

OFFICE OF THE CITY AUDITOR

REPORT # 2010-02 LIMITED REVIEW oF the

Department of Public Utilities Facilities Maintenance Operations

September 2009

OFFICIAL GOVERNMENT REPORT

Richmond City Council

OFFICE OF THE CITY AUDITOR

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Committed to increasing government efficiency, effectiveness, and accountability on behalf of the Citizens of Richmond.

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Executive Summary

September 10, 2009

The Honorable Members of the Richmond City Council
The Richmond City Audit Committee
Mr. Chris Beschler, Deputy Chief Administrative Officer, Operations

Re: Limited Review - Department of Public Utilities - Facilities Maintenance Operations

The City Auditor's Office has completed a limited review of the Department of Public Utilities (DPU) Facilities Maintenance Operations. The primary objective of this review was to evaluate the appropriateness of DPU facilities maintenance costs. This review was conducted in accordance with Generally Accepted Government Auditing Standards as prescribed by the U.S. Government Accountability Office. The period examined was for the 12 months ended June 30, 2007. Due to lack availability of documentation for FY2007, the scope of the review was extended through FY 2009.

Background

The Buildings and Grounds Division (Division) provides grounds and facilities maintenance services to various DPU units. In FY 2009, DPU incurred approximately \$1.5 million for grounds and building maintenance. Upon request, the DPU Buildings and Grounds Division staff segregated its FY 2009 costs as follows:

Description of Cost	Amount
Grounds Maintenance	\$ 263,687
Building Maintenance	\$1,215,120

Source: DPU Grounds Maintenance staff

Findings

To be successful, an operation must have the following:

- Proper planning for resource allocation and providing adequate service coverage.
- Appropriate performance measures to evaluate employee and operations performance.
- Complete and accurate record keeping quantifying the efforts made and verifying accountability over the resource utilized.

Planning

The review found that:

- The Division has not identified the needs of the utilities it serves. The Operations Manager could not produce any annual or monthly plans for preventive and other maintenance needs. Without planning, it may not be possible to adequately estimate the personnel and other resources needs. The Division did not have clearly defined goals and objectives. It is not clear what level of work the Division was expected to perform.
- The Division has not established performance standards. Performance standards
 provide management with effective tools for scheduling work, managing the
 Division's workload and assuring adequate operational efficiency.
- The Operations Manager and the Division Supervisor were unable to quantify work tasks performed in any areas during FY 2007. In addition, there were no manual or computerized records maintained to document the calls/requests received from the various utilities.

- Auditors were informed that work orders were not generated for requests received. Although they have access to a computerized work order system, the Division does not use it. Without this information, it is impossible to manage the operation of the Division. Lacking information related to actual workloads, it is not possible to evaluate if staff time is effectively being used. In addition, the Division is not in a position to evaluate the cost effectiveness of operations. Comparison to the International Facility Management Association (IFMA) published standards for facilities maintenance for public utilities revealed that the Division could be overspending up to \$460,000 in its operations.
- The volume of work processed by this Division may not justify three administrative positions. A detailed study of the administrative workload is necessary. The staff position(s) considered to be excessive could be transferred elsewhere in the City or eliminated. This could result in a productivity improvement up to \$114,790.

Conclusion

These are serious operational deficiencies. Without proper planning, resource needs may not be identified and appropriate preventive maintenance may not be performed in a timely manner. In the absence of labor records, it is impossible to evaluate the cost effectiveness of the task performed. The Operations Manager did not have any information on work performed to control costs. Without proper information, it may not be possible to manage this operation in the most cost effective and efficient manner. There may also be an opportunity to outsource certain activities such as painting and HVAC work if in-house activity is determined not to be cost effective. These also represent significant weaknesses in internal controls.

The City Auditor's Office appreciates the cooperation of the Department of Public Utilities staff. A written management action plan is included in Appendix I of this report. Please contact the City Auditor's Office if you have a question or comments related to this report.

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James a Dalal

City Auditor

COMPREHENSIVE LIST OF RECOMMENDATIONS

#		Page
1	Prepare annual preventive and capital maintenance plans based on DPU's needs assessment.	13
2	Evaluate and utilize a work order system to track assigned activities through completion. Using the information gathered, perform the following tasks: a. Establish adequate performance measures. b. Compile actual performance results for various tasks and compare them with the correspc. Provide performance results to the Deputy Director on a regular basisonding planned goals. c. Provide performance results to the Deputy Director on a regular basis.	13
3	Evaluate appropriateness of the division's staffing. Based on the results, consider outsourcing the function or staff reduction for the following positions:	13
	 a. Maintenance positions determined to be excessive b. Painter(s) c. HVAC personnel d. Janitor e. Two administrative personnel 	
4	Establish appropriate activity codes for the Buildings and Grounds Division.	13

Introduction and Scope

September 2009

The City Auditor's Office has completed a limited review of the Department of Public Utilities (DPU) facilities maintenance operations. A limited review is a service that is less exhaustive than a full scope audit and requires that no work be performed related to the evaluation of the internal control structure. This review was conducted in accordance with Generally Accepted Government Auditing Standards as prescribed by the U.S. Government Accountability Office. Those standards require that the work be planned and performed to obtain sufficient, appropriate evidence to provide a reasonable basis for auditors' findings and conclusions based on review objectives. The auditors believe that the work performed provides a reasonable basis for the findings and conclusions presented. The period examined was for the 12 months ended June 30, 2007. Due to lack of documentation for FY2007, the scope of the review was extended through FY 2009.

Management Responsibility

DPU management is responsible for establishing and maintaining a system of internal accounting controls in its operations.

Objective

The primary objective of this review was to evaluate the appropriateness of DPU facilities maintenance costs.

Methodology

The following procedures were conducted to complete this limited review:

- Reviewed and analyzed financial data.
- Interviewed key management and staff personnel.
- Inquired of service recipients.
- Analyzed the relevance of data maintained.
- Reviewed and evaluated performance indicators.
- Benchmarked cost data with national cost data.
- Visited some facility maintenance work stations.

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Background

This limited review was initiated to address certain cost allocation issues that came to the auditors' attention during the grounds maintenance review. The scope of the auditors' work included the review of budget and resource allocations, operating systems and procedures; staff scheduling and the adequacy of the monitoring and control of facilities maintenance activities.

The Buildings and Grounds Division (Buildings and Grounds) provides grounds and facilities maintenance services to various DPU units. In FY 2009, DPU incurred approximately \$1.5 million for grounds and building maintenance. Upon request, the DPU Buildings and Grounds Division staff segregated its FY 2009 costs as follows:

Description of Cost	Amount
Grounds Maintenance	\$ 263,687
Building Maintenance	\$1,215,120

Source: DPU Grounds Maintenance staff

Due to limited accounting information, the accuracy of the above allocation could not be verified. Recently, during the City Auditor's Limited Review of Grounds Maintenance Function, DPU agreed to consolidate its ground maintenance function with the Department of Public Works and transfer five employees to the consolidated function. The grounds maintenance issues were addressed in the above report. This report primarily deals with building maintenance issues.

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Staffing

During FY 2007, the Buildings & Grounds Division (known hereafter as "Division") had 14 employees. Since FY 2007, Buildings and Grounds has added three employees to make total staffing of 17 employees as follows:

Grounds and building maintenance activities	8
Industrial Painters	3
HVAC Workers	2
Janitor	1
Administrative Employees	3
Sub-Total	17
Less: To be transferred to Public Works	
Remaining staff Total	12

In addition, the Division uses several contractors for services such as janitorial, roof repairs, etc. The division performs certain infrequent painting jobs and periodic dusting/cleaning services at nine (9) pumping stations. The frequency or extent of work could not be determined due to unavailability of information. This work, however, is significantly limited compared to ongoing maintenance of an office building. Therefore, auditors could not apply the IFMA benchmark rate to the pumping station service areas totaling 29,010 square feet.

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Benchmarking

What is the concern?

The International Facility Management Association (IFMA) is the world's largest and most widely recognized international association for professional facility managers, supporting more than 19,500 members in 60 countries. In addition to certifying facility managers, conducting research and providing educational programs, IFMA periodically publishes benchmarks for facility maintenance costs.

In 2009, IFMA published a maintenance and janitorial services cost rate of \$3.45 per square foot for utility service facilities. The Buildings and Grounds Division in DPU maintains 96,375 square feet in two (2) buildings, the Operations Center and its Warehouse. The cost for this operation calculated at the benchmark rate is approximately \$332,500. Compared to this benchmark computation, DPU incurs about \$793,200 for the maintenance and janitorial costs, which is \$460,700 or 58% higher than the benchmark.

The table below compares DPU building maintenance cost factors with the IFMA benchmark costs:

Activity		Costs*
Building Maintenance		\$1,215,100
Less: Security Guard Charges	(256,200)	
Utility Charges	(165,700)	(421,900)
Adjusted Building Maintenance		793,200
Building Maintenance at IFMA rate		(332,500)
Possible Overspending**		\$460,700

Source: DPU

^{*} Building maintenance costs (rounded to nearest '00) were segregated from total grounds and building maintenance costs by DPU Buildings & Grounds Division

^{*} The Division also maintains nine pumping stations; however, there was no evidence of the extent of work performed or the cost incurred for this function

^{**} This possible overspending must be reduced by cost of occasional painting and periodic dusting at pumping station.

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The auditors acknowledge that the Division's utility charges are \$40,543 less than the IFMA benchmark rate noted for a utility service facility operation. Those charges are not included in the benchmark comparison as the rates for these costs are not controllable by management.

Attributes of a Successful Operation

To be successful, an operation must have the following:

- Appropriate performance measures to evaluate employee and operations performance.
- Proper planning for resource allocation and providing adequate service coverage.
- Complete and accurate record keeping quantifying the efforts made and verifying accountability over the resource utilized.

These attributes were verified during this review.

Planning

The Division has neither identified nor has proper plans to meet the customer's needs • The Division has not identified the needs of the utilities served. It does not have adequate data to plan for preventive maintenance activities. The Operations Manager could not produce any annual or monthly plans for preventive and other maintenance needs. Without planning, it may not be possible to adequately estimate the personnel and other resource needs. This may result in either too much or inadequate resource allocations to this function. This situation could lead to either waste of resources or service deficiencies. Upon receipt of a work request, employees were dispatched to work locations without assigning detailed tasks.

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Operational Goals

The Division did not have clearly defined goals and objectives The Division did not have clearly defined goals and objectives. It is not clear what level of work the Division was expected to perform. There were no criteria defined which management could use to determine cost effectiveness of this operation.

Accountability

Performance standards were not established The Division has not established performance standards. Performance standards provide management with effective tools for scheduling work, managing the Division's workload and assuring adequate operational efficiency.

Operational Staff

The Operations Manager and the Division Supervisor were unable to quantify work tasks performed in any areas during FY 2007. In addition, there were no manual or computerized records maintained to document the calls/requests received from the various utilities.

Maintenance Staff

The manager indicated the following frequencies for various tasks the maintenance staff is expected to perform. This data does not include industrial painting and HVAC duties:

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Operational data
documenting
workload or
tasks performed
was not available

Current Tasks	Performance Frequency	Total Hours	% of Total Hours
Checking lights and replacing bulbs at Operations Center	1 time per week	1,248	14%
Checking drains and sump pumps at Operations Center	1 time every other week	208	2%
Cleaning Building 20 and shop	2 times per quarter	128	1%
Replacing filters/checking chiller and air handlers	1 time per quarter	64	1%
Inspecting fire extinguishers	1 time each month	864	10%
Cleaning Pumping Stations	1 time per week	3,120	35%
Wastewater Plant- miscellaneous tunnel work	3 times per week	3,120	35%
Set up Christmas lights and decorations	1 time per year	128	1%
Removing Christmas lights and decorations	1 time per year	128	1%
	Total Hours	9,008	100%

The auditor's inquiry revealed that the Division did not have any operational data to demonstrate if the staff performed the above tasks as frequently as stated. In addition, basic operational data such as how many bulbs are in the operations center that may need replacement or information related to quantifying tasks to be performed at the wastewater plant was not available. In addition, the Division did not have workload information such as how many bulbs were actually changed or what tasks were actually performed at the wastewater plant.

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Recordkeeping

The Division Supervisor stated that daily "checkout" forms were prepared and discussed with the Operations Manager three days per week. During the review, the Operations Manager provided 20 checkout meeting documents for FY 2009 to the auditors. This form documents the tasks assigned to an individual employee or a group of employees. The form does not account for labor and does not record the results of work performance. In addition, management did not maintain any other support documentation to indicate results of employee assignments. Interviews with staff indicated that management does not communicate specific duty assignments. The Operations Manager relies on his staff to identify and report any additional repairs that need to be performed while working in the field. Absent proper records, management has no measure of work activities that can be used for long term decision making.

Adequate information to verify accountability over staff time spent was not available

For example, the form would indicate a task of "painting of operations center hallway". However, it did not describe the exact location to be painted, the anticipated labor hours and materials required to complete the task and the time frame for task performance. Division management stated that their materials/service request forms could be used to relate materials acquired for scheduled or anticipated work assignments. However, other than the material service requests forms, management has no record regarding materials used. During interviews, the auditors found that the Division does not track employee hours spent on various tasks. There appeared to be no other mechanism for evaluating the work performed or the time spent on the job. Without such measures there is no assurance that work of an adequate quality will be performed in a

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timely manner. Excessive time or material spent on a job or performing unneeded work could increase operational costs.

The Division does not use a computerized work order system it possesses

Auditors were informed that work orders were not generated for requests received. Although they have access to a computerized work order system, the Division does not use it. Without this information it is impossible to manage the operation of the Division. Recently, the Division began to train its employees on how to use the work order system. According to Division management, the work order system in its present state is no longer functional and that it would require considerable set-up and modification to accommodate the building assets and work regime.

Painters

Currently, the Division has three industrial painters responsible for painting the interior and exterior of DPU properties excluding the water towers, which are outsourced. Painting generally is a planned activity. However, for this crew, no schedules have been devised to accommodate cyclical painting efforts for the DPU area locations. The salaries for these painters with benefits total \$109,520. It was not possible for the auditors to determine the appropriateness of this cost as relevant workload data was not available.

HVAC Staff

Prior to October 2008, the Division did not have a dedicated HVAC employee. The supervisor attended to such work concerns, using remote access to the HVAC system. The Division has two full time employees assigned to this functional area. Without workload information, the work volume performed cannot be adequately determined. According to

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Division management, two employees must attend work task locations due to OSHA safety requirements.

During the audit, the lead HVAC employee had implemented manual record keeping on his pocket calendar. Adequate records were not available to evaluate this activity. He claimed to update this information in his personal computer at his home. These records were not available to the auditors. Summaries of work performed were not prepared and, therefore, the information was not available for management review.

Janitor

The Division has a contract with a vendor to provide janitorial services at the DPU operations center. The vendor is expected to perform services as detailed in the "Tasks and Frequency" section indicated within the body of the contract. The contract specifically requires the following daily services to be performed 5 times per week starting at 5:00 p.m.

- Bathroom cleaning to include, floor sweeping, mopping and/or scrubbing; commodes/urinals, showers, traps, stall partitions/wall surfaces, dispensers, and sanitary receptacles.
- General Cleaning includes but is not limited to: offices, lobbies, workrooms, kitchens, auditoriums, conference rooms, etc.
- Trash/Trash Receptacles empty and clean wastebaskets, insert liners.

The contract also required the vendor to perform some weekly, monthly, and quarterly tasks.

In addition to the work performed by the contractor, one of the Division's full time employees provides janitorial services during the day at the Operations Center and the Warehouse Building. The janitor is

DPU needs to evaluate the necessity of a full time janitor position when the function is already outsourced

currently responsible for all service activities at the Warehouse location because the building is not open after 5:00 p.m. The work performed included bathroom duties, spill cleanup, lunchroom and gymnasium area cleanup. The work activities conducted did not include heavy janitorial concerns such as floor mopping and waxing.

It appears that the DPU Deputy Director over this operation needs to investigate and justify the need for this position. It appears that with minor modifications to the vendor contract, this position can be eliminated resulting in a savings of \$33,735.

Administrative Staff

The Financial Analyst oversees the work of the administrative staff that is responsible for various tasks related to the Division's support to the various utilities. The administrative staff process vendor invoices for payment, entering required information into both *Advantage* and *QuickBooks* (business accounting software). The Financial Analyst's rationale for using the accounting software in addition to the City's financial system was to allow:

- Finger tip access to financial information
- Internal tracking of expenditures and breakdown by account code
- Analysis and response to vendor inquiries
- A quick response to management
- Invoice tracking from receipt to payment

The QuickBooks software provides financial details by vendor and by activity codes. The City's system can be queried to obtain activity data by using Business Objects software; however, accurate and complete data related to activities conducted can only be accomplished with the

establishment and use of appropriate activity codes. The auditors were informed that the QuickBooks recordkeeping allows the Division to make sure that invoices are paid in compliance with state code related to prompt payments. It appears that significant time is committed for duplication of data entry into two systems. DPU must evaluate cost versus benefits of the duplication.

Invoice Processing

FY 2008 Division statistics indicate that the administrative staff processed 487 invoices for Buildings and Grounds and 482 invoices for Street Lights. These totals represent that there is approximately an average of about 40 invoices processed per month per staff excluding the Financial Analyst. The administrative staff members are also required to carry out other tasks, such as, maintaining department files, preparing memorandums and other documents, scheduling meetings, keying data into computer systems, processing internal and external contracts, reconciling department records, and tracking citizens requests related to streetlights.

The Department of Public Works accounts payable technician who performs a similar function processed an average of 418 invoices per month in addition to performing other administrative duties.

The volume of work processed by this Division may not justify three administrative positions. A detailed study of the administrative workload is necessary. The staff position(s) considered to be excessive could be transferred elsewhere in the City or eliminated. This could result in a productivity improvement up to \$114,790.

Conclusion

These are serious operational deficiencies. Without proper planning, resource needs may not be identified and appropriate preventive maintenance may not be performed in a timely manner. In the absence of labor records, it is impossible to evaluate the cost effectiveness of the task performed. The Operations Manager did not have any information on work performed to control costs. Without proper information, it may not be possible to manage this operation in the most cost effective and efficient manner. There may also be an opportunity to outsource certain activities such as painting and HVAC work if in-house activity is determined not to be cost effective. These represent significant weaknesses in internal controls that prevent the proper management of this operation.

Recommendations:

- 1. Prepare annual preventive and capital maintenance plans based on DPU's needs assessment.
- 2. Evaluate and utilize a work order system to track assigned activities through completion. Using the information gathered, perform the following tasks:
 - a. Establish adequate performance measures.
 - b. Compile actual performance results for various tasks and compare them with the corresponding planned goals.
 - c. Provide performance results to the Deputy Director on a regular basis.
- 3. Evaluate appropriateness of the division's staffing. Based on the results, consider outsourcing the function or staff reduction for the following positions:
 - a. Maintenance positions determined to be excessive
 - b. Painter(s)
 - c. HVAC personnel
 - d. Janitor
 - e. Two administrative personnel
- 4. Establish appropriate activity codes for the Buildings and Grounds Division.

MANAGEMENT RESPONSE FORM DEPARTMENT OF PUBLIC UTILITIES - REPORT 2010-02

#	RECOMMENDATION	CONCUR Y-	
1		N N	DDII Dvilding Mointenance will and doct
1	Prepare annual preventive and capital	Y	DPU Building Maintenance will conduct
	maintenance plans based on DPU's needs assessment.		detailed planning of recurring preventative
	assessment.		maintenance tasks and any capital projects that
			are managed by the group. This planning will
			include formal requests for service from other
			DPU organizations for maintenance of facilities
			(and their associated square footage) that the
			auditors declined to include in their IFMA
			comparison. This planning will also include an
			estimate of resources needed for special requests
			and emergency / corrective maintenance that
			cannot be planned in advance.
	RESPONSIBLE PERSON/TITLE		TARGET DATE
	Michael Bellman - Deputy Director Gas & IF IN PROGRESS, EXPLAIN ANY DELAYS		January 1, 2010 IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
	IF INTROCKESS, EATERNANT DELATS		IF EVILLENTENTED, DETAILS OF EVILLENTATION
#	RECOMMENDATION	CONCUR Y-	ACTION STEPS
	RECOMMEMBATION	N	
2	Evaluate and utilize a work order system to	Y	A meeting was held with MAINSAVER
	track assigned activities through completion.		administrators on 9/3/09 to determine the steps
	Using the information gathered, perform the		necessary to set up and maintain the work order
	following tasks:		system for DPU Building Maintenance. The
	a. Establish adequate performance measures.		steps include 1) designation of a MAINSAVER
	b. Compile actual performance results for		coordinator, 2) training on the software system,
	various tasks and compare them with the		3) updating the facilities list, 4) activating assets
	corresponding planned goals.		in the system, 5) establishing preventative
	c. Provide performance results to the Deputy		maintenance activities and schedules for the
	Director on a regular basis.		assets (based on the planning in
			recommendation #1), 6) designating expected
			man-hours and resources for those activities (the
			performance measures), 7) creating forms
			needed for submittal of work requests for
			unplanned activities, 8) training building
			maintenance personnel in the process changes,
			9) communicating process changes to internal
			customers 10) implementing the system and
			inputing actual results and 11) establishing
			periodic reporting requirements.
	RESPONSIBLE PERSON/TITLE		TARGET DATE
	Michael Bellman - Deputy Director Gas &		April 1, 2010
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION

#	RECOMMENDATION	CONCUR Y-	ACTION STEPS
3	Evaluate appropriateness of the division's staffing. Based on the results, consider outsourcing the function or staff reduction for the following positions: a. Maintenance positions determined to be excessive b. Painter(s) c. HVAC personnel d. Janitor e. Two administrative personnel	Y	DPU will evaluate workload and staffing options. This will be accomplished using the first 6 months of actual data and the next 6 months of planned maintenance data from the work order system implemented in response to recommendation #2 above. The analysis will include an assessment of the employee resources necessary to maintain the work order system. OSHA safety requirements for sanitation and minimum employee staffing for tasks will be factored into the work order system and will be a part of this review.
	RESPONSIBLE PERSON/TITLE		TARGET DATE
	Michael Bellman - Deputy Director Gas &		October 1, 2010
	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION
#	RECOMMENDATION	CONCUR Y-	ACTION STEPS
4	Establish appropriate activity codes for the	Y	DPU will work to redefine activities in greater
	Buildings and Grounds Division.		detail in the accounting system. This will
			involve 1) choosing appropriate codes, 2)
			modification of the ADVANTAGE system to
			include the codes by Financial Operations, and
			3) revising all existing purchase order
			documents to include the new codes. Additional
			codes will add additional administrative burden
			to this organization.
	RESPONSIBLE PERSON/TITLE		TARGET DATE
	Michael Bellman - Deputy Director Gas &		January 1, 2010
-:-:-::	IF IN PROGRESS, EXPLAIN ANY DELAYS		IF IMPLEMENTED, DETAILS OF IMPLEMENTATION