July 2, 2010

TOM A. SAMRA
VICE PRESIDENT, FACILITIES

SUBJECT: Audit Report – Facility Energy: Metering Technologies
(Report Number DA-AR-10-006)

This report presents the results of our self-initiated audit of the U.S. Postal Service's application of time-of-use (TOU) metering technologies (Project Number 09YG046DA000). Our objective was to determine whether Postal Service processing and distribution centers (P&DCs) are using TOU metering technologies to manage energy costs. This audit addresses the financial risk for electricity costs. See Appendix A for additional information about this audit.

The fiscal year (FY) 2009 annual electricity cost for the Postal Service was $520.4 million. Energy management uses TOU meters to separate electricity consumption based on peak and off-peak periods. By shifting the use of electricity to off-peak periods, the Postal Service can take advantage of lower tariffs or rates offered by utility companies during those periods. In the Postal Service, large numbers of mail sortation machines are active during evening and nighttime hours, therefore deploying TOU meters would be a cost-effective way for the Postal Service to save on energy costs at its processing plants.

Opportunities Exist for P&DCs to Expand Use of TOU Metering Technologies

The Postal Service is effectively using TOU metering technologies to conserve electricity at its P&DCs. Only three out of 144 P&DCs (or 2 percent) do not have but are eligible for TOU metering. Managers monitoring electricity costs indicated these facilities either were not aware of TOU benefits or were not required to install TOU meters. The remaining facilities already have or are ineligible for TOU metering. A facility may be eligible for TOU metering when:

- The utility company offers TOU rates.
- TOU rates will not result in a higher cost.
- Accounts meet utility consumption requirements for TOU rates.
- TOU utilization avoids penalties for non-compliance.

Although the current Postal Service energy policy[1] does not require P&DCs to install TOU metering, an objective of the *U.S. Postal Service National Energy Management Strategy*[2] is to implement all available and proven technologies to improve energy performance at

[1] Handbook AS-558, *Facility Energy Management Guide,* September 1998.
[2] Dated November 2008.

facilities without adversely affecting missions or operations. One of the strategies cited is to use less electricity during peak hours. The U.S. Department of Energy's *Guidance for Electric Metering in Federal Buildings* also recommends TOU metering as a method to save facilities energy costs.

Had the Postal Service installed TOU metering at the three P&DCs identified in Chart 1, the savings would have been $210,522 for FY 2009. In addition, the Postal Service could save at least $1,691,740 over the next 10 years by installing TOU meters at these plants. See Appendix B for summary monetary impacts and assumptions used.

Chart 1: Postal Service Facilities with Opportunities for TOU Metering

Area	P&DC Facility	FY 2009 Unrecoverable Questioned Costs	10-Year Funds Put to Better Use
Southeast	Nashville	$100,822	$810,200
Eastern	Louisville	75,064	603,207
Eastern	Lexington	34,636	278,333
	Total	**$210,522**	**$1,691,740**

We recommend the vice president, Facilities, instruct affected Area Facility Service Office managers to:

1. Install time-of-use metering at eligible processing and distribution centers by December 31, 2010.

2. Update policy to require installation of time-of-use metering at all eligible processing and distribution centers.

Management's Comments

Management generally agreed with recommendation 1 that installing TOU metering at eligible facilities would result in monetary savings to the Postal Service. Management agreed to implement TOU rates at the Nashville, Louisville and Lexington P&DCs, but disagreed with the estimated FY2009 Unrecoverable Questioned Costs for these facilities. Management disagreed that implementation of TOU rates was possible at the Honolulu, Jackson, and South Bend P&DCs. Installing TOU at the Honolulu P&DC would result in an estimated $100,000 increase in utility charges per year based on the extended peak hour period required under this rate and the higher kilowatt hour rate applied during this period. In addition, the Jackson and South Bend P&DCs are not currently eligible for TOU metering.

Management disagreed with recommendation 2. They stated that TOU metering could be superseded in the future and that they have already evaluated all medium and large facilities for TOU metering. They also stated that they evaluate non-TOU facilities annually for TOU metering opportunities. Hence a policy change requiring the installation of TOU metering at eligible P&DCs was not necessary. See Appendix C for management's comments in their entirety.

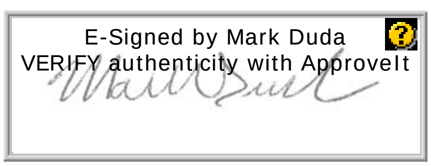
Evaluation of Management's Comments

The U.S. Postal Service Office of Inspector General considers management's comments responsive to the recommendations and management's corrective actions should resolve the issues identified in the report. We determined the three facilities management reviewed (the Honolulu, South Bend, and Jackson P&DCs) were eligible for TOU based on our interviews with customer service representatives at the utility companies. We recognize that the Postal Service may have conducted a more in-depth review of potential TOU metering opportunities, which could have resulted in a different conclusion. Therefore we will eliminate the three facilities in question from the monetary impact calculation. We do believe, however, that our calculation of the annual savings for the Nashville, Louisville, and Lexington P&DC's is reasonable per the Department of Energy study disclosed in the Appendix B assumptions.

Regarding recommendation 2, while management disagreed with our recommendation, the actions they are planning – to annually look for rate optimization opportunities meets the intent of our recommendation.

The OIG considers recommendation 1 significant, and therefore requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective action(s) are completed. These recommendations should not be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendation(s) can be closed.

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Miguel Castillo, director, Engineering and Facilities, or me at 703-248-2100.



Mark W. Duda
Deputy Assistant Inspector General
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Attachments

cc: Steven J. Forte
Robert McNiece
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APPENDIX A: ADDITIONAL INFORMATION

BACKGROUND

Standard electricity meters measure the total amount of electricity consumed at a facility, regardless of the time of day electricity is used. TOU metering for electricity involves using meters that separate electricity consumption based on peak and off-peak periods. Peak periods are typically daytime hours when large numbers of consumers are using electricity. Off-peak periods are typically evening and nighttime hours. By shifting the use of electricity to off-peak periods, utility companies can prevent the construction of additional generating plants that would be necessary to meet consumers' needs during peak periods. As an incentive to have consumers shift consumption to off-peak periods, many utility companies offer a lower cost rate for electricity consumed in that timeframe.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to determine whether Postal Service P&DCs are using TOU metering technologies to manage energy costs. To achieve our objective, we obtained the 2009 annual electricity costs for the Postal Service's P&DCs by downloading data from the Enterprise Data Warehouse (EDW). To determine whether a facility used TOU metering, we reviewed data from the Utilities Management System. We calculated potential savings by multiplying FY 2009 electricity costs for non-TOU facilities by the Department of Energy's average savings for converting to TOU.

We conducted this performance audit from September 2009 through July 2010 in accordance with generally accepted government auditing standards and included such tests of internal controls as we considered necessary under the circumstances. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We also discussed our observations and conclusions with management officials on March 24, 2010, and included their comments where appropriate.

We used data from the EDW and data from the Utilities Management System. We assessed the reliability of data by:

- Comparing annual energy costs recorded in the systems to source documents.
- Confirming data with knowledgeable Postal Service officials.

We determined that the data were sufficiently reliable for the purposes of this report.

PRIOR AUDIT COVERAGE

We did not identify any prior audits or reviews related to the objective of this audit.

APPENDIX B: MONETARY IMPACT

Finding	Impact Category	Amount
1	Funds Put to Better Use[3]	$1,691,740
1	Unrecoverable Questioned Costs[4]	210,522
	Total	**$1,902,262**

Assumptions:

- In calculating the 10-year funds put to better use, we discounted the yearly savings at 7 percent.
- Per the Department of Energy, deploying TOU metering would reduce electricity costs by an average of 10 percent per year.
- We used FY 2009 costs as a baseline for future year savings.

[3] Funds that could be used more efficiently by implementing recommended actions.
[4] Unrecoverable costs that are unnecessary, unreasonable or an alleged violation of law or regulation.

APPENDIX C: MANAGEMENT'S COMMENTS

TOM A. SAMRA
VICE PRESIDENT, FACILITIES

UNITED STATES
POSTAL SERVICE

June 25, 2010

LUCINE M. WILLIS

SUBJECT: Draft Audit Report – Facility Energy: Metering Technologies
(Report Number DA-AR-10-DRAFT)

Thank you for the opportunity to review and comment on the subject draft report. The following is our full response to the audit report.

Management Response - Monetary Impact:
We generally agree that the implementation of time of use (TOU) metering/rates will result in some form of monetary impact to the Postal Service subject to the availability of the rate and our eligibility based on utility requirements and facility usage and demand. However, we do not agree that the implementation of TOU rates are a viable option for all six facilities identified in the subject report and question the estimated monetary impact of $478,958 as fiscal year (FY) 2009 Unrecoverable Questioned Costs and the $3,848,871 estimate of 10-year funds put to better use.

Based on our preliminary review of the eligibility requirements and consumption patterns of identified facilities, we dispute the finding that the Honolulu P&DC qualifies for TOU rates and the FY2009 Unrecoverable Questioned Costs of $196,039. Based on our analysis, implementing a TOU rate at this facility would result in an estimated annual increase of $100,000 based on the extended peak hour period required under this rate and higher cost per kWh applied during this period. This was confirmed by the servicing utility, Hawaiian Electric Company, upon their review of the rate analysis completed by Energy United.

We agree with the recommendation to implement TOU rates at the Nashville, Louisville, and Lexington facilities based on our rate analysis, but disagree with the estimated FY2009 Unrecoverable Questioned Costs for these facilities. The South Bend and Jackson P&DC's should be deleted as the TOU rate is not offered by the utility as in the case of the Jackson facility or only available to the first 500 customers as in the case of South Bend facility. Based on these factors our estimate of total Unrecoverable Questioned Costs in the amount of $118,000 (see below table) is significantly lower than the estimated $478,958 referenced in the report.

Area	P&DC	OIG FY 2009 Unrecoverable Questioned Costs	Cost Avoidance Estimate Based on Preliminary Rate Analysis	Notes
Pacific	Honolulu	$196,039	$0	
Southeast	Nashville	$100,822	39,000	
Eastern	Louisville	$75,064	39,000	
Eastern	Lexington	$34,636	$40,000	
Great Lakes	South Bend	$21,180	$0	TOU Rate Not Available
Southeast	Jackson	$51,217	$0	TOU Rate Not Available
		$478,958	$118,000	

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Additionally, we disagree with the methodology used for calculating unrecoverable costs based on an estimated reduction of 10 percent per year per facility, which is not substantiated by our preliminary rate analysis. This rate analysis estimates savings/avoidance based on the difference between the existing rate and the proposed TOU rate and calculated based on account historical usage and demand and is a more accurate estimate. This estimate will validated by the utility as part of the rate adjustment process so actual savings may be more or less than these estimates.

The focus of OIG's report only provides their estimated impact and neglects to acknowledge the overall energy cost savings achieved through the Postal Service's ongoing energy conservation and rate optimization process across the organization nor does it acknowledge that most if not all of the P&DC's do not qualify for TOU rates or already have TOU metering/rates implemented.

The OIG recommends the Vice President, Facilities, instruct affected area Facilities Service Office managers to:

Recommendation 1: Install time-of-use metering at eligible Processing and Distribution Centers by December 31, 2010.

Management Response - Recommendation 1: The Postal Service has taken great strides over the last decade to incorporate energy conservation processes and technologies in our facilities. For the OIG to only find 6 Processing and Distribution Centers out of 144 that they indicate are eligible for time-of-use rates/metering speaks extremely well to our efforts. Based on the Postal Service's preliminary review of those 6 facilities listed only three of them are eligible for time-of-use metering while 2 of the remaining 3 facilities are serviced by utilities that do not offer TOU metering. While management generally agrees with this recommendation, further analysis is required with utility confirmation needed before installation would be approved. The December 31, 2010, target installation dates would seem to be reasonable for the 3 facilities determined qualified after the analysis was performed.

Recommendation 2: Update policy to require installation of time-of-use metering at all eligible processing and distribution centers.

Management Response – Recommendation 2: In accordance with the AS-558, *Facility Energy Management Guide,* The Vice President of Engineering, as the chief environmental and energy officer for the Postal Service, is responsible for the development of policies, plans and programs for implementing the Postal Service's National Energy Program. Facilities is responsible for implementing applicable policies, plans, and programs and incorporating energy conservation in new construction and major renovation projects. Unless the OIG can clarify further the absolute need to update a specific policy to require the installation of TOU metering, the Postal Service has to disagree that a policy update to the AS-558 to specifically call out a technology that could be superseded in the future is necessary.

The AS-558, section 3-3, *Strategy for Reducing Energy Use* already speaks to investigation of energy costs and load management, which should suffice for facilities managers to be aware of this type of potential savings. Also, reviewing facilities for rate optimization opportunities including placing an analysis of TOU rates on an ongoing basis with most if not all of the medium to largest facilities having been evaluated for rate optimization opportunities by the Utilities Team in the Facilities Portfolio under Supply Management on an annual basis under the Utility Management System and other utility contracts and continues with these efforts.

We do not believe that this report contains any proprietary or business information and may be disclosed pursuant to the Freedom of Information Act.

for Yjoula Tamash

Tom A. Samra

cc: Steven J. Forte
Sally K. Haring
Robert K. McNiece