

Item No. 11

“To Be Delivered” Material

For

City of Sacramento

City Council

Financing Authority

Housing Authority

Redevelopment Agency

Agenda Packet

Submitted: November 12, 2008

For the Meeting of:

The attached materials were not available at the time the Agenda Packet was prepared.

Title: Water Meter Inventory

Contact Information: Marty Hanneman, Assistant City Manager and Interim Director, Department of Utilities

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REPORT TO COUNCIL

City of Sacramento

915 I Street, Sacramento, CA 95814-2604
www. CityofSacramento.org

Staff Report
November 13, 2008

Honorable Mayor and
Members of the City Council

Title: Water Meter Inventory

Location/Council District: Citywide-All

Recommendation: Staff recommends that Council receive and file the water meter inventory report.

Contact: Michael Malone, Field Services Manager (916) 808-6226
Marty Hanneman, Assistant City Manager, Interim Director, Department
of Utilities (916) 808-5704

Presenters: Marty Hanneman, Assistant City Manager, Interim Director, Department
of Utilities
Michael Malone, Field Services Manager, Department of Utilities

Department: Utilities

Division: Field Services

Organization No:

Description/Analysis

Issue: A recent audit of the Department of Utilities cited an estimated 4,492 unaccounted for water meters. This estimate was based upon purchases noted on the manufacturer's invoices, the total number of water meters in our billing system, and the physical water meter count from our store rooms. The Department recently field checked all of the meters in the ground and in Utilities storerooms. The completed field checked inventory of water meters in the City determined that 98% of all meters purchased by the City have been accounted for. The City Auditor worked closely with Utilities staff in the evaluation of the data and concurs with the Department's conclusions.

In addition, new policies have been put in place to ensure stronger inventory control over water meters, scrap metals and other materials at the Department of Utilities and in the field. The City Auditor's review of our new written policies and procedures determined compliance with auditing standards.

With the implementation of the new policies and procedures regarding scrap material (June 2006), the Department has recycled more than 118,000 lbs of materials and has received more than \$72,657.13 for its scrap materials. For perspective into the effectiveness of these new policies and procedures, prior to implementation of these new policies, from June 2005-June 2006, the Department received less than \$6,000 for its materials. The increase in revenues from recyclables demonstrates that the scrap metals are being handled properly and that the new policies and security measures have drastically reduced the risk of theft of scrap metal at the Department.

Policy Considerations: Over the past two years, an investigation into the Department of Utilities and illegal activities involving two former employees and a scrap metal dealer, revealed security issues at the 24th Street Corporation Yard. Staff at all departments who utilize corporation yards, led by General Services Department have assessed the risks. New policies and standards have been put in place at all City Corporation Yards to address these security concerns.

Environmental Considerations:

California Environmental Quality Act (CEQA):

Under the California Environmental Quality Act (CEQA) guidelines, continuing administrative activities do not constitute a project and are therefore exempt from review.

Sustainability Considerations:

Other:

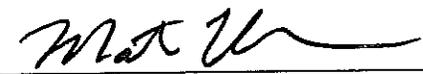
Commission/Committee Action:

Rationale for Recommendation: This report was completed in response to the audit conducted by Mr. Marty Kolkin, City Auditor and presented to Council on June 24, 2008. This report should be filed alongside Mr. Kolkin's report as an update.

Financial Considerations:

Emerging Small Business Development (ESBD):

Respectfully Submitted by: 
Michael Malone, Field Services Manager

Approved by: 
Marty Hannenman, Assistant City Manager, Interim Director of Utilities

Water Meter Inventory
Recommendation Approved:

November 13, 2008



for

Ray Kerridge
City Manager

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Attachment 1: Background

On June 24, 2008, Marty Kolkin, City Auditor, presented an audit report to the City Council noting inventory and control issues at the City of Sacramento Department of Utilities. Utilities staff quickly put steps in motion to try and remedy the issues raised by Mr. Kolkin.

One such issue was regarding the City's water meter supply. When the audit was conducted, Mr. Kolkin was provided a list of customer data (meter numbers) from the Customer Information System (CIS), a list of meter numbers in the storerooms and a list of serial numbers from invoices provided by Badger Water Meter, Inc., the City's water meter supplier during the time period audited by Mr. Kolkin. When reviewed, Mr. Kolkin determined that 4,492 water meters were unaccounted for by determining that more meters were purchased than were recorded in CIS or located in the storerooms.

The Department of Utilities launched an investigation and performed an inventory to determine how many, if any, water meters were actually missing. The Department provided a list of addresses with water meters to a consultant who was hired to conduct a physical inventory of meters in the ground and gather serial number data from those meters. Additionally, staff verified the serial numbers of meters in the warehouse, recent water meter installations that were not yet in CIS, and those located at City facilities, such as sump stations and detention basins that may not be read or billed.

The serial numbers were then compared against data from the invoices provided by Badger Meter, Inc.

When completed, the inventory of water meters in Sacramento revealed:

Total Water Meters Counted in the Field	31,777
Total Number of Water Meters Invoiced by Badger Meter, Inc since 1998	32,115
Total Number of Matches (number of meters counted that match Badger Meter, Inc. invoices)	30,168
Total number of meters field checked or identified on Badger Meter, Inc. invoices that match other items, such as hard copy card files or that were accounted for in the warehouse	1,267
Total accounted for water meters	31,435
Total unaccounted for water meters	680

Accounting for the Unaccounted Meters

Unaccounted for Meters per Audit presented in June 2008	4,492
Badger Meter Inc. Invoicing Errors	68
CIS Errors	2,612
Inventory of warehouse	394
Meters installed, but not loaded into CIS	738
Total unaccounted for water meters	680

The completed inventory of water meters in the City shows that 98% (31,435) of all water meters purchased by the City have been accounted for. The City Auditor worked closely with Utilities staff in the evaluation of the data and concurs with the Department's conclusions.

680 water meters remain unaccounted for. The City of Sacramento Department of Utilities tried several times to work with Badger to determine why meter serial numbers were referenced on invoices, but did not appear in the system. Utilities staff also consulted with the Police Department and the City Auditor to try and locate these missing meters.

Several reasons may have contributed to these discrepancies, including but not limited to:

- Meters being replaced in the field and not being properly noted in records
- Meters that are noted on Badger invoices that the Department did not receive or show no record of receiving
- Improper notations of serial numbers during the field check due to worn off numbers.

Potential Reasoning for Still Unaccounted for Meters

	Quantity	Estimated Value
Total missing after comparing field check data with meter data	680	\$245,182.81
Potentially replaced in field and not noted in records	241	\$ 96,450.62
Potentially exchanged	124	\$ 31,395.29*

with other agencies		
Potential error in field checked serial number	34	\$10,965.00
Remaining Water Meters	281	\$106,371.90*

*Estimated value

Since implementing new policies and procedures regarding scrap metal and meters in June 2006, the Department of Utilities has noted an increase in revenues generated by the recycling of scrap metals and meters.

Fiscal Year	Revenue Generated by Scrap Metals and Meters
FY 2005/2006	\$5,909.00
FY 2006/2007	\$25,814.80
FY 2007/2008	\$46,842.33

The Department of Utilities believes the following to be attributed to why 680 water meters remain unaccounted for. The Department concluded that 241 meters had potentially been replaced and not properly noted in the records because a serial number from a Badger invoice appeared in hard copy files that were kept for meter installations or in CIS, but was not the serial number located at the address. Previous Departmental policy would have allowed for meters and other materials to be scrapped without tracking serial numbers of materials being scrapped. New procedures for scrapping materials, particularly meters have recently been developed and implemented. A full review of these new policies can be found in the "Correcting the Problem" section of this report.

Additionally, the Department determined that 124 meters were potentially exchanged with other agencies. Meters and other materials were often traded with other local water purveyors when supplies were low according to former staff members. Staff worked with other local water purveyors to determine the quantity potentially exchanged. The Department has issued a new policy prohibiting the trading of water meters with other agencies when inventories are low. Again, a full review of these new policies can be found under "Correcting the Problem".

The Department also determined that approximately 34 serial numbers of water meters were not possible to record during field checks due to partially worn off numbers. The Department determined that by the similarity of the number reported back to the department to the serial numbers provided by Badger Meters, Inc. A new process has been developed to track meter serial number information. A description of this policy can be found in "Correcting the Problem".

A total of 281 meters remain unaccounted for. Staff will continue trying to account

for the meters that have not yet been located. Several reasons may have played into remaining unaccounted for meters, including, but not limited to poor record keeping in CIS and its predecessor the Utilities Customer Information System (UCIS), in hard copy files of meter serial numbers, a lack of system to track new serial number data when water meters were replaced in the field, poor inventory practices and human error.

- Incorrect information was placed in CIS. "Badge numbers," which were generated in-house and used to track work orders in the system when a new meter was purchased from Customer Service and sent to Field Services for meter installation had been input incorrectly as serial numbers, and vice versa.
- In some instances, no serial numbers were input into CIS at all or a non-existent serial number (such as 1 or 1234) was input into customer records.
- CIS previously did not have an appropriately labeled field for replacement meters so when a meter was replaced; there was no uniform method of recording the replacement data in the system.
- Invoice inconsistencies with Badger Meter, Inc. While working with Badger to assess the data that had been provided on invoices, it was determined that in a few instances, the City received meters in the quantities listed on the invoices received, but the serial numbers provided on the invoices were incorrect.

The Department of Utilities has worked closely with the Police Department and Federal Bureau of Investigation to try and determine if any of the 281 unaccounted for meters may have been involved in the scrap metal theft issues that were uncovered as part of their investigation into former employees and a scrap metal dealer. At this time, the Police Department cannot confirm whether or not any of the 680 unaccounted for meters were part of their investigation.

Many of the issues raised by the missing meters have also been addressed in new policies and procedures. These policies and procedures can be found below.

Correcting the Problem

Through this water meter inventory process, old records which had transferred into CIS from UCIS have been updated with corrected serial number information. In addition, new inventory policies have been put into place to help better track meters. A flow chart of new processes is included in Attachment 2.

- Meter serial numbers are to be checked when a shipment arrives and verified against the invoice received from manufacturer. Records must be kept of materials sent back to the manufacturer.

- The Department of Utilities no longer trades materials with other agencies when inventories are low.
- The use of barcode technologies in the warehouse allow for electronic tracking of meters and other materials. Field Services of the Utilities Department is also investigating use of this technology out in the field. It anticipates completion of this analysis by July 2009.
- Meters are now tracked by their serial numbers, not by badge numbers of work order numbers. When a meter is replaced, it is noted in the CIS system and in the Computerized Maintenance Management System (CMMS) work order which serial number it is being replaced by.
- Inventories of meters must be completed monthly, rather than quarterly or annually. These inventories are assessed with Business Services to ensure high standards of completion and proper assessment of value of materials.
- Only City crews will install a water meter smaller than 3 inches. Previous policy would allow a contractor to receive a water meter from the meter shop and install it. Now a City crew must obtain the meters from the warehouse staff. Before leaving the warehouse, the meters' serial numbers are noted and signed out to the crew. When the crew returns to the warehouse, they must return a completed CMMS work order, which will include the location address and the serial number for that installation or replacement. They must also return any unused meters and meters that may have been removed in the process of their work.

Some installations of meters larger than 3 inches require additional construction of infrastructure, such as backflow devices, making it necessary for a contractor to install at meter at those sites.

- When materials are ready to be scrapped, the material must be returned to the yard and turned into the warehouse. At the warehouse, it is logged and then taken to a locked storage area where all scrap metal is stored before being taken to the recycler.
- The City of Sacramento Department of Utilities now takes all of its own materials to the recycler and does not use a contractor to do this work. Checks for materials are made out to the City of Sacramento and receipts are collected. The weight of the material taken to the recycler is tracked and verified.
- The CIS system now has an appropriate location to store serial number data that is easily accessible and easy to recognize. Data is additionally located within the CMMS system to help back-up records on CIS.

The Department of Utilities has been implementing its new policies and procedures regarding inventory and tracking of materials. Staff has been trained on these new policies and procedures.

With new security measures at the Corporation Yard and implementation of new policies regarding scrap material (June 2006), the Department has recycled more than 118,000 lbs of materials and has received more than \$72,657.13 for its scrap materials. For perspective into the effectiveness of these new policies and procedures, prior to implementation of these new policies, from June 2005-June 2006, the Department received less than \$6,000 for its materials. The increase in revenues from recyclables demonstrates that the scrap metals are being handled properly and that the new policies and security measures have drastically reduced the risk of theft of scrap metal at the Department.

The Department will continue to report back to the City Council with updates as to its progress on the audit findings.

Attachment 2: Flow Chart

