



**A Report to the  
Austin City Council**

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Kathie Tovo  
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City Auditor**

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# Austin Energy Appliance Efficiency Program Audit

August 2013



## REPORT SUMMARY

Austin Energy (AE) did not conduct on-site inspections to verify that customers installed qualified equipment before receiving Appliance Efficiency Program (AEP) rebates. As a result, there is an increased risk that AE may pay rebates for equipment that did not qualify for the program or that the customer did not install. In addition, inadequate separation of duties and supervision increase the risk that fraud or abuse could occur without detection in the AEP program. Further, insufficient information system controls increase the risk of unauthorized access to AEP data and create a risk that the size of a rebate could be changed inappropriately before payment.

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**GOVERNMENT AUDITING STANDARDS COMPLIANCE**

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We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

**AUDIT TEAM**

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Walton Persons, CPA, CICA, Assistant City Auditor  
JoJo Cruz, CRMA, CICA, Auditor-in-Charge  
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August 2013



## Audit Report Highlights

### Why We Did This Audit

This audit was conducted as part of the Office of the City Auditor's (OCA) FY 2013 Strategic Audit Plan.

### What We Recommend

AE should:

- Initiate regular risk-based inspections of AEP rebate applications
- Review, improve, and monitor controls over AEP rebate application processing, including the information system, to ensure adequate supervision and separation of duties



For more information on this or any of our reports, email [oca\\_auditor@austintexas.gov](mailto:oca_auditor@austintexas.gov)

# AUSTIN ENERGY APPLIANCE EFFICIENCY PROGRAM AUDIT

Mayor and Council,

I am pleased to present this audit of Austin Energy's (AE) Appliance Efficiency Rebate Program (AEP).

## BACKGROUND

- Austin Energy (AE) offers 14 conservation rebate and incentive programs for both residential and commercial customers. The Appliance Efficiency Program (AEP) is one of the rebate programs for residential customers.
- From October 2011 through March 2013, AE staff processed 5,563 AEP rebate applications and approved 5,196 for \$2.1 million in payments.
- AEP benefits residential customers who install high efficiency Heat, Ventilation, and Air Conditioning (HVAC) equipment in their homes.

The Energy Services Unit (ESU) provides support services such as rebate processing, information technology support, inspections, and customer information assistance to the AEP program.

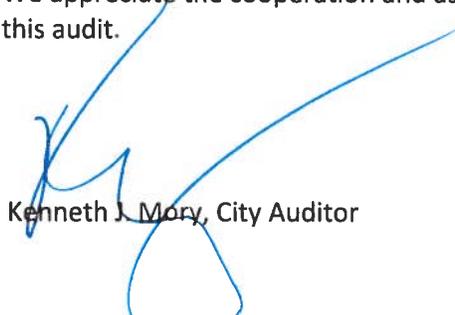
## OBJECTIVE AND SCOPE

The objective of the audit was to evaluate controls over AEP conservation rebates provided to AE residential customers. The audit scope included AEP conservation rebates processed from October 2011 to March 2013.

## WHAT WE FOUND

- AE did not conduct on-site inspections to verify that customers installed high efficiency HVAC equipment before receiving AEP rebates. As a result, there is an increased risk that AE may pay rebates for equipment that did not qualify for the program or that the customer did not install.
- Inadequate separation of duties and supervision increase the risk that fraud or abuse could occur without detection in the AEP program.
- Inadequate separation of duties and information system controls increase the risk of unauthorized access to AEP data. This creates a risk that the size of a rebate could be changed inappropriately before payment. In addition, an application programmer can access and manipulate sensitive production data in the database.

We appreciate the cooperation and assistance we received from AE staff during this audit.

  
Kenneth J. Mory, City Auditor

## BACKGROUND

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The Appliance Efficiency Program (AEP) is one of 14 conservation rebate programs Austin Energy (AE) offers customers to encourage energy efficiency. From October 2011 through March 2013, AE provided \$2.1 million in rebates to residential customers through AEP. During that time, AE processed 5,563 AEP rebate applications and approved 5,196 (93%) for payment.

AEP offers rebates for residential customers who install high efficiency equipment in their homes, such as window units, central air conditioners, and solar water heaters. Rebate amounts range from \$50 to \$2,000.

AE's Energy Services Unit (ESU) processes AEP rebate applications, supports information technology, conducts inspections, and provides customer assistance.

## OBJECTIVE, SCOPE, AND METHODOLOGY

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The audit of Austin Energy's Appliance Efficiency Rebate Program was conducted as part of the Office of the City Auditor's (OCA) Fiscal Year (FY) 2013 Strategic Audit Plan, as presented to the City Council Audit and Finance Committee.

### Objective

The objective of the audit was to evaluate controls over AEP conservation rebates provided to AE residential customers.

### Scope

The audit scope included AEP conservation rebates processed by AE from October 2011 to March 2013.

### Methodology

To accomplish our audit objectives, we performed the following steps:

- Interviewed AE officers and employees associated with the AEP rebate program
- Performed walk-throughs of the Residential Energy Incentive Program (REIP) that AE uses to process AEP rebates
- Selected a judgment sample of 25 hardcopy AEP rebate applications, 20 of which included a review for associated inspections; the remaining five were reviewed only to determine whether permits were obtained
- Traced a judgment sample of 20 paid AEP rebate payments to hardcopy AEP rebate applications
- Performed validation testing of REIP system access rights of two ESU employees and one AE Finance employee responsible for processing AEP applications and payments
- Tested and analyzed the 5,563 AEP rebate applications from October 2011 to March 2013 using REIP data to identify potential fraud, waste, or abuse occurring that would be significant within the context of the audit objectives
- Assessed the reliability of information systems determined to be significant to the audit objectives

## AUDIT RESULTS

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From October 2011 through March 2013, AE did not perform required on-site inspections for rebates paid to customers through AEP, according to data provided by ESU. As a result, there is an increased risk that AE may pay rebates for equipment that did not qualify for the program or that the customer did not install. In addition, while the level of rebate payment errors made by AE is de minimis, insufficient supervision and separation of duties, along with inadequate IT controls, increase the risk that program funds could be misused without detection. These control weaknesses indicate a lack of oversight by ESU management and an acceptance of risks associated with not performing AEP on-site inspections.

### **Finding 1: AE did not conduct on-site inspections to verify that customers installed high efficiency HVAC equipment before receiving AEP rebates.**

AE policy requires on-site inspections to help ensure customers have installed new energy efficient appliances before receiving rebates through AEP. If equipment does not pass inspection, the customer must make corrections before AE pays the rebate. AE does not require customers to provide a sales invoice when applying for AEP rebates for some types of HVAC equipment, such as central cooling units. In those cases, the inspections serve to verify that customers actually purchased the equipment.

From October 2011 through March 2013, AE's ESU did not perform on-site inspections for rebates paid to customers through AEP, based on data provided by ESU. Of the 5,196 rebates paid, all were coded in the database by inspectors as "not inspected, approved for payment."

ESU management states that AE inspectors do verify, as time allows, that outside equipment such as condensers is installed and provided two example inspection reports. The provided reports were incomplete and neither indicated whether the equipment passed inspection. See Exhibit 1 for one of the examples. Additionally, we could only trace one of the two example inspection reports back to the database of AEP rebate applications.

Further, according to ESU management, inspections by Austin's Planning and Development Review Department (PDRD) and the other jurisdictions where AE customers reside (e.g., Travis County or suburban cities) may include reviewing equipment for which the customer has requested an AEP rebate. However, inspections by those entities generally relate to construction-related permits and safety compliance; they are not performed for verifying rebate applications. In addition, customers do not need permits to install some appliances that qualify for AEP rebates, such as window air conditioner units.

Given that on-site inspections are not occurring, AE may have paid rebates for equipment that did not qualify for the program or that the customer did not install.

**EXHIBIT 1**  
**Example AEP Inspection Report**



*AEP*

**INSPECTION REPORT**  
HOME PERFORMANCE WITH ENERGY STAR® PROGRAM  
721 Barton Springs Rd, Austin, TX 78704 (512)482-5346



OWNER _____	BID # _____
JOB ADDRESS <i>707 Rio Grande</i>	LOAN <input type="checkbox"/> WHOLE HOUSE
CONTRACTOR <i>FOX</i>	

	P	F	N/A	COMMENTS
1. SOLAR SCREENS - FILM - SHADING: Sq. Ft. _____				
2. ATTIC INSUL.- KNEEWALL: Beg. R _____ End. R _____				
3. RADIANT BARRIER: Sq. Ft. _____				
4. SYSTEM PERFORMANCE TESTING # OF _____ SYSTEMS				
5. COMPREHENSIVE TESTING				
AIR HANDLER - FURNACE SEALED				
RETURN AIR SEALED # ADDITIONAL RETURNS _____				
6. DUCT INSUL./DUCT REPLACE: Linear Ft. _____				
ADDITIONAL DUCT RUNS # _____				
7. H.V.A.C. REPLACEMENT				
Permit # _____				
Model # <i>XC16-048-230-02</i>				
Serial # <i>5208014347</i>				
EXT. COMBUSTION AIR: Gas Furnace-Water Heater				
GAS DRIP LEG				
WORKING SMOKE ALARM				
APPROPRIATE BREAKER / FUSE				
CAN LIGHTS / DAM WAIVER / CONTRACTOR CLAIMED IC				INITIALS
OTHER				
<input type="checkbox"/> AE Stat (Existing AE Thermostat)				

DATE PASSED: \_\_\_\_\_ DATE FAIL: \_\_\_\_\_ INSPECTOR: \_\_\_\_\_

Austin Energy will not intervene in disputes between Homeowners and Contractor beyond enforcing guidelines, specifications and departmental policy at the time of inspection.

Contractor shall warrant all materials, parts and workmanship for a minimum of one year from the date of the final inspection by Austin Energy or when work is completed, whichever comes last. Contractor shall act as the manufacturer's agent for all equipment and materials' warranties. Contractor shall provide customers information regarding these warranties at the time of the final inspection.

**Any work that has not passed inspection must be brought up to Austin Energy standards and re-inspected within 10 working days.**

I, \_\_\_\_\_ (PRINT NAME) undersigned, owner/agent, have reviewed this report and hereby have found the work performed by Contractor as satisfactory.

Owner's/Agent's Signature \_\_\_\_\_ Date \_\_\_\_\_

White Copy - AUSTIN ENERGY Yellow Copy - OWNER Pink Copy - CONTRACTOR 08\_01\_11

SOURCE: Austin Energy, April 2013

**Finding 2: Insufficient supervision, separation of duties, and IT controls increase the risk that program funds could be misused without detection.**

Separation of duties is a key internal control. Separating duties, such as the recording and approval of transactions, applies an appropriate level of checks and balances upon employee's actions necessary to manage risks.

Inadequate separation of duties and supervision increase the risk that fraud or abuse could occur without detection in the AEP program.

ESU does not have sufficient separation of duties and supervision over its processing of AEP rebates. In between October 2011 and March 2013, AE expended over \$2.1 million on 5,196 AEP rebate payments.

ESU staff members have broad authority for processing AEP rebate applications, with little review or supervision. For example, one employee can perform all of the following actions:

- Select applications to process
- Verify completeness and accuracy of applications, and confirm whether applicants are AE customers
- Enter application information in the database that AE Finance uses for payment
- When necessary, correct or dismiss error messages signaling duplicate equipment serial numbers – an indication that a rebate has already been processed for the equipment
- Review their own data entry work for accuracy

After the ESU data entry staff enters the applications, it is ready for inspection and payment approval. ESU inspectors approve the applications for payment. After approval by the ESU inspector, the application goes to AE Finance for payment processing.

While the level of rebate payment errors made by AE is de minimis, AE did not detect or correct the errors. With adequate review and supervision, each of these errors could have been prevented. Exhibit 2 shows the missing controls that allowed payment errors to occur and not be detected by AE.

**EXHIBIT 2**  
**Impact of Missing Controls**

Missing Control	Impact
<ul style="list-style-type: none"> <li>▪ Separation of duties</li> <li>▪ Supervisory review of applications that generate duplicate serial number error messages</li> </ul>	<p>ESU received two copies for the same application for a rebate. One was a copy for the customer’s record which ESU mistakenly received. Both copies of the application were processed by ESU. The database system generated an error message indicating to the employee that they were entering a duplicate serial number when the second application was entered. The employee stated that they dismissed the message.</p>
<ul style="list-style-type: none"> <li>▪ Adequate communication between ESU and AE Finance</li> <li>▪ Reconciliation of approved applications to payments</li> </ul>	<p>For two rebate applications associated with two different customers processed by ESU, after the payments were entered into the database, the ESU employees found and corrected errors in their data entry. However, the system processed the corrections as new application. ESU identified the errors and alerted AE Finance in writing to not make the duplicate payments. According to the AE Finance employee who processed the payments, they did not review the error messages from ESU and processed the overpayments.</p>
<ul style="list-style-type: none"> <li>▪ Supervisory review and approval of applications after information is entered into the database</li> </ul>	<p>ESU received two applications for the same rebate, one hardcopy version through the mail and one electronic copy via e-mail. The applications came in at different times and were processed by two different ESU employees. One of the employees made an error when entering the equipment serial number, so the system did not generate an error.</p>

Missing Control	Impact
<ul style="list-style-type: none"> <li>Supervisory review of applications that have rebate claims for the same installation address</li> </ul>	<p>A contractor submitted two separate applications for the same unit. The first application was filed in 2012 using the Air Conditioning Rebate application. A second application, for the same unit, was filed a year later in 2013 using the Ground Source Heat Pump Application, which is a rebate form specifically for Heat Pumps. ESU staff did not notice that the second application pertained to the same unit because the serial number on the second application contained an additional digit. Both applications indicated the same installation address.</p>

**SOURCE:** OCA analysis, June 2013

ESU management stated that instead of supervising and reviewing the work of staff in processing the applications, they rely on reviews performed by AE Finance. However, AE Finance’s financial review is not an adequate substitute because it is not designed to detect rebates on equipment that does not qualify for AEP or the accuracy of the rebate amounts. In addition, AE does not have written policies or procedures that delegate ESU’s review responsibilities to AE Finance.

Inadequate separation of duties and information system controls increase the risk of unauthorized access to AEP data.

ESU employees responsible for processing AEP rebate applications and AE Finance personnel responsible for paying the rebates all have database access that is not consistent with their job responsibilities. The REIP information system is the database that ESU uses for AEP rebates.

For example, ESU employees responsible for entering AEP rebate applications into REIP can also access and update the rebate payments module. This creates a risk that the size of a rebate could be changed inappropriately before payment. AE Finance staff responsible for processing AEP rebate checks can also access and change AEP application information in REIP.

In addition, the REIP application programmer can access and manipulate sensitive production data in the database. Allowing application programmers access to production data increases the likelihood that unauthorized changes in the REIP database could go undetected by AE.

AE’s Cyber Security Operations Policy states that AE shall maintain and archive system event logs and that audit trails of security-related logs shall be retained for a minimum of 18 months. However, AE has not activated the system’s audit logs to record or track user activity and has not created triggers to alert officials if data is modified. Information Technology Unit indicated that activating these controls has not been the practice of AE because of system storage capacity constraints.

**Additional Observation: Austin Energy does not have effective procedures in place to document, review, and update AEP multipliers used for calculating reported energy savings.**

AE publishes estimates of the energy saved by the incentives offered through AEP rebates. Those estimates depend on calculations using an “AEP multiplier.” However, AE has not updated the AEP multipliers since the Department of Energy changed the Seasonal Energy Efficiency Ratio (SEER) for residential central air conditioners and heat pumps in January 2006. As a result, the energy savings

reported for AEP rebates may have not been accurate. AE staff indicated that senior management is aware of the issue.

## RECOMMENDATIONS

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The recommendations listed below are a result of our audit effort and subject to the limitation of our scope of work. We believe that these recommendations provide reasonable approaches to help resolve the issues identified. We also believe that operational management is in a unique position to best understand their operations and may be able to identify more efficient and effective approaches and we encourage them to do so when providing their response to our recommendations. As such, we strongly recommend the following:

- 1. AE should initiate regular risk-based inspections of AEP rebate applications. AE should also revise its AEP policy to require inspections based on risk-based samples.**

**In addition, AE should ensure that inspection forms contain all relevant information, including the applicant name, inspector's name and signature, owner or agent's signature, and the inspector's conclusion on whether the equipment passes inspection.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.

- 2. AE should review, improve, and monitor controls over the processing and payment for AEP rebate applications to ensure that:**

- **Reviews by a second individual take place to help detect errors when applications are entered into the REIP database.**
- **Employees cannot bypass system errors indicating duplicate serial numbers without supervisory approval.**
- **Duplicate applications are not paid.**
- **Rebates paid are reconciled to rebates approved.**
- **Access rights reflect appropriate separation of duties for data entry, modifying payment modules, and modifying production data.**

MANAGEMENT RESPONSE: **Concur.** Refer to Appendix A for management response and action plan.

### MANAGEMENT RESPONSE



**City of Austin**

*Austin's Community-Owned Electric Utility*

[www.austinenergy.com](http://www.austinenergy.com)

811 Barton • 811 Barton Springs Road • Austin, Texas • 78704

August 2, 2013

Office of the City Auditor  
Austin Energy's Appliance Efficiency Program Audit  
Austin Energy's Response

Austin Energy (AE) reviewed the Appliance Efficiency Program (AEP) audit results and concurs with the recommendations made to address the audit findings. The two recommendations to initiate inspections of a sample of AEP applications, and develop and implement controls for processing and payment of AEP rebate applications are needed and can be implemented with minor adjustments to current processes.

AE has initiated discussions to pull a sample (10% minimum) of AEP applications before processing for payment. Inspections staff will verify from the field that the qualifying equipment is the actual equipment in place. Applications can also be pulled for review by a second individual, a staff member who did not perform the original data entry. This will help identify any errors before processing for payment. Finally, we will institute a more formal review process at the supervisor and manager level prior to payment. These discussions are underway with updated processes implemented in the next 30-60 days.

Austin Energy also will ensure that inspection forms contain all relevant information including the applicant name, inspector's name and signature, owner or agent's signature, and the inspector's conclusion on whether the equipment passes inspection. This information will be verified during the two-step review process described above. Forms not containing the complete required data will be returned to inspectors for completion. As we develop the strategies for the two-step review process, we will develop the process for returning incomplete paperwork.

These proposed process changes can detect discrepancies between information provided by contractors on an application and equipment installed in the field. The changes will also detect data entry errors that might result in duplicate payments or payments on non-qualifying equipment. Finally, changes to current processes will ensure that inspection forms contain complete data prior to processing a rebate. AE will implement these planned changes within the next 30 days or by September 1, 2013.

Additional planned steps to improve processes include the possible acquisition of a new rebate processing system. Our current processes are manual which can lend themselves to more errors than automatic processes. We will be investigating steps necessary to bring a quality automatic rebate processing tool onboard inclusive of reporting functions.

AE appreciates the input from the Office of the City Auditor. We believe this input and subsequent changes will enhance and improve our processes and programs.

A handwritten signature in black ink, appearing to read "Debbie Kimberly".

Debbie Kimberly  
Vice President, Distributed Energy Services

cc: Ann Salerno  
Liz Jambor  
Brenda Harnsberry

ACTION PLAN

Austin Energy Appliance Efficiency Program Audit

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
<p>1. AE should initiate regular risk-based inspections of AEP rebate applications. AE should also revise its AEP policy to require inspections based on risk-based samples.</p> <p>In addition, AE should ensure that inspection forms contain all relevant information, including the applicant name, inspector’s name and signature, owner or agent’s signature, and the inspector’s conclusion on whether the equipment passes inspection.</p>	<p><b>Management concurs with each recommendation.</b></p> <ul style="list-style-type: none"> <li>• AE is developing strategies to pull a sample (10% minimum) of AEP applications prior to payment processing. Inspections will verify that actual equipment matches qualifying equipment</li> <li>• Applications will also be reviewed for completeness. Incomplete forms will be returned to inspection staff and will not continue through the rebate process until returned complete</li> </ul>	<ul style="list-style-type: none"> <li>▪ Discussions are underway</li> <li>▪ Process changes are planned</li> <li>▪ System design changes are planned</li> </ul>	<p>Actions will be complete by September 30, 2013.</p>
<p>2. AE should review, improve, and monitor controls over the processing and payment for AEP rebate applications to ensure that:</p> <ul style="list-style-type: none"> <li>▪ Reviews by a second individual take place to help detect errors when applications are entered into the REIP database</li> <li>▪ Employees cannot bypass system errors indicating duplicate serial numbers without supervisory approval</li> </ul>	<p><b>Management concurs with each recommendation.</b></p> <ul style="list-style-type: none"> <li>▪ Discussions are underway to develop improved processes that will include a second review in the application process to ensure the detection of errors prior to entry into tracking system</li> <li>▪ Changes to the review process will include changes to the data entry system to detect duplicate serial numbers to minimize duplicate payments and to prevent duplicates from being paid</li> <li>▪ A report will be designed to reconcile rebates approved to rebates approved</li> </ul>	<ul style="list-style-type: none"> <li>▪ Discussions are underway</li> <li>▪ Process changes are planned</li> <li>▪ System design changes are planned</li> </ul>	<p>Actions will be complete by September 30, 2013.</p>

## APPENDIX A

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Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
<ul style="list-style-type: none"><li>▪ Duplicate applications are not paid</li><li>▪ Rebates paid are reconciled to rebates approved</li><li>▪ Access rights reflect appropriate separation of duties for data entry, modifying payment modules, and modifying production data</li></ul>	<ul style="list-style-type: none"><li>▪ Processes will be put in place to reflect access rights as a function of staff role within the rebate process and not general access to the system</li></ul>		