Mecklenburg County
Department of Internal Audit

Business Support Services Agency – Information Technology
Computer Theft Investigation
Report 1302

July 30, 2013

MECKLENBURG COUNTY
Department of Internal Audit

To: Brian Cox, Director, Business Support Services Agency

From: Joanne Whitmore, Director of Internal Audit

Date: July 30, 2013

Subject: Business Support Services Agency – Information Technology Computer Theft Investigation Report 1302

On Sunday, December 16, 2012, BSSA-Information Technology (BSSA-IT) Desktop Support staff noted a discrepancy between inventory spreadsheets and a previous inventory list. On Monday, December 17, 2012, BSSA-IT confirmed four desktops and seventeen laptops were missing from the storage room located in the Hal Marshall Annex. The BSSA-IT staff reported the theft to County Security on Monday, December 17 who made a report to the Charlotte-Mecklenburg Police Department (CMPD) the same day. The CMPD began their investigation and has recovered six of the 21 missing computers during its investigation, which is still ongoing.

On Tuesday, December 18, 2012, Business Support Services Agency (BSSA) informed the County Manager's Office of the theft and contacted the Department of Internal Audit and County Legal to request an investigation. Internal Audit conducted interviews; analyzed physical access data for the Hal Marshall Annex; and reviewed physical security and inventory management processes for computer equipment received and stored at the facility.

INVESTIGATION CONCLUSION

The absence of adequate physical security, video surveillance cameras, segregation of duties, inventory management and supporting documentation of computer equipment transfers between staff at the Hal Marshall Annex does not provide evidence to determine the individual(s) responsible for the missing computer equipment. Analysis conducted by Internal Audit was provided to the CMPD on April 29, 2013 who continues to investigate.

The issues listed below, as well as recommendations and management's responses, are discussed in detail in the attached document. Internal Audit will conduct a follow-up review at a later date to verify recommendations are implemented and working as expected.

ISSUES

1. There are no formal, documented policies and procedures for inventory management associated with the **C**omputer **Re**placement **P**roject activities.
2. Most custody transfers of computer equipment received at and deployed from the Hal Marshall Annex are not documented.
3. The Hal Marshall Annex computer equipment work/storage rooms lack sufficient physical security.
4. A periodic inventory count of computer equipment received and stored at the Hal Marshall Annex until deployment is not conducted.
5. There is insufficient separation of duties for computer equipment received and stored at the Hal Marshall Annex until deployment.

We appreciate the cooperation you and your staff provided during this audit. Please feel free to contact me at 704-336-2575 if you have any questions or concerns.

c: Bobbie Shields, Interim County Manager
  Dena Diorio, Assistant County Manager
  Leslie Johnson, Interim Assistant County Manager
  Michelle Lancaster, Assistant County Manager
  John McGillicuddy, Assistant County Manager
  Wanda Reeves, Interim Financial Services Director
  Tyrone Wade, Deputy County Attorney
  Robert Thomas, Senior Associate Attorney
  Board of County Commissioners
  Audit Review Committee
  Gwen Simmons, Chief Technology Officer

BACKGROUND

The Business Support Services Agency – Information Technology (BSSA-IT) uses space at the Hal Marshall Annex (HMA) for the receipt, storage and deployment of computer equipment for the **C**omputer **Re**placement **P**roject. On November 15, 2012, Desktop Support staff performed a physical inventory of computer equipment stored at the HMA and no discrepancies were noted. Later, Desktop Support staff noted a discrepancy in the number of monitors compared to the number of computers on hand. On Sunday, December 16, 2012, BSSA-IT Desktop Support staff noted a discrepancy between inventory spreadsheets and a previous inventory list. On Monday, December 17, 2012 a Desktop Support staff conducted a second physical inventory count and confirmed four desktops and seventeen laptops were missing. The missing computers, valued at $23,619.76, were part of shipments received in 2012 on August 2nd, November 9th and November 13th as part of the **C**omputer **Re**placement **P**roject. The theft was reported to County Security and the Charlotte-Mecklenburg Police Department (CMPD) on Monday, December 17, 2012.

On Tuesday, December 18, 2012, Business Support Services Agency (BSSA) notified the Department of Internal Audit and County Legal of the missing computers. Internal Audit began its investigation on Wednesday, December 19, 2012. On April 29, 2013 Internal Audit provided the CMPD with data analytic results to assist in their investigation efforts. Some data analytics conducted included:
- active and inactive employee badge comparison
- employee and contractor badge access
- after-hour access
- weekend access

On December 27, 2012, the CMPD arrested a suspect for possession of the missing computers. They recovered two computers from local pawn shops and traced them back to the suspect. Four other computers were found at the suspect's place of business. No connection between the suspect and any County employee or contractor has been identified and the CMPD investigation is ongoing.

Computer Replacement Project

The missing computers were part of the shipments for MeckLink new hires and the County's annual **C**omputer **Re**placement **P**roject (CREP) to replace obsolete equipment. The BSSA-IT CREP team uses the HMA to receive and store computer equipment until deployment. At the time of the theft, the CREP team consisted of the team lead, one Desktop Support staff member and two contractors.

Under the current process, the CREP team unloads computer equipment shipments received at the HMA. They compare the computer equipment received to the shipping documents to ensure the delivery is complete. A designated Desktop Support staff uses a scanner to record the equipment into an inventory management system and tracks the equipment as it is deployed to County users. The computer equipment is locked in a storage room until imaged and deployed. The storage room requires a key and employee badge access to enter. Others with access to the HMA include vendor contractors providing security, maintenance and cleaning services and Health Department, Medic, Board of Elections and Community Support Services staff. Between July 2012 and March 2013, approximately 270 badge holders on average accessed the facility each month. In addition, the building is accessible to the public during certain times of the day for support service activities and special events, such as elections. Locked doors, however, may restrict access to certain rooms of the building.

ISSUES, RECOMMENDATIONS AND MANAGEMENT RESPONSES

County Manager's Overall Response to the Recommendations

Management's response is appropriate and consistent with the Internal Audit Department's recommendations to address the issues identified in the audit report.

> **Issue 1:** There are no formal, documented policies and procedures for inventory management associated with the **C**omputer **Re**placement **P**roject activities.

Risk Observation

While BSSA-IT has a process in place to receive, record and deploy computer equipment for the **C**omputer **Re**placement **P**roject, it does not have formal, documented policies and procedures for key aspects of inventory management, such as computer equipment shipment receipt, recordation, physical inventory counts, deployment, staff roles and responsibilities and physical security.

Policies and procedures, however, are important control activities to help ensure management's directives are carried out while mitigating risks that may prevent the organization from achieving its objectives. Further, documented policies and procedures, along with evaluations and updates, should provide management with a level of assurance that control activities are functioning as intended.

Recommendation

Internal Audit recommends BSSA-IT develop formal, documented policies and procedures for its inventory management process for the **C**omputer **Re**placement **P**roject. The policies and procedures should include, at a minimum:
   a. shipment receipt
   b. recordation
   c. physical inventory counts
   d. deployment
   e. physical security

In addition, the written policies and procedures should have a framework that establishes:
   a. frequency of reviews
   b. staff roles and responsibilities
   c. staff training requirements
   d. communication requirements for internal and external stakeholders

Management Response

Agree. The action plan is for BSSA-IT to record its computer replacement procedures as a formal set of guidelines. The guidelines will be presented to Mecklenburg County's Information Services and Technology Advisory Committee (ISTAC) for endorsement.

Anticipated completion of the formal guidelines, including review by ISTAC: October, 2013.

> **Issue 2:** Most custody transfers of computer equipment received at and deployed from the Hal Marshall Annex are not documented.

Risk Observation

The CREP team does not record changes in custody when removing and returning computer equipment from inventory to conduct the imaging process. Nor do they document custody changes when removing computer equipment from inventory for deployment. As a result, the last person with custody cannot be determined to assist in investigating lost or stolen computer equipment.

Recommendation

Internal Audit recommends BSSA-IT require the CREP team members to document all changes in custody for all computers received and stored at the HMA until deployment.

Management Response

Agree. The action plan is for BSSA-IT to include custody transfer requirements in the computer replacement procedures being drafted as a formal set of guidelines. The guidelines will be presented to Mecklenburg County's Information Services and Technology Advisory Committee (ISTAC) for endorsement.

Anticipated completion of the formal guidelines, including review by ISTAC: October, 2013.

> **Issue 3:** The Hal Marshall Annex computer equipment work/storage rooms lack sufficient physical security.

Risk Observation

At the time the missing computers were noticed, various County employees had master keys allowing access to the HMA work/storage room. Further, holders of master keys were not tracked and monitored. In addition, one computer work/storage room door leading to a Desktop Support staff's cubicle did not lock properly and anyone with access to the building could access the room by going over the cubicle walls.

On December 19, 2012, the computer work/storage room door locks were rekeyed, the door lock near the cubicle was reconfigured to restrict access to the room, and County Security limited keys to two Desktop Support staff. Keys were not assigned to the vendor contractors.

Although BSSA-IT management made some physical security improvements after the missing computers were identified, other deficiencies were noted.

A. Badge access to the HMA computer work/storage room is not restricted to only those with a business need to access the room.

B. Management does not routinely monitor physical access reports for unauthorized or inappropriate access.

C. There are generic HMA employee badges, which do not identify persons on the access report to show who has entered a badge-secured room.

D. There are no video surveillance cameras at the HMA to monitor the computer work/storage rooms and the building's entrance and exit points.

E. On December 19, 2012, the HMA loading dock door and the HMA computer work/storage room door were left unlocked and propped open.

Recommendation

Internal Audit recommends BSSA-IT:

A. Coordinate with County Security to restrict the HMA computer work/storage room badge access to only individuals with legitimate business needs to access the room.

B. Routinely monitor physical access reports for unauthorized or inappropriate access to the computer work/storage room.

C. Coordinate with County Security to deactivate any generic HMA employee badges and ensure all those with authorized access only use their name-specific employee or contractor badge to enter the work/storage room.

D. Work with County Security to utilize video surveillance equipment at key building points.

E. Emphasize with Desktop Support staff, contractors and others with access to the HMA computer work/storage room the importance of securing all entry and exit points at all times.

Management Response

Agree. The level of building security was not optimal at the time of the theft. BSSA-IT has not issued any master keys mentioned in the narrative. We cannot speak to the origins of those items or generic badges.

A. The work room used by the computer replacement project team was rekeyed, a new work room in a more secure location within the building is now being used.

B. Access reports will be reviewed monthly.

C. Doors to the room have been secured with electronic locks with badge/card readers for which only BSSA-IT staff is granted access. Staff entering the room will be identified from use of their badge. Generic badges issued by other departments using the Hal Marshall Annex will not open the work room doors.

D. Two security cameras to record movements will be placed within the room. This should be complete in late July or early August.

E. Staff involved in the replacement project has been reminded to monitor ingress/egress security.

> **Issue 4:** A periodic inventory count of computer equipment received and stored at the Hal Marshall Annex until deployment is not conducted.

Risk Observation

Desktop Support staff does not regularly compare recorded computer equipment to a physical inventory count. Finance Capital Assets policy states BSSA-IT is responsible for maintaining physical inventory and detailed records of computer equipment. Without a formal routine inventory oversight process to ensure records are accurate and all computer equipment is verified, inventory could be lost or stolen without timely detection.

Recommendation

Internal Audit recommends BSSA-IT conduct a periodic physical inventory count of new computer equipment received and stored at the HMA until deployment. The rate of new inventory turnover should drive the frequency of the inventory count. The physical inventory counts should be documented and reconciled to current inventory records. Discrepancies should be timely resolved and documented. The physical inventory counts and reconciliations should be performed by an individual without custodial or recordkeeping responsibilities over the computer equipment being inventoried. The physical inventory results should be reviewed and approved by management.

Management Response

Agree. BSSA-IT will establish a regular true-up of the spreadsheet with PCs on premise and/or distributed. This will be included in the computer replacement guidelines referenced in the Issue 1 response.

Anticipated completion of the formal guidelines, including review by ISTAC: October, 2013.

BSSA-IT is also pursuing implementing, a cloud based application to inventory, monitor, and manage computers, as well as mobile devices.

Funding has been approved in the FY14 Capital Reserve budget to design and construct an appropriate work area for the computer replacement project team. The new work room will include a fenced or "cage" area to further secure computers.

> **Issue 5:** There is insufficient separation of duties for computer equipment received and stored at the Hal Marshall Annex until deployment.

Risk Observation

A single Desktop Support staff records new computer equipment shipments received at the HMA, maintains custody of the computer equipment until deployed and updates inventory records when the equipment is deployed.

Key duties and responsibilities for transaction authorization, processing, recordation, review, and handling of any related assets, should be appropriately separated among different people. Allowing a single individual to carry out incompatible duties within a process increases the risk of loss or theft.

Recommendation

Internal Audit recommends BSSA-IT separate incompatible duties for custody and related transaction recordation for computer equipment received and stored at HMA until deployment. If adequate separation of duties is not possible, management should implement appropriate compensating controls.

Management Response

Agree. The action plan is for BSSA-IT to include separation of duties requirements in the computer replacement procedures being drafted as a formal set of guidelines. The guidelines will be presented to Mecklenburg County's Information Services and Technology Advisory Committee (ISTAC) for endorsement.

Anticipated completion of the formal guidelines, including review by ISTAC: October, 2013.

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1 - 30   ▶

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