Audit of
Cell Phone Device
Management and Utilization
Controls

MARTIN MATSON

City Comptroller

AYCHA SIRVANCI, CPA

Audit Manager

City of Milwaukee, Wisconsin

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Martin Matson
Comptroller

John M. Egan, CPA
Deputy Comptroller

Glenn Steinbrecher, CPA
Special Deputy Comptroller

Toni Biscobing
Special Deputy Comptroller

Office of the Comptroller

February 10, 2014

To the Mayor and the Honorable
  The Common Council
City of Milwaukee

Dear Mayor Barrett and Council Members:

The attached report summarizes the results of our Audit of Cell Phone Device Management and Utilization Controls. The objectives of the audit were to determine whether cell phone change control management and approval controls are adequate; personnel cell phone usage is monitored and defined by consistent and utilized guidelines; and if cell phone contract call plans are appropriately structured, consistent with the best-interests of the city, are monitored, and are updated in order to maximize the utilization of cost reduction measures.

The audit confirmed that the processes and controls in place over cell phone device management and utilization demonstrate enhancement opportunities and are currently undergoing a significant management initiated restructuring, redevelopment and implementation process. This audit identifies four recommendations and two observations to strengthen the applicable policies, procedures, processes, and controls for the departments that are now under the Information Technology and Management Division's (ITMD) oversight.

Audit findings are discussed in the Audit Conclusions and Recommendations section of this report, which is followed by ITMD management's response.

Appreciation is expressed for the cooperation extended to the auditors by the staff and management of ITMD and the various departments involved in the audit.

Sincerely,

Aycha Sirvanci

Aycha Sirvanci, CPA
Audit Manager

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City Hall, Room 404, 200 E. Wells Street, Milwaukee, WI 53202 • Phone (414) 286-3321 • Fax (414) 286-3281
www.milwaukee.gov/comptroller

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I. Audit Scope and Objectives

The audit examined the citywide and department processes and controls governing cell phone and mobile device management and utilization. The audit also assessed the adequacy of applicable policies, procedures and guidelines for consistency and completeness.

Prior to July 2012, cell phones and mobile devices were independently managed at the department level. However, in July of 2012, a cell phone account consolidation process and process/control restructuring initiative was instituted by the Information Technology and Management Division (ITMD). This initiative was actively supported by department management. The intended result of these actions were to: reduce the total number of active cell phone accounts employed by the city, and to centralize the oversight, usage monitoring, and change control management of the city issued cell phones and mobile devices, respectively. ITMD was to administer this newly centralized cell phone process; however, specific cell phone device issuance, maintenance and usage monitoring was to remain under department management control. The goals of these initiatives included: improvements to process efficiencies, productivity gains, and to intensify citywide cost reduction measures.

These structural and operational changes significantly affected the overall processes and controls surrounding the city's cell phone and mobile devices and were ongoing as of the official audit initiation date. The audit scope included cell phone device utilization and management controls and cell phone call plan management, monitoring, and change controls from April 1, 2013 through June 28, 2013.

As of May 2013, there were 1,281 cell and mobile devices in use by city personnel that have been included in ITMD's newly centralized oversight and monitoring process. Of these 1,281 cell phone and mobile devices, 90% were being utilized by three city departments that include: the Department of Public Works (DPW) with 60%, the Department of Neighborhood Services (DNS) with 21% and, the Milwaukee Health Department (MHD) with 9%.[1] The remaining 10% of the devices have been issued in various city departments.

The audit procedures, executed from June 2013 through October 2013 included an examination of the processes and controls surrounding the cell phone issuance, activation, returns, deactivation, and change control management used by both ITMD and department management. Audit activities initially consisted of process walkthroughs with management and staff. The audit walkthroughs were performed using DPW, DNS and MHD as a benchmark of the expected processes and controls to be found in all of the city's departments. ITMD was included in the interview process and Internal Audit obtained, reviewed, and analyzed relevant supporting and control-based documentation for verification purposes.

The audit excluded a review of the controls regarding monthly cell phone invoice payment processing and the application systems used as they were not relevant to the audit objectives and scope.

Internal Audit believes that the evidence obtained provides a reasonable basis for the audit's findings and conclusions based on the audit objectives.

The objectives of the audit were to:

➢ Determine if department and personnel cell phone approvals, acquisition/activation and return/deactivation controls are adequate.

➢ Determine if personnel cell phone usage is adequately monitored and is defined by guidelines that are consistent, appropriate and utilized.

➢ Determine if department and city-wide cell phone contract call plans are appropriately structured, consistent with the best-interests of the City, and are monitored and updated in order to maximize the utilization of cost reduction measures.

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[1] The Milwaukee Police Department, Milwaukee Fire Department, Housing Authority of the City of Milwaukee, City Clerk's Office and the Employes' Retirement System maintain significant mobile communications device inventories; however, they are outside of the ITMD's oversight and are excluded from the noted percentages and audit scope.

II. Organization and Fiscal Impact

City employees may be assigned a cell phone or mobile device for use in the course of their employment. The decision for cell phone or mobile device issuance is made by department management or supervisory personnel, which is based upon business necessity.

Wireless devices are provided under multiple contracts with the city via US Cellular, AT&T Mobility, Verizon and Sprint. As of October 2013, the city maintained 29 wireless device accounts with the noted vendors. This demonstrates a 75% decrease in the total number of accounts held with these vendors, since July 2012, when the city maintained 118 separate accounts. This reduction was the result of ITMD and department management consolidating accounts and restructuring processes. This initiative included account and cost center consolidation, cancelling unused phone lines, and the development of an extensive monthly device usage monitoring process.

The restructured, broad-based monthly oversight, usage, and monitoring processes are centralized via ITMD and are supported and executed internally by each department's cell phone Telecommunications Coordinator and the department's management. This unified process quickly demonstrated significant results. A citywide wireless service cost comparison for the months of July 2012 and July 2013 has revealed pronounced annualized savings, in the following table:

Wireless Vendor Cost Savings Comparison: July 2012 to July 2013

Wireless Vendor	Total Monthly Cost in July 2012	Total Monthly Cost in July 2013	Total Monthly Cost Savings
US Cellular	$ 23,855	$ 23,332	$ 523
Verizon	$ 18,560	$ 11,264	$ 7,296
AT&T Mobility	$ 4,952	$ 1,815	$ 3,137
Sprint	$ 6,892	$ 3,521	$ 3,371
Monthly Totals	$ 54,259	$ 39,932	$ 14,327
* Annualized Potential Total Savings - Post July 2013:			$ 171,924

**Note: The "Annualized Potential Total Savings – Post July 2013" for cell phone and mobile device services excludes additional cost savings initiatives, planned or realized, after July 2013.

This combined, ITMD and department management, effort is ongoing and has resulted in the following additional benefits to the city:

- The City Clerk's Office is managing the Common Council's AT&T Mobility account; however, following the restructuring initiative, the City Clerk's Office receives assistance with cell phone rate plan reviews from ITMD. This combined effort has resulted in a monthly call plan savings of $547 ($6,564 annualized) due to identified and implemented call plan rate changes.

- The implementation of a revised US Cellular vendor contract resulted in a citywide, cell phone line flat-rate reduction of $3,000 per month.

III. Audit Conclusions and Recommendations

Discussions with management, observations, and verifications have confirmed that significant progress has been achieved by the process and control restructuring initiative implemented by ITMD and the departments. However, due to the ongoing nature of this project, the audit concluded that there are opportunities for improvement regarding the processes and controls over cell phone and mobile device management and utilization. Pending the completion of the process and control implementations by ITMD and department management, subsequent control re-verification will follow the formal release of this report.

This audit report identifies four recommendations for improvement to be led by ITMD with collaboration by department management:

1. Develop standard policy regarding cell phone and mobile device management and utilization.
2. Develop citywide and intradepartmental procedures over the cell phone and mobile device processes and controls.
3. Require use of the "Request IT Support" (RITS) application for the submission and processing of cell phone and mobile device procurement, issuance, and service modification requests.
4. Develop and implement a standard "Business Needs Evaluation and Approval" form.

This report also identifies two observations. An observation does not constitute a recommendation; however, they should be taken under advisement by management:

1. Develop and implement processes and controls regarding cell phone and mobile devices that ensure appropriate segregation of duties.
2. Develop and implement processes and controls over cell phone and mobile devices that utilize best practices regarding device inventory management.

Details for each recommendation and observation are provided in the following sections.

A. Policies and Procedures

ITMD and department management does not have fully developed, documented, and implemented policies and procedures regarding the oversight and monitoring of the city's cell phone and mobile device management.

The audit identified that the standard policies submitted for audit review were not consistent or comprehensive from both an intradepartmental and citywide perspective. The ongoing process and control redevelopment initiatives have compounded this issue.

Recommendation 1: Develop standard policy regarding cell phone and mobile device management and utilization.
Working in conjunction, ITMD and department management should develop and complete the implementation of a documented, formal set of consistent and comprehensive control-related policies over citywide cell and mobile device management and utilization processes and controls.

Citywide policy development and implementations should include:
- The official, citywide establishment of ITMD as the centralized authority over applicable cell and mobile device management and utilization processes and controls regarding:
  - Oversight and usage monitoring - accountability and responsibilities;
  - Device issuance, activations, returns and deactivations;
  - Device and call plan change control management.
- Approval authority.
- Department change control management – "Request IT Support" (RITS) application.
- Issuance and returns regarding business need criteria and job related duties and functions.
- Usage Monitoring – excessive, personal, reimbursement requirements and exceptions.
- Cost control – monitoring and follow-up.
- Enforcement and follow-up.
- Procurement - approved State of Wisconsin device purchasing guidelines.
- Individual department and citywide device storage and safeguarding.

Once the citywide policy is finalized, it should be submitted to Common Council for approval.

Reviews and discussions with ITMD and department management confirmed that comprehensive and consistent department procedures have not been fully developed and implemented regarding cell phone and mobile device management, utilization and monitoring. However, ITMD and department management have implemented and adopted a consistent set of processing guidelines regarding device call plan and monthly usage monitoring.

Recommendation 2: Develop citywide and intradepartmental procedures over the cell phone and mobile device processes and controls.

ITMD and department management, working in conjunction and independently when it is applicable, should develop and implement a documented and formal set of consistent and comprehensive control-related procedures over the cell and mobile device management and utilization processes and controls in order to reduce potential risks and cost reduction measures.

Procedure development and implementations should continue and include at a minimum:

- Process management:
    - Personnel lists of those authorized to approve specific aspects of cell phone and mobile device usage and change control management functions in both ITMD and the departments;
    - Device issuance, activation and distribution;
    - Device returns, deactivation and collection;
    - Citywide cell and mobile device model upgrades.
- Usage, call plan monitoring and change control management:
    - Monthly oversight and usage monitoring;
    - Monthly usage monitoring guideline maintenance;
    - Usage exception processing, follow-up and enforcement, and any required employee reimbursement;
    - Device and call plan change control management utilizing the "Request IT Support" (RITS) application – (including ITMD application monitoring and oversight, and information requirements for RITS application form completion).

- Inventory:
    - Approved State of Wisconsin procurement guideline limitations, exception approvals, and documentation;
    - Device inventory accountability and tracking (device master listing maintenance, reconciliations or asset verifications);
    - Department and citywide inventory management and safeguarding (acquisition, deactivation, activation, distribution, maintenance, and secured storage).

The procedures should also describe relevant specific tasks, functions, responsibilities, documentation requirements and procedure update maintenance.

B. Change Control Management

Standard best practice indicates that adequate change control management is the result of an implemented, formal, planned management process that allows for the controlled modification of a cell phone or mobile device via user requests, authorized approval, subsequent processing, and supporting documentation.

As a result of ITMD and department management initiated process developments, changes, and ongoing training, the audit noted that the ITMD "Request IT Support" (RITS) application was not being consistently utilized by the departments to initiate the processing, and control over cell phone and mobile device issuances, service activations and deactivations, service upgrades or general change control requests.

Recommendation 3: Require utilization of the "Request IT Support" (RITS) application for the submission and processing of cell phone and mobile device procurement, issuance, and service modification requests.
As required by citywide policy, a completed "Request IT Support" (RITS) ticket must be submitted for all cell phone and mobile device procurement, issuance, upgrades, or device service change requests from the departments. A completed RITS ticket must include all

information relevant to timely processing such as identification of the authorized approver, new or established device user name, and any additional information as it is necessary.

As of May 31, 2013, the city had issued over 1,300 cell phone and mobile devices. Prior to the procurement or issuance of a cell phone or mobile device to personnel, department management evaluates an employee's relevant "business need" prior to submitting their approval. However, ITMD and department management have confirmed that the specific business need of a particular employee is not documented by the departments or ITMD. An employee's business need information is used extensively during the ITMD and department monthly usage monitoring process.

ITMD and the department Telecommunication Coordinators indicated that the absence of standard supporting documentation regarding an employee's business need evaluation and subsequent approval for a cell phone or mobile device is unfavorably affecting the centralized ITMD and internal department device usage and change control monitoring processes. The documented business need information pertinent to the device used by a particular employee, whose usage is being reviewed for appropriateness or cost reduction opportunities via a call plan rate change, is currently not available. This issue causes an extensive follow-up process that begins with the re-generation of the formerly developed business need information.

Recommendation 4: Develop and implement a standard "Business Needs Evaluation and Approval" form.
ITMD and department management should develop and implement a standard form that will document the business need and the parameters used to render approval for the procurement or issuance of a cell phone or mobile device to personnel. This document should also require the signature of the supervisor that rendered the final approval.

In order to expedite and enhance device usage follow-up, rate plan monitoring, and change control management, this document should be retained by the Telecommunications Coordinators in each department and a copy forwarded to ITMD for reference purposes.

C. Observations

The following audit observations do not constitute a recommendation; however, management should take these items under advisement.

Observation 1: Develop and implement processes and controls regarding cell phone and mobile devices that ensure appropriate segregation of duties.

A fundamental element of internal control development is the principle of segregation of duties. A basic underlying application of segregation of duties is that traditional systems of internal control rely on assigning certain responsibilities to different individuals or segregating incompatible functions. This is to prevent any one person from having both access to assets and the responsibility for maintaining the accountability of those assets.

The principle incompatible duties to be segregated are: transaction initiations or purchases, authorizations or approvals, accounting for and reconciling related transactions; and asset custody or inventory functions. If these functions cannot be separated, an independent supervisory review of the related activity is required as a compensating control. The appropriate development and utilization of segregation of duties during the cell phone and mobile device management is critical to effective internal control since it reduces the risk of erroneous or unauthorized actions, inaccurate reconciliations, inventory miscounts, and asset losses.

Observation 2: Develop and implement processes and controls over cell phone and mobile devices that utilize best practices regarding device inventory management.

ITMD and department management should continue to apply and consider standard control-based inventory management (and safeguarding) best practices during the cell phone and mobile device process and control re-development. The following should be considered where necessary:

- Device procurement oversight and verifications;
- Maintained or accurate active and spare device inventory tracking documentation or device master listings for monitoring purposes;
- Inventory asset verifications, counts or reconciliations;
- Device inventory access controls in ITMD and the departments;

- Inventory asset verifications, counts or reconciliations;

- Inventory exceptions and follow-up.

Unmonitored and unauthorized procurement, access to unsecured assets, and inappropriate or incorrect changes to inventories, could result in a loss of assets, accidental destruction of inventories; errors in inventory recording and tracking; and, an increase in costs.

Tom Barrett
Mayor

Sharon D. Robinson
Administration Director

Nancy A. Olson
Chief Information Officer

Department of Administration
Information and Technology
Management Division

City
of
Milwaukee

February 7th, 2014

Aycha Sirvanci
Audit Manager
City Comptroller's Office
City Hall, Room 400

RE: Response to the Audit of Cell Phone Device Management and Utilization Controls

Ms. Sirvanci,

The ITMD's response to the four recommendations is as follows:

1. Develop standard policy regarding cell phone and mobile device management and utilization.

   ITMD will establish guidelines and document the roles and responsibilities of both ITMD and the departments supported by ITMD. Given the fact that many departments with a significant phone inventory are not managed by ITMD, a City-wide policy is not appropriate.

2. Develop citywide and intradepartmental procedures over the cell phone and mobile device processes and controls.

   Again, scope of "citywide" greatly exceeds the scope of the audit performed. For the departments supported by ITMD, the attached "Guideline and Procedures" document has been developed and distributed.

3. Require utilization of the "Request IT Support" (RITS) application for the submission and processing of cell phone and mobile device procurement, issuance and service modification requests.

   ITMD has been requesting RITS logs for phone services since early 2013. To date, ITMD has responded to 2,365 requests for service.

4. Develop and implement a standard "Business Needs Evaluation and Approval" form.

   ITMD believes that RITS can be used to accomplish this and that a form is not necessary. Instead, we direct the Telecom Coordinator to complete a "Request IT Support" (RITS) ticket for all cell phone and mobile device issuance, upgrade or change control requests. The ITMD RITS ticket must include the new or establis̶h̶e̶d̶

user name (s), device phone number(s), model(s) requested, a list of any required accessories and any additional information as is required. No signature is required since ITMD will only fulfill requests from departmental telephone coordinators or department heads.

Sincerely,

Nancy A Olson
Chief Information Officer

ITMD City Cell Phone
Guidelines and Procedures
Last Update Date: 2/5/2014

DEPARTMENT RESPONSIBILITIES:

The purpose of this document is to provide an official city-wide establishment of ITMD as the centralized overseeing authority regarding applicable cell and mobile device management and utilization processes and controls. The following City Departments are NOT included in this procedure: City Clerk, MPD, MFD, ERS, and HACM. This document will describe the general processes and controls for ITMD and the departments, the responsibilities, authorization and approval listings, reporting, oversight, exception management, change control management, monitoring and follow-up, and device upgrades. The authorized Telecom Coordinator approval list is attached for the specific aspects of cell and mobile device issuance, upgrades and change control management.

- Telecom Coordinators need to contact ITMD to deactivate cell or mobile devices for departing employees and return the equipment to ITMD, in a timely manner.
- Departments are required to maintain up-to-date cell and mobile device user information and contact ITMD to report any changes to User Names. ITMD will work with the appropriate vendor to have the information updated on the monthly invoices.
- Telecom Coordinators shall work with their Department Supervisors regarding the appropriate and consistent usage parameters, comparing business need vs. personal use. When high or potentially excessive usage is flagged on a monthly report and directed to the Telecom Coordinators, the Telecom Coordinators and their applicable supervisor or manager must coordinate their review and follow-up with ITMD when determining whether the usage was related to business need and work with ITMD to determine if a new rate plan change is appropriate to manage the current high rate charges, in a timely manner.
- A department manager or supervisor should document specific aspects of an employee's related business needs or responsibilities for each issued mobile device. Documentation should be retained in the department by the Telecom Coordinators for reference purposes in order to reduce the number of City cell phones and mobile devices from 1,400+.
- During ITMD's monthly invoice usage monitoring review, if timely follow-up is not received from the Telecom Coordinator, ITMD has the authority to automatically suspend cell phone service for devices that demonstrate at least two months of non-usage, without Telecom Coordinator approval, to enable city-wide cell device cost control management processes and control utilization. It is understood that some cell phones are made available to field staff for security purposes and may not have usage. ITMD should be notified of these numbers to prevent these phones from being suspended.
- Departments should maintain an inventory of cell phones within their Department (excluding accessories). Telecom Coordinators that maintain independent inventory of mobile devices must ensure that said devices are adequately secured and deactivated in a timely manner. Periodic audits of the inventory should be conducted by departmental staff (not responsible for asset custody functions) and exceptions will be investigated and documented.
- To limit follow-up and mobile device issuance request denials, Telecom Coordinators and the applicable department supervisor or manager must coordinate their new mobile device issuance and upgrade requests with any relevant department budget restrictions. When new cell phone purchases are needed:
  - the Department Supervisor will submit the request to their Telecom Coordinator
  - the Telecom Coordinator shall then complete a "Request IT Support" (RITS) ticket for all cell phone and mobile device issuance, upgrade or change control requests. The ITMD RITS ticket must include the new or established user name (s), device phone number(s), model(s) requested, a list of any required accessories and any additional information as is required. ITMD will utilize the approved State of WI purchasing guidelines and document any purchase exceptions.

ITMD RESPONSIBILITIES:

- For standard inventory management and safeguarding techniques and controls (including procurement, tracking and monitoring, verifications, access controls, password activation/deactivation, disbursement and returns), ITMD will maintain a universal master list of active, deactivated or returned cell devices. ITMD and the Telecom Coordinators will utilize, review and monitor for accuracy, the universal device listings (invoicing) provided by the device vendors.
- The cell and mobile device inventories (spares) will be stored in locked cabinets in ITMD. Standard inventory access security controls will be in place to limit access to the ITMD inventory. Periodic audits of the inventory will be conducted by ITMD staff (not responsible for asset custody functions) and exceptions will be investigated and documented.
- All deliveries from suppliers/vendors will be counted and verified, before entering inventory, discrepancies between deliveries and purchase orders will be documented.
- Maintain a listing of departmental personnel (Telecom Coordinators) authorized to approve specific aspects of cell and mobile device issuance, upgrades and change control management.
- ITMD will eCycle equipment that is no longer needed by the City.