

Office of City Auditor

**Seattle Public Utilities
New Water Services (Taps)
Internal Controls Review and Fraud Risk Audit**

September 24, 2013

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City of Seattle





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City of Seattle
Office of City Auditor



September 24, 2013

The Honorable Michael McGinn
Seattle City Councilmembers
City of Seattle
Seattle, Washington 98104

Dear Mayor McGinn and City Councilmembers:

Attached is our report, *Seattle Public Utilities: New Water Services (Taps): Internal Controls Review and Fraud Risk Audit*. We were asked to conduct this audit by City Councilmember Jean Godden, Chair of the City Council's Libraries, Utilities, and Center Committee, due to the alleged theft of over \$1 million of customer payments from SPU's water main extension and new taps services. The audit's primary objectives were to 1) determine if any theft of customer payments occurred, in addition to the amounts already identified during the City's criminal investigation of the alleged fraud, and 2) review the design of recently revised internal controls implemented by the SPU Customer Service Branch over new water services (taps) business processes and determine whether they are adequate to provide reasonable assurance that a similar theft will not occur in the future. We focused our work primarily on financial controls.

We appreciate the cooperation of SPU's Utility Services Group management and staff during the review process, as well as the assistance provided by the personnel from other SPU divisions whom we interviewed. SPU's response to a draft version of this report is included in Appendix 3.

In accordance with our office's standard procedures, we will follow up on the audit's recommendations and report to the City Council and Mayor on their implementation status at a future date.

Sincerely,

A handwritten signature in black ink that reads "David Jones".

David Jones
City Auditor

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AUDIT OF SEATTLE PUBLIC UTILITIES

New Water Services (Taps): Internal Controls Review & Fraud Risk Audit



INTRODUCTION

Seattle Public Utilities' (SPU) new water services, often referred to as *new taps*, connect the customer's service address to an existing or newly developed water main. SPU provides new water services to residential and commercial customers, as well as government agencies. New taps installations are often part of larger projects, such as water main extensions or construction projects (e.g., bridges and transit centers). New taps come in various sizes to provide water, fire, or irrigation services. SPU charges a fee for new taps installations that varies based on the tap size and type. In 2012, 640 new taps were installed by SPU, with approximately \$7 million collected in customer payments.

Between 2008 and 2010, thefts were allegedly made from customer payments for water main extension and new taps project fees associated with water main extension projects. The Seattle Police Department identified 70 customer payments that were allegedly deposited to a former SPU project manager's personal bank account instead of the City's bank account, and the King County Prosecutor's Office is prosecuting this case. In 2012 our office completed an audit of the water main extension payment process, at the request of City Councilmember Jean Godden, Chair of the Council's Libraries, Utilities, and Center Committee.¹ Councilmember Godden subsequently requested that we conduct a separate audit of the new taps payment process. Both audits were welcomed by SPU management.

AUDIT OBJECTIVES

1. Through a detailed test of transactions, determine if customer payments for new taps work were appropriately recorded and deposited timely.
2. Determine whether internal controls are adequate to ensure that (a) all customer payments for new taps work are timely deposited in the City Treasury when received as prepaid, or billed on account as appropriate, and (b) pricing for new taps work was calculated in accordance with SPU policy.

¹ <http://www.seattle.gov/audit/docs/2012SPUFinalReportRevised.pdf>

SUMMARY OF AUDIT RESULTS

OBJECTIVE #1:

For the first objective, we tested a sample of 626 new taps service orders created between 2007 and 2011. The testing results are summarized as follows:

Category	Results of Testing	Sample Tested	Percent Tested
1	Payment Was Verified as Received and Deposited by SPU	449	71.7%
2	Payment Was Traced to Seattle Police Department's List of Alleged Misappropriated Payments	112	17.9%
3	Amount Was Billed to Customers as a Result of the Audit	21	3.4%
4	Payment Could Not Be Verified as Received and Deposited by SPU	44	7.0%
	Total	626	100%

Explanation of Results

Category 1: Our review of documentation led us to conclude that all payments in this category were received.²

Category 2: Customer payments for new taps service orders in this category were deemed to be misappropriated as a result of the alleged theft by SPU's former project manager. We matched payments to a list provided by SPU which was developed in conjunction with their work with the Seattle Police Department on the investigation of the alleged theft. The total amount due from customers for the taps work tested in this category is approximately \$380,000.

Category 3: As a result of our audit and the efforts of SPU's Utilities Services Group, approximately \$187,000 has been recovered and an additional \$4,000 is expected to be recovered through billing by SPU's Accounts Receivables Group.

Category 4: We could *not* verify that payment was received and deposited for new taps service orders in this category. The total amount attributed to this category is approximately \$85,000. We note the following with respect to these service orders:

1. According to file documentation, the project manager involved in the alleged theft appeared to be the project manager for all of the new taps work related to these funds.
2. All 44 taps in this category are attributed to just seven customers, as some customers ordered multiple taps.

OBJECTIVE #2:

For the second objective, we concluded that, in general, current internal controls are adequate to provide reasonable assurance that customer payments for new taps work are received, recorded

² We tested for payments by either tracing the amount due for the taps work to deposits posted to SPU's accounting systems or by verifying the customer was billed for the taps work by SPU's Accounts Receivables group.

and deposited. However, we have five recommendations to further improve the effectiveness of SPU's controls design as follows:

1. Define the Utilities Services Group (USG) new taps process in sufficient detail and segregate backup functions.
2. Strengthen controls for new taps work initiated outside of USG.
3. Strengthen controls over the creation of new taps service and work orders.
4. Restrict user access to new taps database applications.
5. Strengthen controls over the new taps tracking spreadsheet.

See the "Controls Design Concerns and Recommendations" section below for detailed descriptions of these recommendations.

AUDIT SCOPE AND METHODOLOGY

Objective 1 – Testing of New Taps Payments

The scope for our new taps testing included new taps service orders created during the years 2007 – 2011. Each new taps installation requires the creation of a service order in the Consolidated Customer Service System (CCSS), which is recorded as a service record on the customer's CCSS account. The service order is the basis for the automatic creation of the work order in the Maximo system. Work orders provide the list of materials needed for new taps work and serve as a guide to field crews in their installation of new taps.

We selected a sample of 626 new taps service orders for testing. The sample selected included all Account Executives (AE's) who created service orders during 2007 – 2011. The sample also included all three customer types (residential, commercial, and key³) as well as a mix of tap sizes and types (fire suppression, domestic water use, and irrigation).

Based on the payment method specified in the documentation provided by SPU, we either traced the service order to the associated payment or to the billing. Sources used to assist us in this determination were:

1. Cash receipts for all service orders recorded in an Excel spreadsheet.
2. Cash remittance reports generated by the over-the-counter (OTC) cash processing system.
3. Hard copy cash receipt books that were used to record customer prepayments or deposits for new taps work and were used as customer receipts.
4. Notes and other information provided by the CCSS and Maximo systems.

³ Key customers are major accounts such as Boeing.

5. Downloads of batch numbers assigned to both OTC deposits and the STORM system.⁴
6. New taps and water main extension hard copy files.
7. Electronic mapping systems.
8. SPD's list of alleged misappropriated payments.

In cases where we could not trace the service order to a payment or billing, SPU Account Executives attempted to contact customers to request copies of canceled checks, invoices, receipts, or other such documentation that could provide evidence of payment or billing

Objective 2 – Review of Internal Controls Design

We reviewed SPU management's design of new internal controls to determine whether such controls would provide reasonable assurance that all customer payments for new taps work are received, recorded, and deposited as appropriate. The scope for this review was the new taps process model drafted by USG and approved for use by SPU management on January 1, 2013. Our review emphasis was on controls relating to the handling of customer funds, new taps pricing, and the approval of the new taps work. The new controls design was developed and implemented in response to concerns that duties related to cash handling, pricing, and order authorization were not adequately segregated⁵ at USG.

To understand the internal controls design, we performed the following:

- Conducted interviews with USG staff to understand their duties and responsibilities.
- Reviewed current SPU policies and procedures related to new taps.
- Reviewed USG's Interactive Policy Manual (still in draft form), other draft policies (Non-Sufficient Funds, Manual Billing, Refunds), and the taps tracking spreadsheet.
- Met with managers and personnel from other SPU divisions that handle new taps work to understand how the work is performed in other divisions, and how they collaborate with USG.
- Reviewed previously conducted audits involving the new taps process.
- Performed a "what if" analysis to determine if the design of current controls with the newly segregated duties would be effective in detecting or preventing the misappropriation of customer payments, or in creating unauthorized new taps work.

⁴ STORM is the City Treasury Division's cash receipting system that collects uploaded data from the OTC system and is used to reconcile deposits with the banks. STORM data is eventually downloaded to the Summit financial system.

⁵ Segregation of duties in this report refers to separating responsibilities of personnel to decrease the opportunities for fraud. For example, the same person should not have the responsibility for accepting customer payments as well as the responsibility for authorizing new taps work. The lack of duty segregation provided the opportunity for the alleged misappropriation of funds by the former project manager.

Compliance with Government Auditing Standards

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

BACKGROUND ON NEW WATER TAPS PROCESS

The Utilities Services Group (USG) is part of the Utilities Services Teams Division of SPU's Customer Services Branch and serves as the primary customer interface for new taps work. USG also provides customers with hydrant permits, is responsible for drainage billing, and administers the sewer sub-meter program. They manage key customer accounts and are the liaison for major interagency construction projects. Account Executives (AEs) within USG work with customers to develop the new taps scope of work, obtain approvals from other departments (e.g., water availability certificates, customer engineering plans), determine the total cost of the new taps installation, complete water service agreements, and determine customer payment requirements (prepay vs. billed on account).

AEs also track the status of new taps jobs and keep the customer informed. AEs are the contact for both the Planning and Scheduling Division and the Water Transmission and Distribution Operations Division when questions arise during the course of planning, scheduling, and installing new taps. AEs collaborate with other SPU Divisions, such as the Drinking Water Division, the Project Management and Engineering Division, and the Project Support Division when projects managed by these divisions involve new taps work. *See Appendix 1 showing the functions each of these divisions performs related to new taps projects.*

Most customers are required to prepay for new taps work. Payments are collected and processed by Utilities Services Representatives (USRs) within USG (*See Appendix 2*). Standard costs are used for tap sizes less than 3" in accordance with an SPU Director's Rule⁶. For taps sizes 3" and greater, site-specific costs⁷ are calculated by SPU's Water Transmission and Distribution Operations personnel to factor in the additional complexity and contingencies associated with the work.

Before the implementation of the current controls design, duties were not adequately segregated. For example, the AEs received customer payments, determined the cost of new taps services, and generated new taps service orders authorizing the work. Under the current design, these duties are now segregated among different classifications of personnel. Exhibit #1 below shows how the duties are segregated among the Account Executive (AE), Utilities Services Representative (USR), Management Systems Analyst (MSA), Financial Analyst (FA), and the USG Manager (Mgr).

⁶ Director's rules are binding rules that affect how the public does business with SPU. Rule development is governed by the Seattle Municipal Code and requires a public review process before such rules can be adopted. Standard costs are generally updated each calendar year.

⁷ Site-specific costing results in a fixed charge to the customer, but is based on estimates of time and materials.

Exhibit #1 – Duty Segregation

Key Activity	Account Executive	Utility Service Representative	Management Systems Analyst	Financial Analyst	Utility Service Group Manager
Price Taps Job	X				
Verify Pricing			X		
Receive Payment		X			
Approve Billing					X
Process Payment		X			
Create Service Order			X		
Reconcile Payment				X	

Reconciliation activities by the Financial Analyst help ensure that all service orders created for new taps work are either prepaid as required or are subsequently billed on account by the USG Manager as approved. Such activities also include ensuring that all deposits are balanced with the STORM Treasury cash receipting system for subsequent bank reconciliation and posting to the financial accounting system (Summit).

In the following section, we present five recommendations for improving the design of internal controls.

CONTROLS DESIGN CONCERNS AND RECOMMENDATIONS

1. Define the USG New Taps Process in Sufficient Detail and Segregate Backup Functions

Description

On January 1, 2013, USG implemented a revised business process for handling new taps projects and payments. One of the primary drivers for the process change was to provide additional segregation of job duties to reduce financial risks. During our field work, SPU provided us with the following documentation of their new process: (a) Interactive Process Manual (flowcharts and a Power Point presentation), (b) Procedure for Non-Sufficient Funds (NSF) Checks, (c) Procedure for Refunds, (d) Procedure for Manual Billing, and (e) Taps Internal Control/Segregation of Duties.

Previously, AEs accepted customer payments, priced new taps projects, and created service orders. Under the new process, the payment handling, service order creation, and pricing duties are now segregated. There is also a separate duty for a reconciliation process designed to ensure that all new taps jobs have been authorized, and either paid or billed.

Concerns

- A. The financial analyst who performs the cash reconciliation function is also designated as a backup person to receive customer payments in the event the Utility Service Representatives (USRs), who perform cashiering duties, are not available for walk-in customers. The reconciliation of cash and custody of payments are incompatible duties.⁸
- B. Policies and procedures surrounding the new process at USG, including those addressing segregation of duties, are still in draft form. Some portions of this documentation should be updated and completed. For example:
 - Procedures for NSF checks don't address the necessary actions that should be taken if the new taps work is already in process.
 - Procedures for picking up customer-mailed checks from the Seattle Municipal Tower and the transfer of those checks to personnel at the Central Building where USG is located have not been documented (this is a new process).
 - In the event that changes in scope to new taps work result in additional funds due from the customer, current procedures do not address in sufficient detail how USG should communicate with SPU field crews.
 - Procedures relating to processing payments using the over-the-counter (OTC) system have not been documented in sufficient detail.
 - The Taps Internal Control/Segregation of Duties document states that AEs may create a new taps service order with a manager's approval if the management

⁸ Incompatible duties refer to job duties which should not be handled by the same person.

systems analyst is not available, however, it does not specifically state how that duty is temporarily delegated.

Risks / Impacts

- A. Personnel with incompatible duties are afforded the opportunity to misappropriate funds.
- B. The lack of clearly defined, comprehensive written policies and procedures may compromise the effectiveness of controls.

Recommendations

- A. Assign the backup function now performed by the financial analyst to other personnel whose duties are not incompatible, or alternatively, design compensating controls to mitigate the risk.
- B. Complete and finalize all policies and procedures relating to new taps, particularly those affecting financial controls such as cash handling, billing approval, and authorization to create new taps service orders. Policies and procedures should include sufficient detail to ensure that all aspects of cash handling and order authorization are addressed, activities are appropriately segregated, reconciliation processes are complete and understood, critical functions are monitored, and position titles are identified in the assignment of responsibilities. At a minimum, all policies and procedures should be approved and signed by the USG Manager and the Utilities Services Team Division Director.

Action Plan – Response from SPU:

- A. The financial analyst who performs cash reconciliation is no longer the backup for receiving customer payments. This responsibility has been given to personnel who do not perform cash reconciliations, effective June 25th, 2013. Processing and handling customer payments rest with 2 staff, USRs who are the OTC staff, and with a Management Systems Analyst (MSA) as a backup for the 2 USRs when they are not available due to absences from the office. Because the MSA has the primary responsibility of creating service orders for new taps, compensating controls have been designed when this staff might take/process customer payments for new taps. This will be documented by September 30th, 2013.
- B. SPU is currently in the process of a major organizational redesign and shift that will bring together the various pieces of Development Services (DSO) that are currently spread across the department into one group including new taps purchase and installation. As a result the process by which new taps service orders are created and processed will be more clearly defined in regards to procedure and authorization. As previously stated, the DSO redesign is set to be completed in the fall of 2013 with implementation in early 2014. This process will include the development of an ‘Authorities, Policies and Procedures Document’ (DSO Authorities documents) which will be signed by all affected Branch Executives and Division Directors. In the interim period SPU is continuing to close the gap on any issues related to segregation of duties or internal controls. Interim procedures will be formally documented by the end of October 2013.

2. Strengthen Controls for New Taps Work Initiated Outside of USG

Description

The Utility Services Group (USG), which is part of the SPU Customer Service Branch, serves as the customer interface for new taps projects. When a customer requests a project that only requires new taps work, USG serves as the point of contact for the customer. USG personnel are assigned to work with the customer to ensure all necessary documentation is completed, the design of the project is approved, project costs are appropriately calculated, and payment is collected or billing is approved. In addition, USG serves as the liaison between the customer and other divisions that perform planning, scheduling, and field work activities. They track the new taps work through to completion, ensuring that customer accounts are set up in the CCSS system with the appropriate meter numbers and that customer accounts are activated to allow billing of water usage.

In addition to USG, other divisions within SPU work with customers to install new taps as part of project work that includes other services. The divisions are as follows:

Project Delivery Branch, Project Management and Engineering Division (PMED):

This division is responsible for major projects with other government agencies for work related to bridges, tunnels and transit projects that may require water, wastewater, or drainage services. Such projects may also involve the installation of new taps, for example, for fire suppression purposes. PMED project managers interface with customers and provide the oversight for the project construction.

Project Delivery Branch, Project Support Division (PSD):

Formerly a part of PMED, this division is responsible for private contract water main extension work and works with customers such as developers and builders. PSD's project managers provide oversight for the water main and new taps construction work.

Utility Systems Management Branch, Drinking Water Division (DWD):

This division is responsible for working with other wholesale water districts when new taps are required. These water districts tap into SPU's transmission lines and in turn provide water at the retail level for their customers. Wholesale customers are on long-term contract agreements with SPU, and are billed through SPU's Accounts Receivables group. DWD relies on USG to create new customer accounts in the CCSS system when required and to create the new taps service orders.

Concern

There are no written policies and procedures that define the roles and responsibilities of the aforementioned divisions as to how new taps work should be coordinated with USG. This includes the handling of customer payments.

During interviews, division management for PMED and PSD stated that all new taps work that is brought to their divisions as part of larger projects will be referred to USG for direct handling of

the work with the customer, including the handling of customer payments. However, in past practice, billing approval, pricing, and the collection of customer payments for new taps work, though primarily handled through USG, was also handled by PSD, PMED, and DWD. For example, the project manager involved in the alleged misappropriation of water main extension and new taps customer payments worked in PMED and was involved with both the billing and collection of customer payments for such work. More recently, DWD worked with a wholesale customer whose new taps service order was initially generated in a department outside of USG by an unauthorized individual.

Risks / Impacts

The absence of clearly stated roles and responsibilities presents an opportunity for the misappropriation of funds through unauthorized collection of customer payments and unauthorized creation of new taps service orders.

Recommendation

SPU management should implement written policies and procedures that define the roles and responsibilities of each division (USG, PMED, PSD, and DWD) in the new taps process. The agreements should be signed, at a minimum, by division directors. Personnel in each division should be thoroughly trained in the policies and procedures to help ensure compliance.

Action Plan – Response from SPU:

As part of the Development Services Realignment described above, the ability of divisions outside of USG to create new taps service/work orders will be clearly defined, if they have the ability at all. We anticipate new procedures will detail which groups maintain rights to this process as well as under what specific circumstances these rights can be exercised. DSO Authorities documents will be signed by applicable Branch and Division Directors. In the interim SPU will take action to address the current circumstances including issuing a memo by the end of September 2013 from the Department Director stating which divisions have both rights and responsibilities for which financial elements as they are related to new taps services. The USG team is also currently working with the Project Delivery Branch to schedule trainings in the fourth quarter of 2013 regarding the new procedures in this area.

3. Strengthen Controls Over Creation of the New Taps Service and Work Orders

Description

As a business process, the new taps service order must first be created in the CCSS customer service system before work can begin. Within USG, this process is controlled to ensure all necessary steps have been completed *before* creation of the order so the work can be effectively planned, scheduled, and executed. Those steps include: (a) the approval of the work plan by Engineering when required, (b) the issuance of the water availability certificate, (c) the customer approval of the work evidenced by a signed water service agreement, (d) the pricing of the new taps work in accordance with standard prices or, in the case of large taps, in accordance with site-specific prices, and (e) the collection of funds in advance from customers or approval of billing on account by management.

Once the service order is created by USG, it is automatically uploaded to the Maximo work order system for processing by the Water Planning Team (WPT) of the Planning and System Support Division. WPT personnel process the new taps work orders and update the system status so they are ready for work queue retrieval by Water Transmission and Operations Division crew chiefs, who plan and schedule the work and install the new taps for the customer.

Concern

Although one individual has been designated by USG to create new taps service orders, there are as many as 300 users who can create such service orders in the CCSS customer service system. In addition, while the business process is to create Maximo work orders *only* from completed CCSS service orders, an estimated 150 or more individuals can create Maximo work orders for new taps work *without* the required service orders. The CCSS and Maximo systems do not have sufficient granularity to restrict user rights in the creation of service and work orders for new taps work⁹.

Risks / Impacts

- A. New taps service orders and work orders could be processed without proper authorization, possibly resulting in erroneous under-billing or the misappropriation of assets.
- B. If an unauthorized new taps work order was created in Maximo without the required service order in CCSS, the customer account would not be appropriately updated with meter information necessary for ongoing water usage billing.

Recommendation

SPU management should implement additional controls to mitigate the risk of creating unauthorized Maximo work orders for new taps work.

⁹ In both the CCSS and Maximo systems, users have the need to create many kinds of service and work orders in addition to those for new taps. There is currently no ability to restrict access to only one type of order in either system.

A procedure should be established for USG to periodically reconcile Maximo new taps work orders to CCSS new taps service orders, for example, monthly. This would ensure that all Maximo work orders have corresponding CCSS service orders. USG should also engage the cooperation of personnel in the Water Transmission and Operations Division (WTOD) and the water planning team in the Planning and System Support Division to verify that work orders were created by authorized personnel. This could be done, for example, by checking the “UserId” field in the “Status History” screen in Maximo. The “UserId” field is populated with the name of the user who created the CCSS service order and could be checked at the time the work queue is opened by WTOD personnel¹⁰.

Action Plan – Response from SPU:

SPU is designing a monthly reconciliation process which will tie all Maximo work orders for new taps back to corresponding CCSS service orders. This process should be finalized and implemented by the end of November 2013.

¹⁰ The “UserId” field contains the name of the person who created the CCSS service order and cannot be changed after the fact.

4. Restrict User Access to New Taps Database Applications

Description

The *Cost Statement*, *Cost Statement Project Management*, and *Cost Statement Payment Log* are database applications written in Microsoft ACCESS by a USG analyst. These applications are used to (a) print cost statements used for payment receipts for prepaid customers, (b) print cost statements used for billing by SPU Accounts Receivable, (c) track the status of cost statements, (d) track various milestones in the cycle of a new taps order, and (e) capture customer payment information.

User access to the database was designed to enforce duty segregation based on roles and responsibilities. For example, when the *Cost Statement Payment log* is updated to a “paid” status by Utilities Services Representatives (USRs), this action automatically updates the payment columns of the *Cost Statement database* with a payment date and the USR’s name. Only the USRs should have access rights to update the paid status. This update provides authorization to the management systems analyst to create the new taps service order in CCSS. As an additional example, only the AEs should create the cost statements (internal customer invoices) in the cost statement database.

Concerns

- A. User access rights to the database applications are not appropriately restricted to enforce duty segregation.
- B. The database applications were written as stand-alone applications specifically for USG’s use and are not supported by SPU’s Information Systems Division for system patches and upgrades. Furthermore, there is no system documentation to assist in troubleshooting problems in the event of a system malfunction or staff turnover.
- C. SPU has not developed manual procedures for processing new taps orders in the event of system failure.

Risks / Impacts

- A. Unauthorized user access creates the opportunity to manipulate data, thereby increasing the risk of misappropriation of customer payments or the creation of unauthorized service orders.
- B. In the event of a database system malfunction, there may not be adequate personnel support to restore system functionality in a timely manner.
- C. The lack of an established manual process may result in a segregation-of-duty breakdown in the event of system malfunction.

Recommendations

- A. Re-design user access to the database with the appropriate user access restrictions to effectively segregate duties, or alternatively, develop compensating controls to mitigate the risks.

- B. Document the system structure, rules, and security access for each of the databases. Provide for backup support of the databases in the event of a system malfunction.
- C. Design and document manual processes that maintain effective duty segregation.

Action Plan – Response from SPU:

- A. Documentation for how access to the database and what users should have rights to access them, as well as how to grant rights and restrict access, will be included in a system manual to be completed by the end of September 2013. The Customer Service Branch/USG will work with SPU IT to explore options for security, user access, and database backup.
- B. SPU agrees that further documentation for the database applications is necessary and that it will provide greater support for staff using the programs. Programming code within the application is already documented, but additional information can be included in the manual regarding how the applications work. This task will be completed by the end of September 2013 as described in 4A above. In regards to security, the limitations of using Microsoft Access to store backend data necessitate the creation of a more viable long term database solution. This will be explored further with SPU IT and as part of the overall redesign of the Development Services function, a formal intake process was initiated in early July 2013.

The backup of the databases is already provided by existing IT infrastructure processes. However, the process for recreating a database from the backup will be included in the application documentation to be completed by the end of September 2013. Additionally SPU will identify and train a current employee on the use and maintenance of these databases so that in the eventual event that the current primary employee is no longer available to maintain them there is a successor. SPU plans to have Microsoft Access training for this individual completed by Q1 2014.
- C. USG will design a manual process which will require doing business on hard copies and manually entering data in the event of system failure. This would involve utilizing physical copies of the Cost Statement or the old carbon copy Taps Receipts Books and would be a temporary strategy until systems/applications become available again. The manual process will be developed by December 2013.

5. Strengthen Controls Over the New Taps Tracking Spreadsheet

Description

A USG financial analyst designed and currently maintains a Microsoft Excel taps tracking spreadsheet as an internal control. The spreadsheet's controls are both preventative and detective in nature and are designed to ensure that (1) customer payments are received *before* new taps orders are processed, including reconciliation of payments to the STORM cash receipting system to ensure they are recorded, (2) the SPU Accounts Receivables unit generates an invoice for customers who are billed on account at the conclusion of the work, (3) service orders in the CCSS customer service system are created by authorized personnel, and (4) meter information is appropriately recorded from completed taps jobs in the CCSS customer service system to ensure customers are billed for water service usage.

Concerns

- A. Backup personnel have not been identified and trained to maintain the tracking spreadsheet.
- B. The spreadsheet is maintained on the financial analyst's local computer drive and is not accessible to other personnel.
- C. Procedures for entering and downloading data to the spreadsheet are not documented.
- D. The download of new taps service orders to this spreadsheet is from the Customer Information Database System (CIDS¹¹) database and not directly from the CCSS customer service system. According to a business applications development lead in SPU's Information Technology, there are documented problems regarding the completeness of the CIDS downloads due to inconsistencies in CCSS data.
- E. The spreadsheet is not password protected.

Risks / Impacts

The spreadsheet's effectiveness as an internal control could be compromised.

Recommendations

- A. Designate a backup person to maintain the spreadsheet whose duties are compatible with this function and provide the necessary training.
- B. Move the spreadsheet to a secured department drive.
- C. Document how the spreadsheet is used and the mechanics behind maintaining it.
- D. Consider the following options to resolve the CIDS download problem:
 - Download service order data directly from CCSS rather than from CIDS.
 - Implement a reconciliation process between CIDS and CCSS after the download to ensure the data is complete.

¹¹ CIDS was developed by SPU as a data analysis tool.

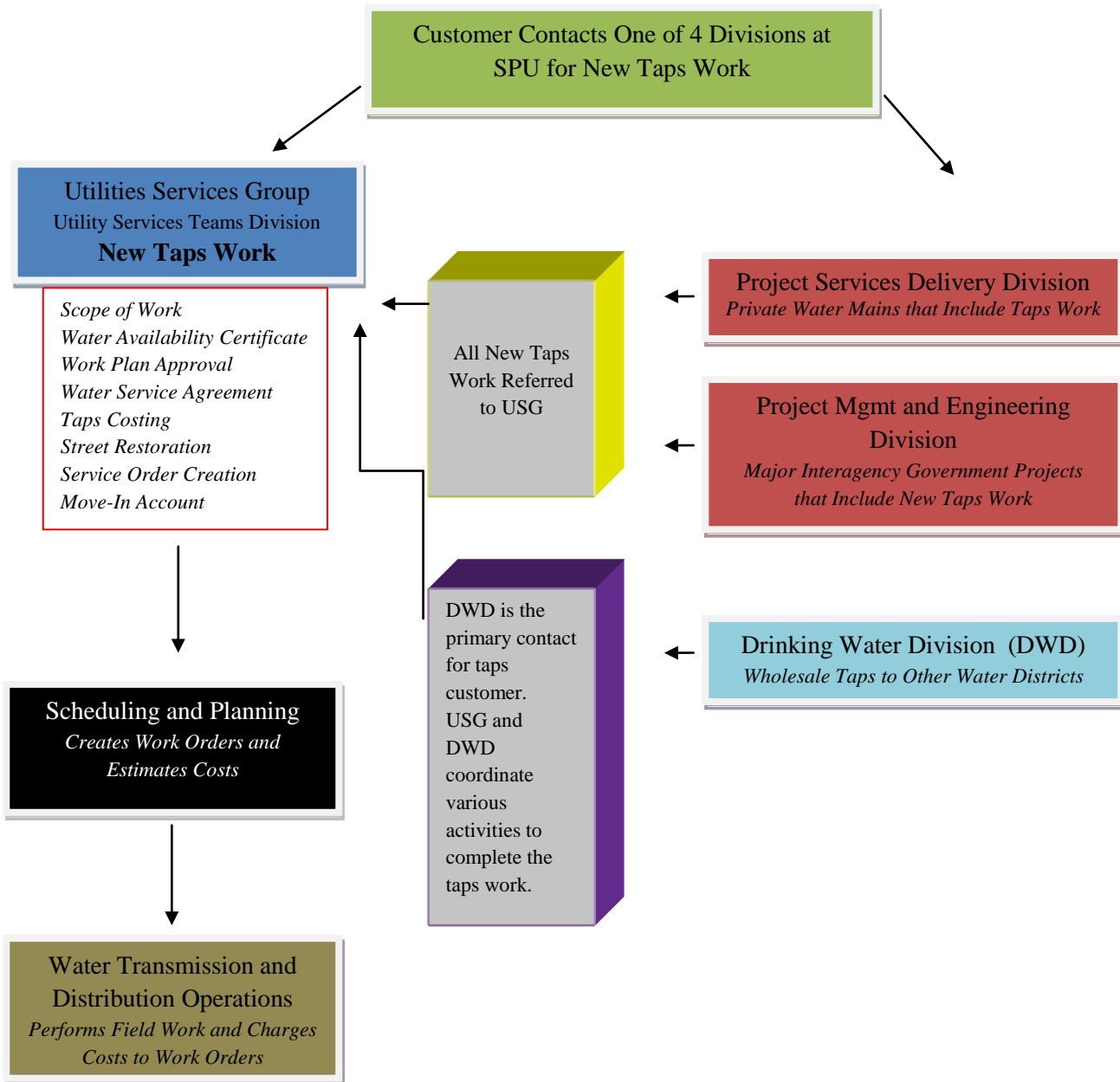
- Eliminate the "bugs" in the CIDS download process.
- E. Password-protect the spreadsheet.

Action Plan – Response from SPU:

- A. A senior MSA in the Utility Services Group has now been designated as the backup to maintain this spreadsheet. The training for the upkeep and maintenance of the spreadsheet will take place during August 2013.
- B. The spreadsheet has been moved to a restricted access area of the J:drive requiring specific read and write permissions. Only the USG Manager has the ability to grant permission to this folder and these files.
- C. SPU will document how the spreadsheet is used and maintained by the end of 2013.
- D. SPU will research whether and how data can be directly pulled from the CCSS system and will begin to use this method as the primary tool for updating the spreadsheet. If the data cannot be pulled directly from CCSS, then SPU will develop and implement a quarterly reconciliation process between CIDS and CCSS data. In either case the new process will be implemented by the end of 2013.
- E. Moving the files into a restricted access folder eliminates the need for a password protected spreadsheet. Only individuals who are granted access to the folder will be able to edit this document.

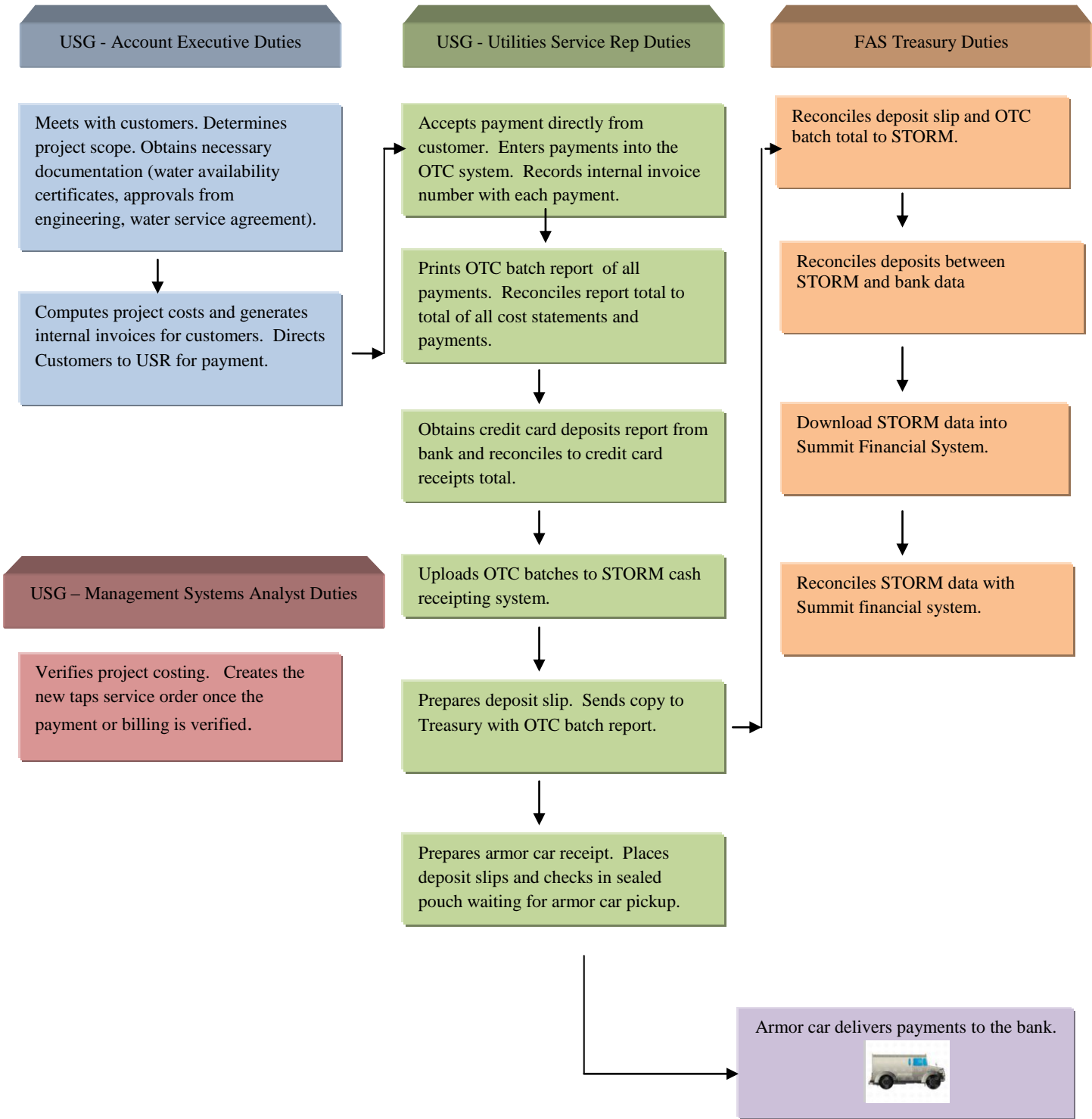
APPENDIX 1

New Taps Services – SPU Inter-Departmental Relationships



APPENDIX 2

Customer Order and Cash Handling Process





Memorandum

Date: August 15, 2013

To: Marc Stepper, Assistant City Auditor

From: Guillemette Regan, Director of Risk and Quality Assurance

**Cc: Susan Sanchez, Customer Service Branch Deputy Director
Melina Thung, Finance & Administration Deputy Director
Vic Roberson, Director of Utility Service Teams
Bob Keenan, Acting Director of Planning and System Support
Nicholas Vincent, Quality Control Analyst
Robin Howe, Assistant City Auditor**

Re: SPU response to Draft Audit of New Water Taps

Seattle Public Utilities (SPU) is pleased to respond to the City's draft Audit report on New Water Services (Taps); we welcomed the City Auditor's review of SPU's internal controls related to this body of work, we found the process and approach taken by the City Auditor's audit team during the field work to be professional and cordial.

The audit report refers to the Joe Phan alleged embezzlement case, which was uncovered by SPU in December of 2011. As of July 2013, SPU has recovered all known misappropriated funds. Mr. Phan is awaiting trial as a result of a criminal case filed by the King County Prosecuting Attorney's Office. SPU dedicated staff resources to research and determine the whereabouts of missing payments identified in this audit and were able to resolve a number of them; we have now exhausted all means of resolving that remaining unaccounted for payments. SPU will provide a copy of this report to the King County Prosecuting Attorney's Office in the event this information is useful to them.

We've outlined below the actions that SPU will take to address each of the five audit findings and their individual recommendations. As we indicated during the audit process, SPU is undergoing an extensive re-design of all processes associated with developer projects, including those related to the acquisition and installation of new taps, which is anticipated to be completed this fall with implementation beginning in early 2014. This redesign will extensively change existing processes. SPU also began internal control improvements to the new taps processes in 2012 with a number of new systems and interim policies and procedures having been developed and implemented. Our goal is to adopt internal controls sufficient to reduce the risks identified in the audit in a cost-effective manner given the level of imminent change to this body of work. Our response numbers below correspond to the respective audit findings in the audit report.

1. Define USG New Taps Process in Sufficient Detail and Segregate Backup Functions

- A. Assign different staff as back up personnel to eliminate duties overlap.

The financial analyst who performs cash reconciliation is no longer the backup for receiving customer payments. This responsibility has been given to personnel who do not perform cash reconciliations, effective June 25th, 2013.

Processing and handling customer payments rest with 2 staff, USRs who are the OTC staff, and with a Management Systems Analyst (MSA) as a backup for the 2 USRs when they are not available due to absences from the office. Because the MSA has the primary responsibility of creating service orders for new taps, compensating controls have been designed when this staff might take/process customer payments for new taps. This will be documented by September 30th, 2013.

- B. Complete Policies and Procedures relating to new taps. Include detail, controls and director approvals.

SPU is currently in the process of a major organizational redesign and shift that will bring together the various pieces of Development Services (DSO) that are currently spread across the department into one group including new taps purchase and installation. As a result the process by which new taps service orders are created and processed will be more clearly defined in regards to procedure and authorization. As previously stated, the DSO redesign is set to be completed in the fall of 2013 with implementation in early 2014. This process will include the development of an 'Authorities, Policies and Procedures Document' (DSO Authorities documents) which will be signed by all affected Branch Executives and Division Directors. In the interim period SPU is continuing to close the gap on any issues related to segregation of duties or internal controls. Interim procedures will be formally documented by the end of October 2013.

2. Strengthen Internal Controls for New Taps Work Initiated Outside of USG

- A. Implement written Policies and Procedures that defines the role of divisions outside USG in regards to new taps.

As part of the Development Services Realignment described above, the ability of divisions outside of USG to create new taps service/work orders will be clearly defined, if they have the ability at all. We anticipate new procedures will detail which groups maintain rights to this process as well as under what specific circumstances these rights can be exercised. DSO Authorities documents will be signed by applicable Branch and

Division Directors. In the interim SPU will take action to address the current circumstances including issuing a memo by the end of September 2013 from the Department Director stating which divisions have both rights and responsibilities for which financial elements as they are related to new taps services. The USG team is also currently working with the Project Delivery Branch to schedule trainings in the fourth quarter of 2013 regarding the new procedures in this area.

3. Strengthen Controls over Creation of the New Taps Service and Work Orders

- A. Minimize the risk of Maximo service orders being falsely created without CCSS service orders by reconciling monthly.

SPU is designing a monthly reconciliation process which will tie all Maximo work orders for new taps back to corresponding CCSS service orders. This process should be finalized and implemented by the end of November 2013.

4. Restrict User Access to New Taps Database Applications

- A. Use user access to database to effectively create proper segregation of duties or alternatively design some other compensating control to mitigate this risk.

Documentation for how access to the database and what users should have rights to access them, as well as how to grant rights and restrict access, will be included in a system manual to be completed by the end of September 2013. The Customer Service Branch/USG will work with SPU IT to explore options for security, user access, and database backup.

- B. Document the structure, rules, security access for each database and create data backup procedures for the possible event of a system malfunction or the loss of data.

SPU agrees that further documentation for the database applications is necessary and that it will provide greater support for staff using the programs. Programming code within the application is already documented, but additional information can be included in the manual regarding how the applications work. This task will be completed by the end of September 2013 as described in 4A above.

In regards to security, the limitations of using Microsoft Access to store backend data necessitate the creation of a more viable long term database solution. This will be explored further with SPU IT and as part of the overall redesign of the Development Services function, a formal intake process was initiated in early July 2013.

The backup of the databases is already provided by existing IT infrastructure processes. However, the process for recreating a database from the backup will be included in the application documentation to be completed by the end of September 2013. Additionally SPU will identify and train a current employee on the use and maintenance of these databases so that in the eventual event that the current primary employee is no longer available to maintain them there is a successor. SPU plans to have Microsoft Access training for this individual completed by Q1 2014.

- C. Design and document manual processes that maintain effective duty segregation.

USG will design a manual process which will require doing business on hard copies and manually entering data in the event of system failure. This would involve utilizing physical copies of the Cost Statement or the old carbon copy Taps Receipts Books and would be a temporary strategy until systems/applications become available again. The manual process will be developed by December 2013.

5. Strengthen Controls over the New Taps Tracking Spreadsheet

- A. Designate and train an appropriate backup on how to use the spreadsheet.

A senior MSA in the Utility Services Group has now been designated as the backup to maintain this spreadsheet. The training for the upkeep and maintenance of the spreadsheet will take place during August 2013.

- B. Move the spreadsheet to a secured department drive.

The spreadsheet has been moved to a restricted access area of the J:drive requiring specific read and write permissions. Only the USG Manager has the ability to grant permission to this folder and these files.

- C. Document how the spreadsheet is used and the mechanics behind maintaining it.

SPU will document how the spreadsheet is used and maintained by the end of 2013.

- D. Resolve the CIDS data download process completeness issues.

SPU will research whether and how data can be directly pulled from the CCSS system and will begin to use this method as the primary tool for updating the spreadsheet. If the data cannot be pulled directly from CCSS, then SPU will develop and implement a quarterly reconciliation process between CIDS and CCSS data. In either case the new process will be implemented by the end of 2013.

- E. Password-protect the spreadsheet.

Moving the files into a restricted access folder eliminates the need for a password protected spreadsheet. Only individuals who are granted access to the folder will be able to edit this document.