

**DISTRICT OF COLUMBIA  
WATER AND SEWER AUTHORITY**

**Board of Directors**

*Audit Committee*

*Thursday, June 26, 2014*

9:30 a.m.

1. **Call to Order**.....Edward L. Long, Jr.  
Vice Chairperson
  
2. **Review of Internal Audit Status**.....Joseph Freiburger
  - A. Sewer Services – Construction & Repair report
  - B. Outside Contractor Management – Part 1 report
  - C. Emergency Management – Recovery report
  - D. Safety Compliance – Part 2 report
  
3. **Executive Session** .....Edward L. Long, Jr.
  
4. **Adjournment**.....Edward L. Long, Jr.



*Internal Audit Update*

*Audit Committee Meeting*

*June 26, 2014*

The following represents a summary of the activities and achievements since the April 24, 2014 meeting.

## I. Highlights

Performance of scheduled internal audits – Internal Audit performed audit work in ten separate audit areas. Four final reports were issued to conclude the work performed under the FY2014 Internal Audit Plan (Sewer Services – Construction and Repair, Outside Contractor Management – Part One, Emergency Management – Recovery, and Safety Compliance – Part Two). We have completed the fieldwork and prepared the initial draft report for three audits from the FY2014 Internal Audit Plan (Emergency Management – Mitigation and Response, GIS System, and Outside Contractor Management – Part Two) and are in the process of obtaining Management feedback and issuing the final audit report. Additionally, three audits from the Audit Plan (IT – Disaster Recovery, IT – Asset Management, and Warehousing and Inventory) are in progress. The chart below depicts the FY2014 planned projects and their status.

A. **Stage of Audits & Special Projects** – The following represents an indication of the stage of completion for each scheduled audit.

PROJECT	PLANNING / SCOPING	FIELDWORK	DRAFT REPORT	FINAL REPORT
Legal Operations				
Disposal of Assets				
Clean Rivers Project Management				
Safety Compliance – Part 1				
Employee Benefit Plans				
Sewer Services – Construction & Repair				
Outside Contractor Management, Part 1				
Emergency Management - Recovery				
Emergency Management – Mitigation and Response				
IT – Disaster Recovery				
Safety Compliance – Part 2				
IT – Asset Management				
GIS System				

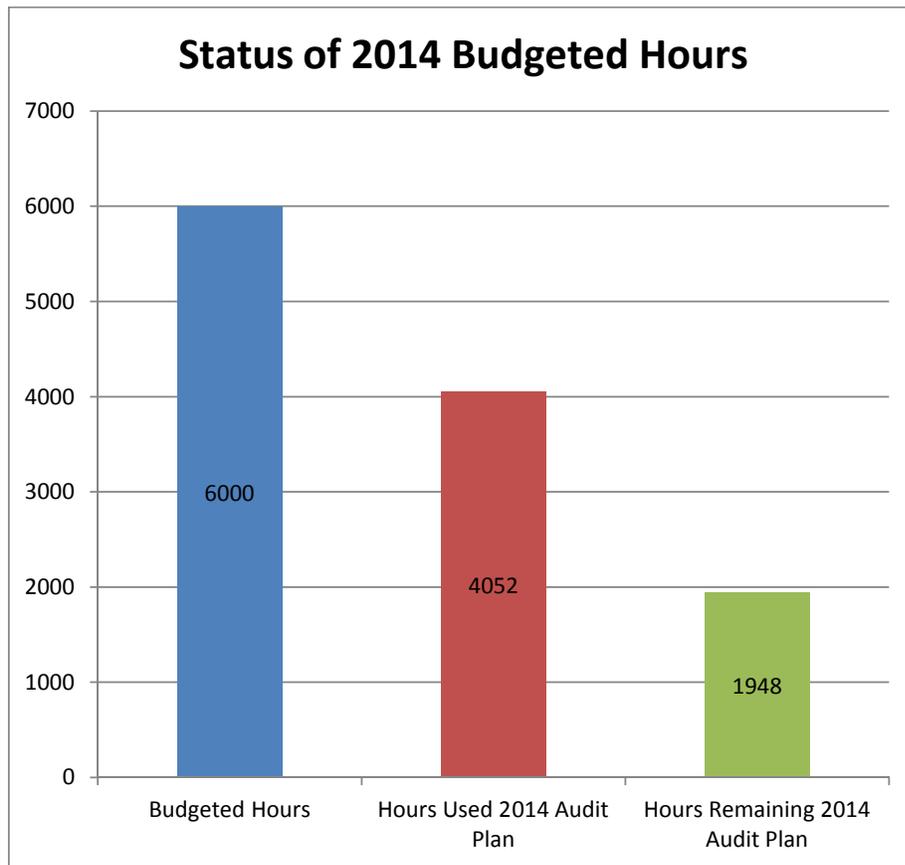
Outside Contractor Management, Part 2				
Maintenance Services				
Warehousing & Inventory				
IT – Lawson Integration				

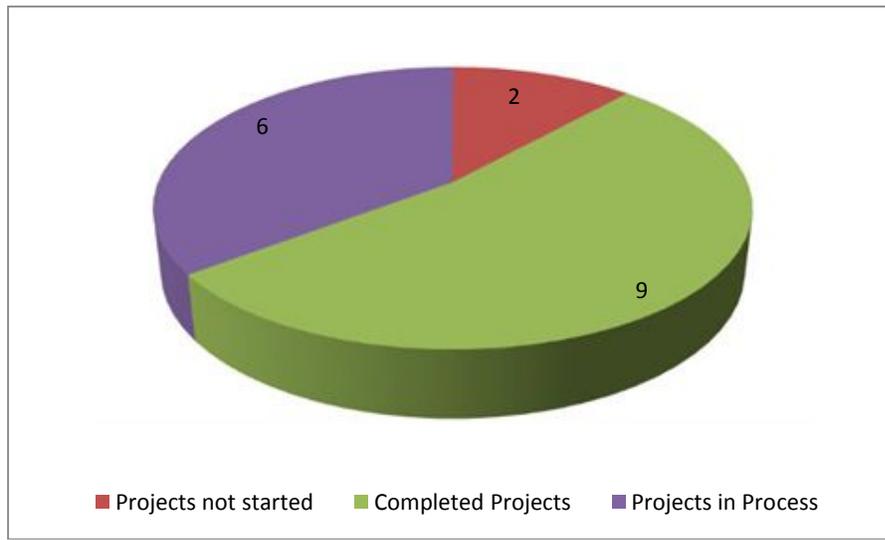
B. **Analysis of key milestone dates** – The following represents an indication of the date of completion of key project milestones.

PROJECT	START DATE	FIELD-WORK END DATE	DRAFT REPORT ISSUANCE DATE	FINAL REPORT
Legal Operations	10/14/2013	1/17/2014	1/24/2014	2/11/2014
Disposal of Assets	10/14/2013	12/6/2013	1/22/2014	2/18/2014
Clean Rivers Project Management	11/13/2013	1/17/2014	1/27/2014	2/11/2014
Safety Compliance – Part 1	12/18/2014	1/22/2014	1/29/2014	2/18/2014
Employee Benefit Plans	1/29/2014	3/26/2014	3/31/2014	4/2/2014
Sewer Services – Construction & Repair	2/6/2014	3/31/2014	4/4/2014	5/12/2014
Outside Contractor Management, Part 1	2/11/2014	3/28/2014	4/2/2014	5/23/2014
Emergency Management - Recovery	2/7/2014	4/8/2014	4/10/2014	5/12/2014
Emergency Management – Mitigation and Response	4/7/2014	4/29/2014	5/6/2014	
IT – Disaster Recovery	3/31/2014			
Safety Compliance – Part 2	4/10/2014	4/29/2014	5/23/2014	6/19/2014
IT – Asset Management	6/4/2014			
GIS System	4/22/14	6/5/2014	6/17/2014	
Outside Contractor Management, Part 2	4/7/2014	5/30/2014	6/16/2014	
Maintenance Services				
Warehousing & Inventory	6/9/2014			
IT – Lawson Integration				

## II. 2014 Audit Plan Status

**Analysis of Hours** – The chart below indicates the actual hours used through May 31, 2014 toward completion of the internal audit plan, along with an indication of total hours included in the FY2014 plan.





## Reports Issued Since the Last Audit Committee Meeting

### 1. Sewer Services – Construction and Repair

The overall audit objective was to evaluate the effectiveness and efficiency of the operations and activities of the Construction & Repair (C&R) group as well as to ensure compliance with applicable laws and regulations. Specific audit objectives were:

- To ensure that C&R activities are in compliance with corporate policies and procedures, safety guidelines, as well as applicable laws and regulations;
- To determine the efficiency and effectiveness of the C&R work order assignment and prioritization processes for emergency maintenance, corrective maintenance, and preventative maintenance;
- To ensure C&R activities are operating in a cost-effective and efficient manner and that industry best practices/changes are appropriately monitored and considered;
- To ensure that C&R is properly monitoring their external contractor including required inspections, invoice review and approval, and that services performed are within the scope of services;
- To ensure that proper controls exist to budget and monitor the C&R inventory and to track job costing associated with repair jobs.

Internal audit concluded that Construction & Repair effectively monitors and responds to emergency and non-emergency repair projects. Internal Audit concluded that the internal controls surrounding the operational aspects of C&R are effective and appropriate emphasis is placed on ensuring customers are relieved timely. However, we noted that the Department of Sewer Services use of the asset management system, Maximo, is inconsistent among users resulting in data integrity issues.

Additionally, we identified some items that should be addressed by management in order to further strengthen DC Water's Sewer Services Construction & Repair processes. In particular, there is a need to address the following:

- Inconsistent use of Maximo resulting in data quality and data completeness deficiencies;
- Inaccurate and/or incomplete information on the open work order report (backlog);
- Ineffective prioritization of work orders;
- Need for more workers to be trained or hired to increase the execution of CIPP linings;
- Inability to track CIPP Lining details effectively in Maximo;
- Lack of inventory and materials tracking reports and processes; and
- Incapacity to adequately inspect contractors in the field with current headcount of inspectors.

This audit resulted in the addition of seven Management Action Items in the chart in Section III Follow Up.

## **2. Outside Contractor Management – Part 1**

Our overall audit objective was to evaluate the effectiveness and efficiency of the operations and activities around the management of outside contractors. Specific audit objectives included:

- Ensure that all selected vendor contracts are complete, current and properly executed;
- Determine whether the delivery of contracted goods or services is properly tracked and monitored;
- Examine whether the vendor has met all terms and conditions of their contract;
- Evaluate management's oversight of contractor billing; and,
- Assess whether management's oversight of contractors is adequately documented.

Internal Audit concluded that the vendor contracts selected were complete and properly executed. The activities performed by the outside contractors and the delivery of the terms in the vendor contracts are being properly tracked and monitored. We also concluded that Management's oversight of outside contractors is adequately documented.

We identified several items that should be addressed in order to further strengthen the management of vendor contracts. In particular, there is a need to address the following:

- Ensure that changes to a contract's assigned COR or COTR, as well as any associated responsibilities, are only made by the General Manager, and that evidence of the approved change is retained in the contract folder;
- Ensure that insurance certificates for outside contractors are updated and retained on a consistent basis for each option year of the contract; and,
- Ensure that all invoices are properly validated for accuracy and completeness prior to approval for payment.

This audit resulted in the addition of three Management Action Items in the chart in Section III Follow Up.

### **3. Emergency Management – Recovery**

Our overall audit objectives included an evaluation of the Office of Emergency Management’s Continuity of Operations Plan (COOP). Specific audit objectives included:

- Evaluate the adequacy and completeness of DC Water’s COOP plan;
- Determine whether the COOP is properly reviewed and updated in order to remain effective;
- Ensure that critical resources have been properly identified and addressed;
- Evaluate the adequacy and occurrence of tests, training, and exercises performed for recovery activities; and,
- Determine whether appropriate procedures have been established for recovery measures, and if the requirements of the COOP are being met.

We concluded that while the COOP has been documented, several opportunities for improvement exist to assure the successful execution of the Recovery Phase. Internal Audit identified instances of out-dated, inaccurate, and incomplete information in the COOP, as well as non-compliance to the current requirements of the plan.

We identified items that should be addressed by management in order to better prepare DC Water to continue essential functions during a disruption of normal operations. In particular, there is a need to address the following:

- The COOP plan is not thoroughly reviewed and updated on an annual basis; and the Operations Section of the COOP, which lists the identified critical resources for each department, is inconsistent and incomplete;
- The alternative locations assigned for each department needs to be evaluated for capacity and feasibility;
- Training and exercises related to the continuity of operations activities documented through the COOP have not been provided or performed for all employees;
- Detailed department-specific recovery procedures needs to be developed; and,
- The requirements and activities of the segments of the COOP requirements and activities have not been met.

This audit resulted in the addition of five Management Action Items in the chart in Section III Follow Up.

### **4. Safety Compliance – Part Two**

Our overall audit objective was to evaluate the effectiveness and efficiency of the operations and activities around DC Water’s compliance with occupational safety requirements. Specific audit objectives included:

- Complete occupational safety requirement checklists for a selection of DC Water buildings;
- Evaluate whether the selected DC Water buildings meet the safety requirements imposed by the District of Columbia, and,

- ❑ Identify areas of potential non-compliance and communicate them to management for investigation and remediation.

The audit included additional evaluations of compliance with occupational safety standards for work environments at six DC Water buildings. The selected buildings included:

- Blue Plains – Biosolids Building
- O Street – Pumping Station
- O Street – Building F
- Fort Reno – Pumping Station
- 810 1<sup>st</sup> Street
- 80 M Street

The audit process included the physical inspection of each of the six buildings, and the completion of a safety compliance checklist comprised of specific occupational safety requirements that we believe to be applicable for each of the buildings. A primary focus was placed on items that were observable by Internal Audit staff during our inspections of each selected building.

We concluded that the six additional DC Water building sites included in the scope of our walkthroughs are largely in compliance with occupational workplace safety requirements. We noted some instances of potential non-compliance. The details of each instance were communicated to management for them to review and address in order to strengthen DC Water's adherence to occupational safety requirements.

This audit resulted in the addition of one Management Action Item in the chart in Section III Follow Up.

### **III. Follow Up**

In addition to our work performed relative to the audit projects identified in the FY2014 Internal Audit Plan, Internal Audit conducted follow-up activity relative to previously reported audit comments. The table below summarizes the issues by area of responsibility and the current status of the action plan proposed by Management.

	Chief Engineer	AGM Blue Plains	AGM Customer Care & Operations	Chief Financial Officer	General Counsel	Chief Information Officer	AGM Support Services	General Manager	Total
New Management Action Plans Since Previous Meeting	-	-	13	-	-	-	3	-	16
Management Action Plans Implementation Date Not Expired	1	9	20	2	2	1	11	-	46
Management Action Plans Implementation Date Expired	-	-	-	-	-	-	-	-	-
Total	1	9	33	2	2	1	14	-	62

**Please note that there are no Management Action Plans with Expired Implementation Dates at this time.**

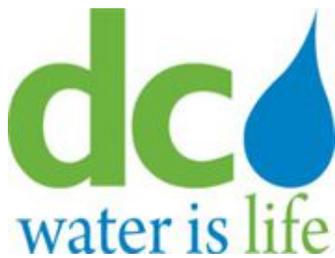
#### **IV. Other Topics**

##### **Special Project: HCM Recruiting**

We completed our review of the HCM department’s recruiting procedures. On May 1, 2014, we issued a memorandum to the attention of Katrina Wiggins, Chief of Staff summarizing the results of our review.

##### **Fraud Hotline**

To date, a total of 19 cases have been received as a result of the Fraud, Waste and Abuse hotline. Four of the 19 cases have been received since the April 24 Audit Committee meeting. The new cases pertain to HCM and DETS and are being investigated. Sixteen of the 19 reports have been investigated and closed, including one of the cases received since the previous Audit Committee meeting.



**Department of Sewer Services – Construction & Repair  
Internal Audit Report**

May 12, 2014

**Internal Audit Team**

Director: Joe Freiburger

Manager: Rebecca Jordan

Associate: Kaitlin O'Hara

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## EXECUTIVE SUMMARY

### **Background**

DC Water's Department of Sewer Services operates one of the oldest sewer systems in the United States, which began operating in the early 1800's. Today, DC Water services over 1,800 miles of sanitary, combined and storm sewers, 16 storm water stations, 25,000 catch basins and 50,000 manholes along with 22 flow-metering stations. DC Water operates a wastewater collection system comprised of a combined sewer system, which combines sewer water and storm water, and a separate sewer system, which separates sewer and storm water. The Department of Sewer Services is continually updating its sewer system by replacing out of date piping and infrastructure, exploring new efficient and more effective methods to maintain the sewer system and updating current processes and equipment used in the sewer operation.

Cuthbert Braveboy, the Director of the Department of Sewer Services (DSS), is responsible for a staff of over 150 employees. Within the Sewer Services department, two groups work together to operate and maintain a safe and sanitary sewer transmission and distribution system. Those groups are Inspection and Maintenance, and Construction and Repair.

As part of the FY13 Internal Audit Plan, an internal audit was performed on the Inspection and Maintenance (I&M) department. As part of the FY14 Internal Audit Plan, this internal audit has been performed on the Construction and Repair (C&R) Department. Several findings identified during the Inspection and Maintenance review were relevant to Sewer Services as a whole, and were therefore not tested during this audit. Findings from that report, issued in June 2013, related to Training, Policies and Procedures, Performance Evaluations, and Quality Control, are currently being tracked on the Management Action Plan Report and therefore will not be included in the observations and recommendations of this report.

Muminu Badmus, Manager of Construction and Repair, is responsible for overseeing all supervisors, administrative staff, and field crews (totaling approximately 45 employees). He is additionally responsible for oversight of Corinthian Contractors, Inc, who currently has two contracts with DSS, the Sewer Lateral Replacements contract and the Sanitary Sewer Rehabilitation and Extension contract. Daily, Corinthian provides 5-10 crews as needed based on variables such as technical needs (e.g. access to larger equipment such as cranes), ongoing construction projects (initiated through collaboration with Engineering), or overflow of maintenance and repair work orders beyond internal capacity. Three engineering technicians are currently responsible for daily site visits and the inspection of work performed at completion.

Additionally, Mr. Badmus spearheads the use of the innovative technology, Cured in Place Pipe (CIPP), a trenchless technology which reduces costs, disruption, and saves time in comparison to the traditional excavation method.

The C&R group of DSS is responsible for the repair and maintenance of the District's manholes, catch basins, sewer main lines, and sewer laterals. C&R works closely with each Sewer Services department, as well as Customer Services, Engineering, Water Services, and various external customers to execute their daily activities and ensure the effective repair and maintenance of the district's sewer infrastructure.

Internal or external customers contact Customer Service, who creates a work order in Maximo which is routed to the Inspection and Maintenance (I&M) group for investigation. I&M crews are responsible for assessing the situation at the address, relieving the customer if possible, by snaking or jetting, and updating Maximo with the work performed and the need for additional work, if necessary. Any additional work must be performed by the C&R group, as I&M crews do not perform excavations. Once a work order is routed to the C&R group, it is either assigned to an in-house crew, assigned to their contractor's crew (Corinthian), or if the work order is not considered an emergency it will not be assigned and therefore become scheduled work (backlog). Construction crews are responsible for notifying the public and performing the necessary repairs; foremen and inspectors are responsible for ensuring safe work sites and inspecting completed work. Once the work order is completed in Maximo, it is routed to Technical Support Services in the Water Services Department, who are responsible for restoring the disturbed public space for both Water and Sewer Services.

### **Objectives**

The overall audit objective was to evaluate the effectiveness and efficiency of the operations and activities of the Construction & Repair group as well as to ensure compliance with applicable laws and regulations. Specific audit objectives were:

- To ensure that C&R activities are in compliance with corporate policies and procedures, safety guidelines, as well as applicable laws and regulations;
- To determine the efficiency and effectiveness of the C&R work order assignment and prioritization processes for emergency maintenance, corrective maintenance, and preventative maintenance;
- To ensure C&R activities are operating in a cost-effective and efficient manner and that industry best practices/changes are appropriately monitored and considered;
- To ensure that C&R is properly monitoring their external contractor including required inspections, invoice review and approval, and that services performed are within the scope of services;
- To ensure that proper controls exist to budget and monitor the C&R inventory and to track job costing associated with repair jobs.

### **Audit Scope and Procedures**

This audit was conducted as a part of the approved FY2014 internal audit plan. The audit was initiated in February 2013 and completed in March 2013. The audit included an evaluation of the physical controls, as well as the processes and procedures of the C&R group. The audit process included interviews with appropriate individuals of the C&R group, the Technical Support Services group, and the Safety department. The audit process also included substantive testing of a sample of C&R closed and open work orders, safety inspections, inventory procedures, and contractor management. Emphasis was placed on the identification of risks that could adversely affect C&R activities and the efficient performance of these activities.

### **Summary of Work**

Internal audit concludes that Construction & Repair effectively monitors and responds to emergency and non-emergency repair projects. Internal Audit concludes that the internal controls surrounding the operational aspects of C&R are effective and appropriate emphasis is placed on ensuring customers are relieved timely. However, Internal Audit noted that the Department of Sewer Services use of the asset management system, Maximo, is inconsistent among users resulting in data integrity issues.

Additionally, Internal Audit has identified some items that should be addressed by management in order to further strengthen DC Water's Sewer Services Construction & Repair processes. In particular, there is a need to address the following:

- Inconsistent use of Maximo resulting in data quality and data completeness deficiencies;
- Inaccurate and/or incomplete information on the open work order report (backlog);
- Ineffective prioritization of work orders;
- Need for more workers to be trained or hired to increase the execution of CIPP linings;
- Inability to track CIPP Lining details effectively in Maximo;
- Lack of inventory and materials tracking reports and processes; and
- Incapacity to adequately inspect contractors in the field with current headcount of inspectors.

SC&H Consulting

By:

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Joe Freiburger, CPA, CIA

**DETAILED OBSERVATIONS AND RECOMMENDATIONS**

**I. Data Consistency and Completeness in Maximo**

<p><b>Observation:</b> Since multiple parties are responsible for updating Maximo on a regular basis, the information within various Maximo fields can be inconsistent across work orders. The remarks/comments fields are often inadequate to determine the work that has been performed or what work should be performed. Work orders are assigned from group to group, but comments within Maximo rarely tell a complete story of the history of the issue, and it does not provide an accurate timeline of the execution of the work order.</p> <p>We noted exceptions in the following areas that need to be addressed in relation to consistency of data input in Maximo:</p> <ol style="list-style-type: none"> <li>1. Timeliness and frequency of work order updates;</li> </ol>	<p><b>Recommendation:</b> Management should develop detailed procedures for Maximo use and address best practices for each field to ensure consistency across the department. To improve data quality, Management should work with IT to develop work order forms that are more tailored to Sewer Services’ needs, including more drop-down boxes to reduce the need for commentary. For example, adding check boxes indicating if a customer’s stoppage was relieved and fields to document “Work Performed” by preceding groups with various drop downs or check boxes to clarify what work was performed by the preceding group so as to not duplicate efforts.</p>	<p><b>Management’s Action Plan:</b> DSS and IT are currently involved in an application development project to improve the scheduling, recording, tracking and reporting of emergency work and corrective and preventative maintenance on sewer assets. We selected catch basins as the prototype or first asset to redefine work flow using Maximo Work Management, Maximo Spatial and ESRI GIS. The project completion date is scheduled for implementation in August 2014. Once implemented we will begin working on the remaining sewer assets, which should extend into 2015.</p> <p>DSS will hire an Asset Manager to address internal processes. DSS will work with HMM to prepare SOPs.</p>
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<p>2. Adequacy of comments in the “Remarks” field;</p> <p>3. Accurate completion of the “Actual Start” and “Actual Finish;”</p> <p>4. Proper classification of work orders to as Emergency (EM) and Corrective (CM) maintenance;</p> <p>5. Segregation of duties to ensure the initiation of work orders goes to the Command Center to eliminate duplication;</p> <p>6. Proper linking of work orders and related tasks;</p> <p>7. Requirements to ensure the proper attachments are scanned into Maximo for each C&amp;R work type.</p> <p><b>Risk:</b>                  The lack of formalized policies and procedures related to Maximo prevents Management from establishing appropriate internal controls and could adversely affect the department’s ability to effectively respond to customer’s needs.</p>	<p>The Department of Sewer Services needs a liaison in IT or a Maximo expert who fully understands their workflow and needs to ensure they are optimally utilizing Maximo and all of its capabilities to increase department productivity. This individual could be a go-to person for any questions, changes, or reporting needs. As both the Department of Water Services and the Department of Sewer Services move toward job costing and other crew productivity measures, this role will become increasingly important.</p> <p>Management should additionally ensure that supervisors are performing QA/QC procedures to ensure the data integrity of Maximo inputs. A periodic self review should be performed with results reported to Management and used for training of all department Maximo users.</p>	<p><b>Implementation Date:</b>                  07/30/2015</p>
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Without adequate and periodic training in Maximo, there is an increased risk of poor customer service, inefficient operations, and an inability to properly address emergency issues.

Management should ensure all Maximo users receive a formal training at least twice a year until an acceptable level of consistency and data integrity is obtained.

**II. Backlog**

**Observation:**

Of twenty open work orders tested, there were no comments in the remarks fields in work order detailing plans, or conditions associated with work order that assist in the prioritization of the backlog. Ten of the twenty work orders are classified as EM, (emergency maintenance) as opposed to CM (corrective maintenance).

Internal Audit additionally noted that four of the twenty work orders appeared to have been closed in subsequent work orders performed at the same address, but the work order remained open. The background or origination of an additional seven work orders were questionable. Based on information within previous work orders or lack of relevant information within the tested work order, it was difficult to determine if the work was necessary or if the work order is valid.

**Recommendation:**

Management should assign the task of evaluating the validity of all open work orders assigned to the C&R group. Any invalid or completed work orders should be closed, allowing only items truly in need of repair to be on the backlog. Any research performed deemed beneficial for each work order investigated should be added to the remarks section in Maximo to ensure each work order can be properly prioritized in the future.

Once the backlog is accurate, a monthly aged report should be provided to Management to ensure works orders are valid and will be assigned in the future.

Further, Management should work with IT to expand functionality in Maximo, if possible. C&R Management may decide that a work order may not be critical to complete, and therefore it can wait.

**Management’s Action Plan:**

DSS will make request for a scheduler in FY2015 revised budget.

The new Asset Manager will lead a team from both divisions of Sewer Services to determine priority on backlog.

**Implementation Date:**

06/30/2015

<p><b>Risk:</b>                  Without accurate information in Maximo, it could be difficult to plan or schedule work based on priority. Additionally, time and resources could be wasted performing work that is no longer necessary or going to sites that have already been completed.</p> <p>Further, inaccurate data in the system could result in ineffective reports being distributed to Management which could, in turn, adversely affect decision-making.</p>	<p>They may also decide to assign the work order to Engineering until it can be fixed through CIP or until an emergency requires immediate repair. These work orders should not continue to clog up the backlog, therefore; Management needs the ability to assign a work order to Engineering or otherwise close out a work order without appearing to have completed the work. Simply marking the work order as COMPLETE could be misleading and inaccurately capture work performed.</p>	
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**III. Prioritization/Scheduling**

**Observation:**

The work order is the primary tool for managing labor and equipment resources and measuring the overall department effectiveness. Our review indicated that there is no effective prioritization of work orders as they are received and updated throughout the workflow as more information is attained. Incoming work orders, as well as existing open work orders on the backlog, are currently not identified by priority.

Further, it was noted that best practices of proactive maintenance departments is to have a planner-scheduler would have knowledge of the department’s maintenance workflow, but would be also responsible for various administrative tasks. Most importantly, the planner-scheduler could be the data owner of Maximo for Sewer Services.

**Recommendation:**

Management should work with the Inspection and Maintenance (I&M) group and Customer Service to ensure all work orders are properly prioritized and that the prioritization is updated as new information becomes available. Further, prioritization needs to be documented and defined by the required response time. For example, sewer service stoppages should be addressed within 24 hours and relieved customers with repeat stoppages could be addressed within a few business days. By defining these priority levels and entering them into Maximo, it will increase C&R’s ability to respond to customer’s needs effectively and efficiently and it will aid in planning and scheduling daily tasks.

Further, we recommend that the Department of Sewer Services consider hiring or training an employee to be a planner-scheduler.

**Management’s Action Plan:**

Continue working with Customer Services to prioritize and update work orders.

Establish team from I&M and C&R to determine priority on backlog.

Require to perform QA/QC on a weekly basis to ensure information is adequately captured in Maximo.

Make request for scheduler in FY 2015 revised budget.

**Implementation Date:**

06/30/2015

<p>This individual could increase department effectiveness and efficiency as it can increase segregation of duties and data integrity. Further, this will allow foreman to spend more time to be in the field supervising their crews and less time in the office.</p> <p><b>Risk:</b>                  Without properly prioritizing work orders, existing and new, there is a risk that response time to customer issues is both ineffective and inefficient which could negatively impact the customer’s experience with DC Water and DC Water’s reputation to the public.</p> <p>Without appropriate prioritization, the planning, scheduling and assignment of work could be ineffective.</p>	<p>This individual could assist the department in various ways, such as assistance with prioritization and assignment of work orders; providing detailed job plan instructions, parts requirements, and drawings when needed; maintenance of the backlog; ensuring data quality and data completeness into Maximo, real-time tracking of parts, tools, materials and equipment; input of critical job costing variables; and creating meaningful reports out of Maximo.</p> <p>To supplement the planner-scheduler, Foremen should be required to perform a QA/QC on a weekly basis to ensure information is adequately captured in Maximo.</p>	
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**IV. Trenchless Technology**

**Observation:**

C&R has been utilizing an innovative and cost effective technology, known as Cured in Place Pipe (CIPP) or trenchless technology, which is involves lining a sewer lateral to repair damaged or deteriorating pipes. While this technology is relatively new, it is considered by industry experts to be a long term fix as each lining is expected to last for fifty years or longer.

The benefit to this technology is that there is no need for excavation if the property has a clean-out installed. This results in a reduction of time and costs to complete the repair and overall public inconvenience. It is also safer and requires no public space restoration.

Internal Audit noted there is only one in-house crew that is certified and trained to do CIPP lining projects.

**Recommendation:**

More C&R workers should be trained and certified on CIPP linings to ensure DC Water is effectively and efficiently utilizing its resources.

Management should develop reports on the monthly cost and resource savings associated with CIPP linings to ensure the appropriate manpower is available to perform the linings. This report should include the number of lining jobs that are open at the end of each month to demonstrate the need for an additional crew.

Further, during our research it was noted that the EPA plans to begin accumulating information to evaluate the performance of CIPP linings by gathering and reporting data into a national database.

**Management’s Action Plan:**

DSS has proposed an additional crew in FY 2015 Budget and will ensure that the proposal will be repeated in FY2015 revised. If not approved we will make another proposal for FY2016.

**Implementation Date:**

08/31/2015

<p>When a lateral work order comes to the C&amp;R group, they determine if the job can be lined. If it can, the occupant will be relieved, and it will be put on the schedule to be lined. However, due to the lack of crews able to do linings, as of March 31, 2014 there are 268 jobs that are awaiting lining dating back to October 2013.</p> <p><b>Risk:</b>                  Failure to utilize innovative, cost saving technologies could result in increased costs, increased response time, and further disruption of customers' services.</p>	<p>Management should ensure they are tracking and recording the correct information so they are prepared should increased scrutiny or requirements surrounding CIPP linings be implemented. Ideally, this information should be tracked in Maximo (see <b>Finding VI</b>)</p>	
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**V. CIPP Lining Process**

**Observation:**

The one trained CIPP crew is effective and efficient at performing linings. However, their standard operating procedures are not adequately documented. Further, during our testing of documentation for linings installed, Internal Audit noted that an excel spreadsheet was used to track the scheduling and execution of CIPP linings. It was further noted that details of lining installation were not consistently entered into Maximo.

Of the ten completed linings tested, three were not associated with work orders in Maximo. Two were marked as completed on the spreadsheet, but the work orders were still open in Maximo. The seven work orders in Maximo did not provide any commentary on the details associated with the procedure, such as the number of feet of lining installed.

**Recommendation:**

Management should develop Standard Operating Procedures (SOP's) for CIPP Lining to ensure best and current practices are accurately defined.

Management should work with IT to ensure the key lining attributes can be tracked in Maximo. Further, several of the Maximo fields need to be updated to accurately capture the key attributes of lining work flow. For example, just as there is a "CCTV" work type, there should be "LINING" work type. There should also be an "INSTALLED CLEANOUT" and "LINED LATERAL" option in the REMEDY field to evidence the work performed.

Forms completed in the field should be attached to the work order in Maximo until the form is electronic or built into Maximo.

**Management's Action Plan:**

DSS will hire an Asset Manager and to oversee all entries into Maximo and improve overall record keeping. We will also form a QA/QC team to audit periodically and ensure that the key lining attributes are promptly and accurately updated.

DSS will continue Working with HMM to complete an SOP for CIPP.

**Implementation Date:**

07/31/2015.

It was also noted that the Foreman fills out multiple forms detailing the specifics of the lining procedure, but these forms are only kept in paper form and not scanned into Maximo.

**Risk:**

Failure to properly document and maintain details related to the CIPP installation will make it difficult to assess the CIPP’s performance and degradation. Further, storing information in multiple places (paper copies, excel spreadsheet, Maximo) is inefficient and does not allow an end user to see the complete history.

Also, it would be beneficial to have an additional tab in Maximo to track linings specifics (length of lining, resin formula, etc.) and other key attribute that can be used to evaluate the lining’s performance in the future, as recommended by the EPA.

Once these functionalities are built into Maximo, Management can more effectively use Maximo for planning, scheduling, and reporting on CIPP linings.

**VI. Inventory and Materials**

**Observation:**

The General Foreman is responsible for monitoring and ordering tools, parts, and materials for Sewer Services. Additionally, one Foreman is responsible for monitoring the tools, parts, and materials for the CIPP linings. There is no standardized process or documentation on how to manage the inventory. There is also no inventory listing of quantity on-hand, reorder points or reorder quantities.

CMOM best practices recommend the tracking of all sewer system inventories, equipment and tool tracking, and parts inventory inside the asset management system.

**Risk:**

Ineffective monitoring of maintenance inventory items could result in delays or inability to perform planned or emergency work thereby reducing productivity and increasing costs.

**Recommendation:**

Those responsible for monitoring inventory should ensure that their detailed procedures are documented, including item details, critical parts, re-order levels, preferred vendors, key contacts, and applicable contracts and PO's.

Further, Department of Sewer Services should keep track of all inventory on-hand. DSS should work with Finance to ensure they have detailed documentation for each part, material, and tool utilized for the repair and maintenance function. The listing should include detailed item descriptions and numbers, accurate quantity on hand, reorder point, and reorder quantities. An annual inventory should be performed and documented.

**Management's Action Plan:**

There is an Authority-wide initiative currently ongoing, which is related to identifying and closing the gaps in the materials management process and procurement process identified in this report as it relates to Sewer Services. Also, there were major changes to inventory control and ordering that involves Finance, Procurement and all of operations. This initiative is a major priority at DC Water as we redefine the way we order parts and supplies and the process changes for tracking materials on work orders. Almost every department is involved and the project involves some additional changes to Lawson and Maximo. We expect to be completed sometime this summer.

**Implementation Date:**

09/30/2014

**VII. Contractor Management**

**Observation:**

Corinthian provides 5-10 crews per day to assist with sewer main and sewer lateral repair and replacement jobs. Best practices for contractor management would require daily site inspections for construction jobs to validate the number of workers on site, hours worked, and the equipment and materials utilized. Another inspection should be performed at completion to ensure the job was properly finished.

C&R currently has three individuals responsible for assigning work orders to Corinthian, and inspecting the crews daily during the course of the construction. This can be a difficult burden for one inspector to get to three or four sites within the District daily to perform an adequate, meaningful inspection.

**Recommendation:**

Management should consider hiring more inspectors to ensure DC Water is obtaining the maximum value out of its contractors.

Additionally, Management should consider creating an electronic version of the inspection checklist that can be filled out in the field and uploaded into Maximo. This form should have a spot for the C&R Inspector to sign off, and for the Corinthian Crew Lead/Foreman to sign off at completion to reduce discrepancies during billing.

We also recommend that contract rates and fees be entered into Maximo for contractors. C&R could then calculate estimated job costs vs. actual job costs before invoices are received, and use this information to reconcile the contractor's invoice. This could save time and resources spent reconciling paper copies of invoices.

**Management's Action Plan:**

Request in FY 2015 budget to hire two additional inspectors to cover contractors' work more effectively as recommended.

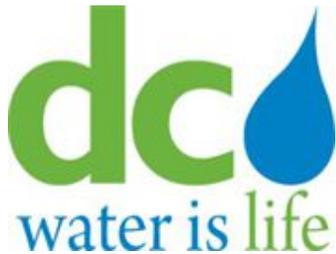
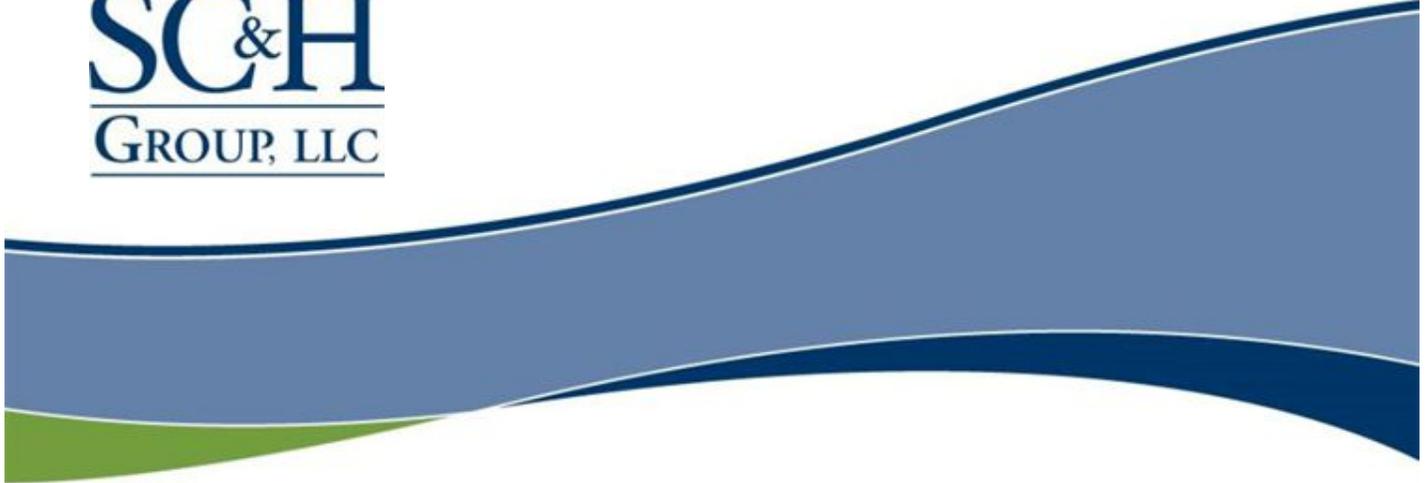
DSS will work with Water Services and IT to study the feasibility and level of effort needed to create an electronic version of the inspection checklist that filled out or uploaded into Maximo.

DSS has submitted contract schedule of prices to PSR and will continue working with them.

DC Water – 2014 Internal Audit  
 Department of Sewer Services – Construction & Repair



<p>Internal audit noted the C&amp;R performs a detailed review of all Corinthian invoices, and had no significant findings. However, we noted the process is time-consuming and reliance on review of various paper copies of internal inspections and manual calculations.</p> <p>During our inquiry with - Technical Support Services, we noted that the contract rates were input into Maximo for their public space restoration contractor, Capital Paving. They utilized a separate tab in Maximo to calculate estimated job costs vs. actual job costs, which is used during the invoice reconciliation process. C&amp;R does not have any contract rates in Maximo.</p> <p><b>Risk:</b>                  Failure to properly monitor and inspect contractors during construction could result in DC Water paying for inappropriate or erroneous charges.</p>	<p>As mentioned in <b>Finding IV</b>, the task of ensuring the allocating the proper contract employees to the work order and ensuring the proper contract employees hourly wages are accurate and up-to-date could be a task of a task of a planner/scheduler.</p>	<p>DSS will meet with the PSR group and with our IT Department to utilize Maximo to input contract items to improve payment inefficiency.</p> <p><b>Implementation Date:</b>                  08/31/2015</p>
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**Outside Contractor Management – Part 1**  
**Internal Audit Report**

May 23, 2014

**INTERNAL AUDIT TEAM**

Director: Joe Freiburger

Manager: Russell Ojers

Associate: Dominic Usher

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## EXECUTIVE SUMMARY

### **Background**

DC Water engages the services of a variety of outside vendors and procures their services through a contractual arrangement. The Procurement Department of DC Water has established guidelines for entering into agreements with outside firms. While DC Water's Board of Directors has the ultimate responsibility for the enforcement and implementation of Procurement Regulations, the General Manager is the Chief Contracting Officer for DC Water. The General Manager is authorized to enter into, administer, terminate and otherwise manage contracts for outside contractors. Additionally, the Director of Procurement is delegated administrative authority to administer the procurement of all goods and services contracts. The authority to administer specific aspects of the contracts, monitor contract terms and ensure the contracts are carried out appropriately is delegated by the General Manager to Contracting Officer's Representatives ("CORs") or Contracting Officer's Technical Representatives ("COTRs"). The General Manager, with the assistance of the CORs and COTRs, is responsible for the management of 134 goods and services contracts totaling approximately \$446 million.

The key role of the COR and COTR is to observe, document, and communicate contractor performance to both the contracting officer and the contractor. They are authorized in writing by the General Manager to perform specific technical and/or administrative functions under the contract. The specific tasks and responsibilities of each COR or COTR vary according to the nature and scope of each contract. The responsibilities of the COR or COTR may include: administrative functions, labor related functions, inspection of work performance, identifying the need for any changes to the contract, processing payments and acquiring any essential documentation from the contractor. DC Water provides training and guidance for these individuals to assist them in appropriately carrying out their duties.

### **Objectives**

Our overall audit objective was to evaluate the effectiveness and efficiency of the operations and activities around the management of outside contractors. Specific audit objectives included:

- Ensure that all selected vendor contracts are complete, current and properly executed;
- Determine whether the delivery of contracted goods or services is properly tracked and monitored;
- Examine whether the vendor has met all terms and conditions of their contract;
- Evaluate management's oversight of contractor billing; and,
- Assess whether management's oversight of contractors is adequately documented.

**Audit Scope and Procedures**

This audit was conducted based on the approved FY2014 internal audit plan. The audit was initiated in February, 2014 and completed in March, 2014. The audit included an evaluation of the processes and procedures involved in the management of outside contractors. The audit also included an examination of the contract folders for a sample of vendor contracts to ensure proper document retention, and a review of the invoice validation and approval processes for a sample of outside contractors. The audit procedures consisted of interviews with the appropriate parties, observations of daily operations, a review of pertinent documents and reports, and testing of a sample of contracts and invoices. We selected the following vendor contracts for our review, which represent five different departments, and a total dollar value of approximately \$31.3 million:

Department	Vendor Name	Contract Number	Value of Contract
Wastewater Treatment	Polydyne	WAS-12-066-AA-RE	\$3,223,739.00
Maintenance Services	M&M Electric Motor Repair	WAS-10-003-AA-GA	\$24,990,000.00
Water Services	Pinpoint Underground, LLC	WAS-10-068-AA-RE	\$907,260.00
Customer Service	Toucan Printing & Promotional	WAS-08-053-AA-JB	\$1,500,000.00
General Manager	Intel Business Solution LLC	WAS-13-008-AA-SS	\$727,005.00

**Summary of Work**

Internal Audit concludes that the vendor contracts we selected were complete and properly executed. The activities performed by the outside contractors and the delivery of the terms in the vendor contracts are being properly tracked and monitored. Internal Audit also concludes that Management’s oversight of outside contractors is adequately documented.

Internal Audit has identified a few items that should be addressed in order to further strengthen the management of vendor contracts.

In particular, there is a need to address the following:

- Ensure that changes to a contract’s assigned COR or COTR, as well as any associated responsibilities, are only made by the General Manager, and that evidence of the approved change is retained in the contract folder;
- Ensure that insurance certificates for outside contractors are updated and retained on a consistent basis for each option year of the contract; and,
- Ensure that all invoices are properly validated for accuracy and completeness prior to approval for payment.

SC&H Consulting

By:

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Joe Freiburger, CPA, CIA

## II. DETAILED OBSERVATIONS & RECOMMENDATIONS

### I. Delegation of Authority to CORs and COTRs

<p><b>Observation:</b> In the <u>Contracting Officer’s Representative Course Manual</u>, it states in Chapter One, Page 1-4, that “COR’s may not redelegate their authority to others. If another individual besides the COR, such as a task monitor or quality assurance evaluator, will be responsible for administering any part of the contract, only the contracting officer can delegate authority to that individual”.</p> <p>We noted <u>two of five</u> instances in which the assigned COR/COTR for a contract was changed without proper documentation and approval.</p> <p>We further noted that <u>13 of 20</u> instances in which the assigned responsibilities of the designated COR/COTR were redelegated without proper documentation and approval. It is our position that the validation and approval of contractor invoices are included in the responsibilities delegated by the General Manager to the CORs/COTRs and the redelegation of those responsibilities is</p>	<p><b>Recommendation:</b> It is our recommendation that the Office of the General Manager issue a memorandum to each COR/COTR that reiterates that authority and responsibilities of each individual that has been assigned as a COR or COTR, as well as the expectations that the General Manager – as Contracting Officer – has for each COR/COTR.</p> <p>Additionally, we believe that this message would be best received if it came from the General Manager directly to each COR and COTR, rather than through Executive Management.</p> <p>Finally, we recommend that the Procurement department validate that CORs and COTRs assigned as part of vendor contracts are current prior to the exercising option years of existing contracts, or executing future contracts with existing vendors.</p>	<p><b>Management’s Action Plan:</b> The Office of the General Manager issued a memorandum titled “COR and COTR Contract Management Responsibilities and Requirements” to all designated CORs and COTRs.</p> <p>In summary, the memo states that “Unless otherwise approved by the General Manager in writing, it is expected that the position of COR or COTR, along with all of the responsibilities delegated along with that assignment, will be performed by the individual that was assigned the role of COR or COTR at the time that the contract was executed. Any requests to change COR or COTR assignments, or to delegate tasks assigned to the COR or COTR, should be directed to Procurement for review and submittal to the General Manager for approval.”</p> <p>Procurement will review and update COR/COTR delegations of authority prior to awarding a new contract or exercising an option year.</p>
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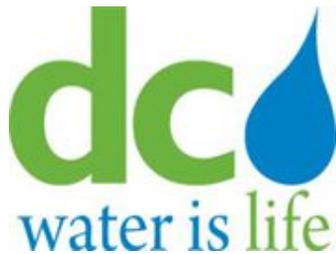
<p>prohibited without the written approval of the General Manager, as the Contracting Officer.</p> <p><b>Risk:</b> Reassigning the role of COR or COTR, or any of the associated responsibilities, without the approval of the General Manager (as Contracting Officer) may result in inadequate oversight and improper management of DC Water vendor contracts.</p>		<p>If a change occurs during the contract period, upon notification by the customer department, the delegation will be updated at that time and retained in the contract folder.</p> <p><b>Implementation Date:</b> The memorandum was issued on April 24, 2014.</p> <p>Procurement will implement the process to review and update COR/COTR delegations of authority by May 31, 2014.</p>
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**II. Ensure that DC Water retains current insurance certificates for all outside contractors**

<p><b>Observation:</b> We selected a sample of five contract files for review. Four of the contracts reviewed required the contractor to carry a specified amount and type of insurance and name DC Water as an insured party. Of the four contracts tested, we noted that three did not have a current copy of the insurance certificates in the contract folders.</p> <p><b>Risk:</b> Contractors that fail to maintain current insurance and identify DC Water as a name insured expose DC Water to increased liability.</p>	<p><b>Recommendation:</b> We recommend that the party responsible for managing the contract establish a process to track all dues dates for critical information, to include receipt of updated certificates of insurance. In this instance, there should be a tracking mechanism used to notify a contractor that their insurance certificate is expiring in the near future and DC Water will require a revised certificate.</p>	<p><b>Management’s Action Plan:</b> When it is time to exercise the next one-year option on each current contract, Procurement will require outside contractors to submit updated certificates of insurance when we notify them of DC Water’s intent to exercise the option, and ensure the certificates have been updated prior to the award.</p> <p><b>Implementation Date:</b> May 31, 2014</p>
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**III. Invoice Validation for Utility Markings – Pinpoint Underground LLC**

<p><b>Observation:</b> We noted that charges included on the invoices from the contractor Pinpoint Underground LLC (“Pinpoint”) are not validated prior to payment.</p> <p>DC Water has contracted with Pinpoint to provide the service of marking the utility locations of underground infrastructure prior to any construction or excavation being performed. Pinpoint is notified of utility marking service calls internally, by private companies and <i>Miss Utility</i>.</p> <p>When Water Services Management receives invoices from Pinpoint, it includes a record of all service calls to which the contractor responds. Water Services Management does not validate the record received with the invoice to verify the accuracy of the charges on the invoice.</p> <p><b>Risk:</b> DC Water could pay for services that were not provided unless a more comprehensive review is performed.</p>	<p><b>Recommendation:</b> Internal Audit recommends that Water Services Management implement a process to validate all Pinpoint Underground invoices prior to payment.</p>	<p><b>Management’s Action Plan:</b> Action Plans for Invoice Validation:</p> <ul style="list-style-type: none"> <li>• Validate 5% of the total monthly tickets by comparing the Pinpoint requests against the Miss Utility database. Random sampling and invoice validation will begin July 2014 with a goal to increase the sampling data set to 10% after six months.</li> <li>• All DC Water marking requests will be verified through field activities, as well as through reconciliation of the Pinpoint records against the Maximo work order system and the Miss Utility database.</li> <li>• We will also require the contractor to provide post-marking photos for each ticket along with the monthly invoice, as required by the contract.</li> </ul> <p><b>Implementation Date:</b> July 31, 2014</p>
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**Emergency Management - Recovery  
Internal Audit Report**

May 12, 2014

**INTERNAL AUDIT TEAM**

Director: Joe Freiburger

Manager: Russell Ojers

Staff: Jackie Kosovich

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## EXECUTIVE SUMMARY

### **Background**

The Office of Emergency Management became a separate office within DC Water in November 2013. The Emergency Management function, consisting of one employee, was previously under the direction of the Department of Occupational Safety and Health and is now aligned within the department of Customer Care and Operations. Currently, the Office of Emergency Management is comprised of two employees, a Manager and an Administrative Assistant. Two additional positions have been approved and the Office of Emergency Management is in the process of filling these vacancies.

DC Water has established an Office of Emergency Management with the responsibility of establishing and maintaining effective plans to prepare for and respond to emergency situations. DC Water defines an emergency as, “any condition that could or has resulted in serious personnel injury or death, poses an environmental or health threat (probable legal or regulatory violation) or could cause substantial damage to DC Water’s infrastructure or operations.” The Emergency Management program at DC Water consists of four phases: Planning, Mitigation, Response, and Recovery. The Planning Phase occurs following an incident and before another incident. This phase includes the annual review of the Emergency Management plans and the incorporation of after action reports and lessons learned reports. The next phase is Mitigation which includes preventing future incidents and minimizing an incident’s effects. The Response Phase consists of initial response and activities to stabilize the emergency. The final phase in the Emergency Management life cycle is the Recovery Phase. The Recovery Phase includes activities to continue essential operations in the event that critical equipment and facilities are unusable for a certain period of time that affects normal operations.

The intent of this Internal Audit review was to focus on the activities and documentation associated with the Recovery phase of DC Water’s Emergency Management program. The Office of Emergency Management administers one main plan for the Recovery Phase, which is the Continuity of Operations Plan (“COOP”). The COOP contains information on the activation of the plan, the restoration of essential Authority operations, and the activities associated with the reconstitution of the DC Water operating environment. Internal Audit reviewed the COOP and assessed its contents for accuracy, completeness and adequacy.

### **Objectives**

Our overall audit objectives included an evaluation of the Office of Emergency Management’s COOP plan. Specific audit objectives included:

- Evaluate the adequacy and completeness of DC Water’s COOP plan;
- Determine whether the COOP is properly reviewed and updated in order to remain effective;
- Ensure that critical resources have been properly identified and addressed;

- Evaluate the adequacy and occurrence of tests, training, and exercises performed for recovery activities; and,
- Determine whether appropriate procedures have been established for recovery measures, and if the requirements of the COOP are being met.

**Audit Scope and Procedures**

This audit was conducted in accordance with the approved FY2014 internal audit plan. The audit was initiated in February 2014, completed in March 2014, and included an evaluation of the COOP. The audit procedures consisted of interviews with the appropriate parties, observations of daily operations, a review of pertinent documents and reports, and testing of a sample of activity.

**Summary of Work**

Internal Audit concludes that while the COOP has been documented, several opportunities for improvement exist to assure the successful execution of the Recovery Phase. Internal Audit identified instances of out-dated, inaccurate, and incomplete information in the COOP, as well as non-compliance to the current requirements of the plan.

Internal Audit has identified items that should be addressed by management in order to better prepare DC Water to continue essential functions during a disruption of normal operations. In particular, there is a need to address the following:

- The COOP plan is not thoroughly reviewed and updated on an annual basis; and the Operations Section of the COOP, which lists the identified critical resources for each department, is inconsistent and incomplete;
- The alternative locations assigned for each department needs to be evaluated for capacity and feasibility;
- Training and exercises related to the continuity of operations activities documented through the COOP have not been provided or performed for all employees;
- Detailed department-specific recovery procedures needs to be developed; and,
- The requirements and activities of the segments of the COOP requirements and activities have not been met.

SC&H Consulting  
By:

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Joe Freiburger, CPA, CIA

**II. DETAILED OBSERVATIONS & RECOMMENDATIONS**

**I. Need for Continuity of Operations Plan (“COOP”) Maintenance**

**Observation:**

Internal Audit noted the COOP is not updated on an annual basis. As such, the plan contains inaccurate and/or outdated information. During our review, we noted that:

- The COOP has not been formally updated and reviewed since the document was initially issued on September 28, 2012; and,
- The semi-annual review of the emergency contact information, described in the plan, has not been performed.

During our review of the COOP, we identified specific instances of inaccurate and/or incomplete information within the COOP plan. Detailed information was provided to the Office of Emergency Management.

**Recommendation:**

We recommend that the Office of Emergency Management review and update the COOP plan on an annual basis to assure that all information contained in the plan remain current and accurate.

Further, we recommend that the Office of Emergency Management review and update the emergency contact information described in the plan on a semi-annual basis to assure that any changes to the emergency contacts are reflected in the plan. To do so, Internal Audit recommends the Office of Emergency Management to establish a plan maintenance schedule for annual reviews of the entire plan and semi-annual reviews of emergency contact information listed in the plan. This schedule should include due dates for each milestone that should occur within the update schedule.

**Management’s Action Plan**

Office of Emergency Management has identified the observations and corrected them in the 2014 update, which has been submitted for the approval of the General Manager.

**Implementation Date:**  
May 31, 2014

<p><b>Risk:</b> An out-dated, inaccurate, and incomplete plan can result in a delay in resuming essential functions following an unexpected interruption due to an incident or event.</p>	<p>Additionally, Internal Audit recommends implementation of a quality control process to ensure that all information in the COOP is accurate, complete, and consistent. The quality control process should be performed by a separate individual and include a review of the activities performed through the plan maintenance schedule.</p> <p>An updated, accurate, and complete plan is a vital tool for personnel to reference following an incident, and will help with the efficiency and timeliness of resuming essential functions.</p> <p><b>Business Owner(s):</b> Jonathan Reeves, Manager of the Office of Emergency Management</p>	
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**II. Review the Feasibility of Alternative Locations**

**Observation:**

We identified some instances in the plan in which the assigned alternative locations could be inappropriate or inadequate for the timely relocation of essential personnel needed to restore essential functions.

For instance, four departments are assigned to relocate to 810 1<sup>st</sup> Street NE, Washington DC. This facility previously housed the Customer Service department; however, that department has relocated and DC Water no longer has space at that address beyond a small payment center.

Similarly, the alternative location assigned for the Information Technology Department is RDC, 2<sup>nd</sup> Floor, Main SPS, 200 N. St. SE, Washington DC. 200 N. St. SE, Washington DC is not a valid address. The RDC is an abbreviation for the Redundant Data Center located at 125 O St. SE, Washington DC. This facility stores back-up IT infrastructure hardware and is not a suitable workspace for relocation of essential personnel.

**Recommendation:**

We recommend that the Office of Emergency Management evaluate the available capacity and infrastructure of each assigned alternative location to determine its ability to effectively support essential personnel in the event of relocation due to an incident or event.

Management should also assess each department’s needs for relocation and assign an alternative location that will fit those needs. The alternative locations should define the building, floor, and room for the assigned essential personnel.

The assignment of appropriate alternative locations that can effectively support essential personnel will significantly decrease the amount of time necessary for essential personnel to resume essential functions.

**Business Owner(s):**

Jonathan Reeves, Office of Emergency Management Manager

**Management’s Action Plan**

The OEM will work with IT, Security, Facilities, and Departments to identify and quantify COOP locations.

Address inconsistencies were noted and updated in the 2014 update.

The RDC issue was also corrected in the updated 2014 version

**Implementation Date:**

May 31, 2015 – In time for 2015 update

<p><b>Risk:</b> Inadequate and/or inappropriate alternative locations may result in a delay in resuming essential functions following an unexpected interruption due to an incident or event.</p>		
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**III. Need for Training and Exercises**

**Observation:**

The COOP requires training to be provided to all current employees and for new employees through their new-hire orientation. We noted that COOP training was only provided to managers and supervisors. Further, the training that was provided did not provide specific details on what employees need to do during the recovery period following an incident or event.

Following the initial issuance of the COOP on September 28, 2012, there have been no tests or exercises performed specific to the COOP.

**Risk:**

The lack of adequate training and preparedness exercises may result in personnel that are unaware of their role or of the recovery procedures necessary to restore essential functions following an unexpected interruption due to an incident or event.

**Recommendation:**

We recommend that the Office of Emergency Management develop a COOP Awareness program that can be distributed to all employees. The program should include important information – such as the online location of the COOP plan, as well as basic instructions on how to proceed as the Authority recovers from an incident.

We further recommend that the Office of Emergency Management develop a training module that can be integrated into the new-hire orientation that is administered to all new employees by the Learning & Development group.

Finally, annual COOP exercises should be designed and executed for each department that would address the relocation to alternative locations and also the essential roles and the equipment needed to restore essential functions.

**Management’s Action Plan**

OEM will partner with Learning and Development to identify the ideal training media to provide the information.

OEM will develop a training schedule and handbook to allow departments to discuss COOP activities with employees

**Implementation Date:**

COOP-specific training exercise scheduled for May, 2014

September 30, 2015 – Development of training schedule and handbook

	<p>Annual exercises will test the viability of the COOP, as well as better prepare employees for recovering essential functions.</p> <p><b>Business Owner(s):</b> Jonathan Reeves, Office of Emergency Management Manager</p>	
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**IV. Need for Department-Specific Recovery Procedures**

**Observation:**

We noted that all departments within DC Water do not have detailed recovery plans that provide the information and guidance needed to prepare for and effectively restore the department’s essential functions following an unexpected interruption due to an incident or event.

Additionally, we noted that the plans have not identified any inter-dependencies between departments that may affect their ability to restore essential functions.

Finally, we noted that the departments within the Authority have not defined their recovery time objectives for each essential function necessary to be restored following an unexpected interruption.

**Risk:**

The lack of detailed department-specific procedures and addressing recovery time may result in inefficiencies or an inability to restore essential functions following an unexpected interruption.

**Recommendation:**

We recommend that each department within DC Water prepare a detailed recovery plan that provides all of the information and guidance needed to effectively restore the department’s essential functions. The plan should address the required steps to restore essential functions in the event of an unexpected interruption.

Each department should identify recovery time objectives for each essential function to ensure that employees are aware of the expected time necessary to restore essential operations.

Additionally, any inter-dependencies between departments should be identified so that each department knows what services must be restored prior to the restoration of their own essential functions, as well as the expected amount of time each task should take to complete.

**Management’s Action Plan**

OEM will develop and distribute a template to assist departments in the development of detailed recovery plans and provide support for execution. Additional resources would need to be assigned if this task was to remain the responsibility of OEM

**Implementation Date:**

June 30, 2014 – Development and distribution of Detailed Recovery Plan templates.

March 31, 2015 – Incorporation of department-specific detailed recovery plans into the updated 2015 plan.

	<p>The Office of Emergency Management should assure that each department's recovery plan is complete, and that they contain all of the information needed to efficiently and effectively restore essential functions.</p> <p><b>Business Owner(s):</b> Jonathan Reeves, Office of Emergency Management Manager</p>	
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**V. Noncompliance to the COOP**

**Observation:**

We noted that the COOP requires that all employees identified in the plan distribution list obtain and possess a hard copy of the COOP plan. We identified isolated instances where the recipients of hard copy COOP plans were no longer in possession of the copies that they received.

Additionally, the COOP requires that all essential personnel have pre-assembled “go-kits” which contains supplies and copies of vital records. We noted that none of the five above-selected employees, all of whom are also identified as essential, had pre-assembled go-kits.

**Risk:**

Noncompliance to the hard copy distribution, go-kit, and pre-programmed cell phone requirements in the plan may result in essential personnel not having access to supplies or records that would be necessary to effectively restore essential functions following an unexpected interruption due to an incident or event.

**Recommendation:**

We recommends that the Office of Emergency Management ensure that all employees listed in the COOP distribution list receive and retain a hard copy of the COOP, as required by the plan.

Additionally, we recommend that the Office of Emergency Management procure and distribute go-kits to all essential employees to ensure that they are properly equipped to relocate to alternative locations and immediately work to restore essential functions.

**Business Owner(s):**

Jonathan Reeves, Office of Emergency Management Manager

**Management’s Action Plan**

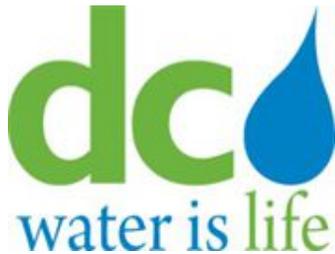
All Identified personnel received hardcopies. The OEM will ensure that the 2014 updates are distributed per the plan. It is important to note that many Directors have paperless offices and do not keep hard copies.

Go Kits scheduled for purchase in the FY2015 budget.

**Implementation Date:**

May 31, 2014 – Distribution of updated COOP plans.

11/30/2014 – Purchase and distribution of Go Kits



## **Safety Compliance – Part Two Internal Audit Report**

June 18, 2014

### **INTERNAL AUDIT TEAM**

Director: Joe Freiburger

Manager: Russell Ojers

Associate: Kaitlin O'Hara

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## EXECUTIVE SUMMARY

### **Background**

Internal Audit performed a review of safety procedures earlier this fiscal year and issued a report on February 18, 2014. The emphasis for that audit was an evaluation on DC Water's compliance with OSHA regulations. As clarified by DC Water's Office of the General Counsel ("OGC"), the Authority is not under the direct jurisdiction of the Occupational Safety and Health Administration (OSHA) as it applies to most of the laws and regulations enacted by OSHA. Per the guidance provided by the OGC, the OSHA statutes and regulations only apply to private employers. Where applicable, DC Water adheres to District of Columbia occupational safety requirements. In other cases, the Authority has developed its own Safety and Health Policy Procedures and training requirements, which meet or exceed OSHA's requirements. Violations of DC Water's Safety and Health Policy Procedures would not be subject to OSHA oversight authority, but to DC Water's internal enforcement authority.

This audit represents Part II of our safety review in accordance with our FY2014 internal audit plan.

### **Objectives**

Our overall audit objective was to evaluate the effectiveness and efficiency of the operations and activities around DC Water's compliance with occupational safety requirements. Specific audit objectives included:

- Complete occupational safety requirement checklists for a selection of DC Water buildings;
- Evaluate whether the selected DC Water buildings meet the safety requirements imposed by the District of Columbia, and,
- Identify areas of potential non-compliance and communicate them to management for investigation and remediation.

### **Audit Scope and Procedures**

This audit was conducted based on the approved FY2014 internal audit plan and was divided into two separate sections. The first half of our review was initiated in December, 2013 and completed in January, 2014. The second half of our audit was initiated in April, 2014 and completed in May, 2014. This audit included evaluations of compliance with occupational safety standards for work environments at six DC Water buildings. The selected buildings included:

- Blue Plains – Biosolids Building
- O Street – Pumping Station
- O Street – Building F

- Fort Reno – Pumping Station
- 810 1<sup>st</sup> Street
- 80 M Street

The audit process included the physical inspection of each of the six buildings, and the completion of a safety compliance checklist comprised of specific occupational safety requirements that we believe to be applicable for each of the buildings. A primary focus was placed on items that were observable by Internal Audit staff during our inspections of each selected building.

### **Summary of Work**

Internal Audit concludes that the six additional DC Water building sites included in the scope of our walkthroughs are largely in compliance with occupational workplace safety requirements. We noted some instances of potential non-compliance. The details of each instance were communicated to management for them to review and address in order to strengthen DC Water's adherence to occupational safety requirements.

SC&H Consulting

By:

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## II. DETAILED OBSERVATIONS & RECOMMENDATIONS

Evaluate whether the selected DC Water buildings meet OSHA safety requirements.

<p><b>Observation:</b> Based on our inspections of selected DC Water building sites, we identified several instances of potential noncompliance. The details of each of these instances have been communicated to management for investigation and remediation, as applicable.</p> <p><b>Risk:</b> Failure to comply with all applicable District of Columbia and DC Water safety requirements could expose DC Water personnel to potential harm, and could expose the organization to financial penalties for violations.</p>	<p><b>Recommendation:</b> We recommend the timely remediation of the instances of non-compliance identified through this process.</p>	<p><b>Management’s Action Plan:</b> Management will validate and track to resolution the instances of noncompliance identified by Internal Audit during walk-throughs of selected building sites.</p> <p><b>Implementation Date:</b> August 31, 2014</p>
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