are responsible for addressing student safety and welfare issues to provide a safe and secure living environment and learning experience for its resident students as well as SH staff.

III. PURPOSE, SCOPE, AND OBJECTIVES

The purpose of this audit was to review SH practices and processes related to UCI and SH policies on key control and access to campus facilities and residential housing and to assess the internal controls that have been implemented to minimize risks to the University. For testing purposes, the following objectives and scope were established.

1. Determine if appropriate procedures and processes have been established and implemented to ensure compliance with University policy requirements in the six housing communities.
2. Determine and review if appropriate/detailed procedures and processes were established and implemented to ensure or promote proper and consistent access controls in KeyTrak throughout the six housing communities.
3. Determine if appropriate/detailed procedures and processes were established in the SH internal policy on key control to ensure proper implementation and to promote consistent business practices throughout six housing communities.

IV. CONCLUSION

The review found that the SH internal policy and key control management, practices, and procedures were not fully and consistently established and implemented to minimize security risks or ensure compliance with University policy. Opportunities for improvement were noted in the areas of establishing and implementing appropriate and detailed key control procedures and processes in the SH internal policy (a) to ensure University policy compliance and awareness, (b) to properly manage access control in KeyTrak, and (c) to promote consistent business practices in all six housing communities.

Observation details were discussed with management, who formulated action plans to address the issues. These details are presented below.

V. OBSERVATIONS AND MANAGEMENT ACTION PLANS

1. University Policy

Background

In July 2012, the revised University policy on key control and access to campus facilities along with the updated key issuance form were issued. The policy was established to ensure the security of campus personnel and students on

campus as well as outline the controls implemented by Facilities Management and the UCIPD to regulate the possession and use of keys to all campus doors and gates, including cabinets, originally keyed through the Facilities Management Lock Shop.

Observation

IAS conducted several interviews and found that key SH management and staff were not aware of the University policy on key control and access to campus facilities although the policy was last revised in July 2012. Key SH management and staff include the following:

- SH Director of Capital Projects and Asset Management, who shares responsibilities for ensuring building security prior to and during building construction, and who has held the position since March 2005, and;
- Designated SH staff in all six on-campus housing communities who were assigned key administrator duties and responsibilities.

In addition, the current directors in each of the six housing communities, some who also hold responsibilities in establishing the SH internal key control policies, were not aware that the University key control policy had been revised and in effect since July 2012. During the review, IAS found that SH management had been referring to an outdated version from August 1997 in current business procedures and practices.

Management Action Plan

By November 30, 2020, SH will schedule a meeting with the Security Infrastructure Program Manager in Facilities Management and UCIPD in order to gain a better understanding of the University Policy for Key Control and Access to Campus Facilities. In addition, SH management will share the current University and internal policies with all appropriate SH staff.

2. Policy Requirements

Background

The University policy on key control established several responsibilities to departments and units assigned space in a building or facility on campus. These include, but are not limited to:

- A. A record must be kept of all Great Grand Master and Grand Master keys that have been checked out and a copy sent to the Facilities Management Lock Shop;
- B. Departments/units must recover all keys from employees separating from the University or who are transferring to another department/unit and from other key holders who no longer require access;
- C. Individuals issued University keys are responsible for their possession. A lost or stolen key must be reported immediately to the issuing department/unit;
- D. Records will document the key number, name of recipient, date of issue, and date of return or loss for every key issued to the department/unit. This information will be recorded on the Key Use Authorization & Acceptance and Use Agreement or facsimile, which requires the signature of the authorized administrator as well as the individual receiving the key. Records should be audited annually, and;
- E. University keys are the property of the University of California and may be recovered at any time. Keys no longer needed should be returned to the Facilities Management Lock Shop.

Observation

IAS performed a detailed review in each of the six housing communities to determine if they complied with University policy requirements. The review disclosed the following observations.

- A. Facilities Management Lock Shop stated that they did not have records of all Great Grand Master and Grand Master keys in SH. In addition, the housing communities did not maintain historical records of Master, Change, and Building Entrance keys requested from and received from Facilities Management Lock Shop. Therefore, IAS could not determine if keys issued to staff were properly accounted for and accurately recorded.
- B. Review of key retrievals documented on the key use form in the six communities disclosed the following exceptions for employees that separated during fiscal year 2018 – 2019.
- Key retrievals were not documented at all on the key use forms for some employees.
 - The return of some, but not all, keys issued to some employees were documented with no explanations for keys that were not retrieved.
 - Key retrievals were not properly documented with the keyholders' initial and date.
 - In one housing community, the key use forms for five recently separated employees were not on file because the forms were shredded, which is also a violation of the University policy on record retention in addition to not documenting key retrievals.
- C. Although the loss of residents' keys were recorded in all housing communities, loss of staff keys were not documented and/or reported as required by policy except in one housing community. For example, one housing community management did not document details of Master keys which could not be accounted for and were missing for two weeks. In addition, it should be noted that the loss of Master keys was not reported to Facilities Management Lock Shop as required by policy. It should also be noted that due to lack of documentation in the other housing communities, IAS was not able to determine if the loss of keys was reported to management in a timely manner.
- D. IAS noted that several different versions of the staff and resident key use forms were used in all six housing communities over the past seven or more

years and were not a facsimile of the form issued along with the revised policy in July 2012 or the most current form issued by the policyholder in March 2016 because some or all of the following information was not required or documented on the key use forms currently used.

- Signature and date of the keyholder's supervisor authorizing issuance of keys to employees.
- California Penal Code 469: "Any person who knowingly makes, duplicates, causes to be duplicated, or uses or attempts to make, duplicate, cause to be duplicated, used, or has in his possession any key to a building or other area owned, operated, or controlled by the State of California ... or any state agency ... without authorization from the person in charge of such building or area or his designated representative, and with knowledge of the lack such authorization is guilty of a misdemeanor."
- University Grand Master and Great Grand Master keys will not be taken off campus except as required by official University business, otherwise such keys will be secured at all times.
- Theft or Loss of University keys/access cards will be reported to a department/unit supervisor immediately.
- Upon separation from the University all assigned key(s)/access card(s) will be returned to the department/unit.
- In the event the undersigned fails to return assigned key(s), the undersigned agrees that a key replacement fee of \$40.00 will be assessed by the University for each key not returned. Additional fees will be assessed for the rekeying of all locks associated with the assigned key(s).
- The undersigned agrees that failure to reimburse the University for any fees assessed related to the loss and or not returning key(s) will result in a hold being placed on transcript requests.
- Finance Analyst Approval for additional keys sold to residents.

In addition, although five of the six housing community management stated that a physical inventory of keys issued to staff and documented on the key use forms is performed once a year or every other year in compliance with policy requirements which states that records “should be audited annually,” IAS was not able to verify the performance of these audits because the physical inventories were not documented. It should also be noted that only one community performed a physical inventory of all University keys, including keys issued to student residents, whereas the other communities only perform a physical inventory when student residents moved out.

Furthermore, IAS noted that the key use forms were not completed by some staff although they were issued University keys or were not completed properly, and/or in a timely manner. The following is a summary of observations.

- Three housing communities did not properly maintain records; testwork disclosed that staff who were issued keys did not complete a key use form. Two of the three housing community management stated that they could not account for all key use forms completed by their staff. For example, one stated that in Spring 2019, they could not locate any of the key use forms completed by its staff. Although new key use forms were completed, IAS noted that the forms were completed well after Spring quarter, on September 3, 2019 or August 29, 2019, during the course of the audit. For one of the two housing communities, ten staff (hired from 2004 to present) were randomly selected for review and IAS found that only five staff members completed the key use forms. In addition, IAS noted that student residents in one of the two communities were not required to complete a key use form.
- Required information such as the keyholder’s last name, or signature and/or initials, or issuance dates were not documented.
- An individual other than the keyholder initialed and dated for keys that were issued to the keyholder.
- Each key issued to a keyholder was not itemized on the form; instead “set of keys stored in KeyTrak” was noted.

- The key use form was not completed in a timely manner. Keys were issued to an employee in October 2005, but the employee signed and dated the form in January 2006.
 - IAS noted question marks on key use forms or notations on the forms were crossed out, but explanations or notes were not documented.
 - IAS also noted that some staff had completed two or more forms over the years with different sets of keys issued to them without explanations or notes documenting that keys were returned, additional keys were issued, or that an indication of a physical inventory or a reconciliation of keys was performed.
- E. In two housing communities, keys no longer needed were not returned to the Facilities Management Lock Shop as required by policy, but instead were stored at the housing office over several years. In addition, one staff who held key administrator duties in two housing communities stated that he had broken and disposed of University keys that were no longer used at his home.

Management Action Plan

By April 30, 2020, SH will establish and implement consistent key control practices in all housing communities to properly track all keys issued to staff and student residents.

3. Student Housing Internal Key Policy

Background

In the University key policy, it states that each department is responsible for establishing key control. In compliance with this policy, SH management last revised and issued their internal key policy in July 2019.

Observation

IAS reviewed the internal policy and observed the current business practices in the six housing communities to determine whether the policy was complete

and detailed to ensure a consistent and proper implementation of the internal key policy requirements. The following is a summary of the observations.

- Although this policy was formerly issued in July 2019, during interviews with directors, management, and staff with designated key administrator duties and responsibilities, IAS noted inconsistencies in their responses when asked about the newly issued policy. Only two directors understood that the policy was issued or officially released and forwarded the revised policy to appropriate staff. In the four other communities, the directors stated that it was their understanding that the policy was still a work in progress and did not forward the revised policy to appropriate staff. Therefore, IAS noted that in some housing communities, outdated versions of the internal policy, revised in either 2011 or 2013, was filed in the shared drive or with the key use forms completed by staff.
- As a resource, the newly revised policy did not cite the current University key policy, 902-14, which was last revised in July 2012, but instead cited the previous policy, 902-11, which was revised in August 1997, which has since been rescinded and replaced by policy 902-14.
- IAS observed business practices in various aspects in the key control processes and noted several inconsistencies among the six housing communities. The policy appeared to be a work in progress did not address, provide details, or outline procedures to ensure consistencies in handling and documenting lock out fees, lost key charges, or key use forms. For example, the policy did not mention lock out fees or establish procedures and processes. Therefore, the amount charged for lock out fees varied during and after the housing office business hours. Also, the housing office business hours and the lock out forms were different in each community. In addition, IAS noted that the amount charged for lost keys and the forms used to document charges varied by community. In completing the key use forms, IAS also noted that some, but not all, communities required documentation of all issued keys, including cabinet file keys, on the key use form.
- IAS also noted that in three communities, some residents subleased their rooms or apartments. However, key controls for subleases was not addressed in the policy. IAS recommends that SH management contact the

Risk Management office to identify, assess, and mitigate risks associated with subleases and prepare management responses to subleases.

- Lastly, IAS noted that the current policy did not include appropriate oversight and monitoring to ensure that newly established practices and processes are implemented properly and in a timely manner.

Management Action Plan

By November 30, 2020, SH will review and revise the three separate P4 documents to establish one P4 Document that establishes a complete standardized key policy for both hard and electronic keys. In addition, SH will work with the Risk Management office to identify, assess, and mitigate risks associated with subleases and prepare appropriate management actions in regard to subleases.

4. KeyTrak

Background

Each housing community purchased and uses different versions of KeyTrak. KeyTrak is a key control system with industry-specific software and multiple drawer sizes and configurations; a system designed for businesses to effectively and efficiently control keys, assets, and personnel. It utilizes a computerized locking steel drawer and iButton key tag technology, eliminating the need to scan a tag or make a log entry when completing a transaction. During checkout, the selected key will light up so one can quickly locate it. The moment a key is removed from the drawer, a verifiable audit trail is automatically created, minimizing risks from loss.

Observation

Each of the six housing communities uses different KeyTrak systems which were also installed with different software versions. The scope for the KeyTrak review in the six housing communities was limited to access and safeguards. The following is a summary of the review observations.

Key Audit

Each housing community management stated that it was their daily practice to run a “tags out” report in KeyTrak at the end of the business day in order to identify key(s) that have not been returned and follow up with the keyholder to account for the key(s) stored in KeyTrak in a timely manner. However, IAS reviewed the “tags out” reports and it appears that only two housing communities had properly performed reviews and/or updated the system for proper use.

IAS noted the following exceptions in four housing communities:

- Eight key fobs have not been returned to KeyTrak. One was checked out on August 13, 2018 and seven were checked out from February through June 2019.
- Five key fobs checked out between February 2017 and March 2018 had not been returned to KeyTrak.
- The tags out report for KeyTrak #1 identified three unreturned key fobs checked out in February 2016, June 2016, and February 2018. Management informed IAS that all keys were actually lost and that because necessary updates were not made in the system, KeyTrak still inaccurately reports that the keys are checked out and not returned. The tags out report for KeyTrak #2 identified three key fobs checked out in September 2014, June 2017, and September 2018, but had not been returned. Further research disclosed that two key fobs were entered into KeyTrak in error and that KeyTrak incorrectly reported that a key fob checked out in June 2017 had been returned because the key fob was broken.
- Because necessary updates were not made, KeyTrak still reports that 52 key fobs in November 2014 and 14 key fobs from January through June 2019 as checked out when these keys were transferred for storage in a lock box, KeyTrak #2, or a safe. Also, Management informed IAS that due to faulty sensors, KeyTrak inaccurately reports that 19 key fobs checked out in November 2014 and 69 key fobs checked out from January through September 2018 were not returned.

Access Controls

IAS noted that four housing communities did not delete 13 user accounts, for separated employees, from KeyTrak. IAS also noted that one employee had separated as far back as July 2013.

Furthermore, three housing communities could not identify some users with access to KeyTrak. IAS reviewed payroll records for the last 15 years in an attempt to identify two users with access to KeyTrak systems in two housing communities but did not find these individuals in the records. IAS also noted that it was difficult to ascertain or readily determine the users' identities because only the first or last names, or only a nickname instead of the user's full first and last names was entered in KeyTrak. For example, "Tony" was used as the user name instead of the user's legal name, who separated from UCI in August 2017, but is still listed as an active user in KeyTrak.

In addition, IAS noted an error, where an employee had two user IDs in KeyTrak, in one housing community.

System Software

During the audit, a concern was raised about the Windows 7 computer operating system and KeyTrak. As of January 2020, Microsoft, and consequently, OIT will no longer provide support for the Windows 7 environment but as of this date, a decision has not been made to ensure an upgrade to a more current version of the operating system.

Management Action Plan

By November 30, 2020, SH will perform a physical inventory of all keys stored and maintained in all KeyTrak systems. SH will also ascertain the current state of all key management systems to determine the financial and labor costs associated with establishing one Contract Service Agreement (CSA) with Keytrak for all current and future Keytrak machines and upgrade the Keytrak operating system for all existing machines. In addition, SH will establish and implement appropriate key management system practices for all housing communities.