



August 28, 2019

**Performance Audit**

**Trane, Inc.**

**Citywide Contract Audit – Vendor Report**

**Report No. 19-105**



**CITY OF ALBUQUERQUE  
OFFICE OF INTERNAL AUDIT**

The purpose of this audit was to review and report on Trane Inc.'s contract and billing compliance for the period July 1, 2016 through December 15, 2018.

## Executive Summary – Vendor Report

The City of Albuquerque (City) contracts with Trane Inc. (Trane) to provide on-call HVAC services for City facilities. The population for the audit period consisted of 255 invoices totaling \$1,062,097. The audit period addressed was July 1, 2016 through December 15, 2018.

The audit identified that Trane is not billing in accordance with the contract for some services. The following billing issues were identified during the audit:

- Incorrect labor charges for unlicensed Journeymen and after-hour rates;
- Trip charge fees were billed but are not established in the contract; and
- Quoted services have been billed at the quoted price instead of the actual Time and Material project price.

From a statistical random sample of 22 invoices, overcharges were noted for incorrect labor charges and trip charge fees on 8 invoices totaling \$934. Extrapolating the error rate results in an estimated overcharge of \$23,004.

The two invoices for quoted service were billed at the quoted price, which exceeded the actual billable costs by \$11,930. An extrapolation estimate could not be generated because a population of quoted services could not be derived.

In addition to the two statistical random sample quoted services, a large dollar \$226,458 quoted service project was judgmentally selected for review. The review identified an undercharge variance between the quoted price billed vs. actual billable cost of \$(11,917) and an overcharge for unlicensed Journeymen of \$10,790, which results in a net undercharge of \$(1,127). An extrapolation estimate is also not possible for this amount because judgmental samples are not statistically valid for extrapolation estimates.

Trane agrees with the audit findings and will work to implement the associated recommendations.

## Recommendations

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Trane, Inc. should:

- Ensure future billing rates are aligned with the labor qualifications of each employee being billed, especially those rates that require a Journeyman license.
- Ensure trip charges are no longer billed to the City.
- Ensure the actual amount of services is invoiced and all supporting documentation is provided when billing for quoted services.
- Work with the City to determine and remedy the actual labor and trip overcharge costs that are estimated at \$23,004 for the audit period.
- Work with the City to identify and remedy any billing variances for quoted services.



# City of Albuquerque

*Office of Internal Audit*

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August 28, 2019

Accountability in Government Oversight Committee  
P.O. Box 1293  
Albuquerque, New Mexico 87103

Audit: Vendor Audit - Citywide  
Trane, Inc.  
Audit No. 19-105

## **FINAL – Vendor Report**

### **INTRODUCTION**

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The Office of Internal Audit (OIA) completed a citywide vendor performance audit of Trane, Inc. (Trane) billings under the City’s HVAC On-Call Service contract No. 708371 for the period of July 1, 2016 through December 15, 2018. Vendor audits were included in OIA’s fiscal year 2019 audit plan and Trane was selected. Information pertaining to the audit objectives, scope, limitations and methodology can be found in **Appendix A**.

Trane offers a broad range of energy-efficient heating, ventilation and air conditioning (HVAC) systems; dehumidifying and air cleaning products; service and parts support; advanced building controls and financing solutions. Trane’s Albuquerque specific website states, “Because Trane offers HVAC equipment, Building Management Systems, parts and service under one roof, we provide cost-effective solutions that incorporate a total system perspective right from the start.”

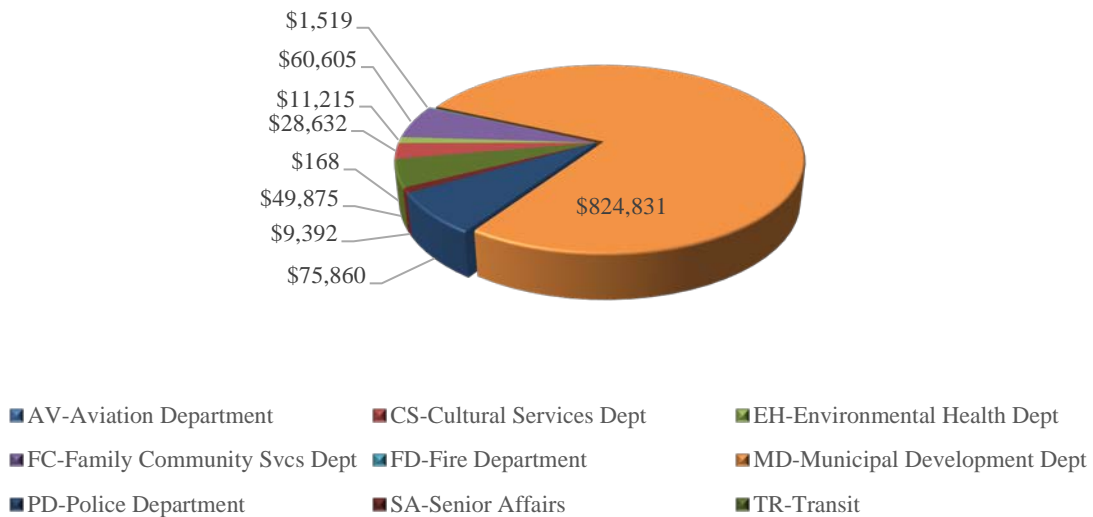
The City of Albuquerque (City) contracts with Trane to provide on-call HVAC services for City facilities. The audited contract began on May 20, 2016 and extends through May 19, 2020.

The current contract is established as a Time and Material (T&M) contract. T&M contracts require that the service provider bill on the basis of actual direct labor and material/equipment usage costs, which are established in the contract. For example, Trane’s contract establishes the direct labor rates for varying

skilled laborers from a standard General Laborer rate of \$55 per hour to a standard Journeyman rate of \$95 per hour.

The population for the audit period consisted of 255 invoices totaling \$1,062,097. Nine City departments represented the population and are illustrated in the chart below.

### Summary of Payments by Department



Source: PeopleSoft

## FINDINGS

*The following findings address areas that OIA believes could be improved by the implementation of the related recommendations.*

1. TRANE SHOULD ENSURE THAT ITS BILLINGS ARE ACCURATE AND IN CONFORMANCE WITH THE CONTRACT.

Trane is not billing in accordance with the contract for some services. The following billing issues were identified during the audit:

- Incorrect labor charges for unlicensed Journeymen and after-hour rates;
- Trip charge fees were billed but are not established in the contract; and
- Quoted services have been billed at the quoted price instead of the actual T&M project price.

From a statistical random sample of 22 invoices, overcharges were noted for incorrect labor charges and trip charge fees on 8 invoices totaling \$934. Extrapolating the error rate results in an estimated overcharge of \$23,004. In addition, 2 invoices for quoted service were billed at the quoted price, which exceeded the actual billable T&M costs by \$11,930. An extrapolation estimate could not be generated because a population of quoted services could not be derived.

The following subsections provide detailed information regarding the above billing issues.

### **Incorrect Labor Charges for Unlicensed Journeymen**

Trane billed the City at the licensed Journeyman rates for two employees who did not possess Journeyman licenses. Journeyman licenses are required under the contract when billing at Journeyman or Project Manager rates. Journeyman licenses ensure individuals are competent and authorized to work in a specified field of study. For example, individuals that hold a Journeyman – Refrigeration license have proven their competencies to work on refrigeration components by successfully completing the education, supervision, and examination standards for that license.

From a statistical random sample of 22 invoices, 6 invoices contained incorrect labor charges for unlicensed Journeymen totaling \$857.50. The apprentice rate of \$60 per hour should have been charged instead of the Journeyman rate of \$95. The statistical random sample of 22 invoices totaled \$43,178, which equates to an overall error rate of 1.986 percent ( $\$857.50/\$43,178$ ).

By applying the error rate to the audit period's total paid invoices, it can be estimated that the City was overcharged a total of \$21,093 ( $\$1,062,097 \times 0.01986$ ).

In addition, Trane billed the City for three hours of Journeyman after-hour labor at the rate of \$142.50 instead of the contract rate of \$147. The statistical random sample of 22 invoices totaled \$43,178, which equates to an overall error rate of 0.0003 percent ( $\$13.50/\$43,178$ ).

By applying the error rate to the audit period's total paid invoices, it can be estimated that the City was undercharged a total of \$319 ( $\$1,062,097 \times 0.0003$ ).

The contract specifies a normal billing of rate of \$95 per hour for licensed Journeymen and Project Managers, who shall be licensed Journeymen. All other labor rates are reduced based on the credentials of the employee. In addition, the contract specifies a rate of \$147 for after-hour Journeyman labor.

Trane stated that the two employees identified as unlicensed Journeymen have the credentials to sit for the Journeyman license exam and will be doing so soon. Trane has been working with

the City to identify the associated overcharges and will provide credits to offset prior overcharges.

### **Trip Charge Billings**

Trane charged the City \$90 for “Trip Charges” on 2 of 22 invoices reviewed. The trip charge rates varied on each invoice and were charged at a \$15 or \$30 rate. Trip charges are not established in the contract and are not applicable to the City. The statistical random sample of 22 invoices totaled \$43,178, which equates to an overall error rate of 0.21 percent (\$90/\$43,178).

By applying the error rate to the audit period’s total paid invoices, it can be estimated that the City was overcharged a total of \$2,230 ( $\$1,062,097 \times 0.0021$ ).

Trane stated the discussions were held among staff and a note was added to the City’s file stating that trip charges are not applicable to the City. Trane has been working with the City to identify the associated overcharges and will provide credits to offset any prior overcharges.

### **Billing for Quoted Services**

Quoted services are not being billed at the actual T&M cost of performing the service and City approval of sub-contractors has not been documented. Trane is billing the City for the quoted price estimate and not providing the supporting T&M documentation for associated services. For example, the single charge description on invoice number 38136458 states “Quoted Billing Summary”. In addition, written City approval of the sub-contractors was not documented prior to the issuance of the purchase order for invoice number 38910542.

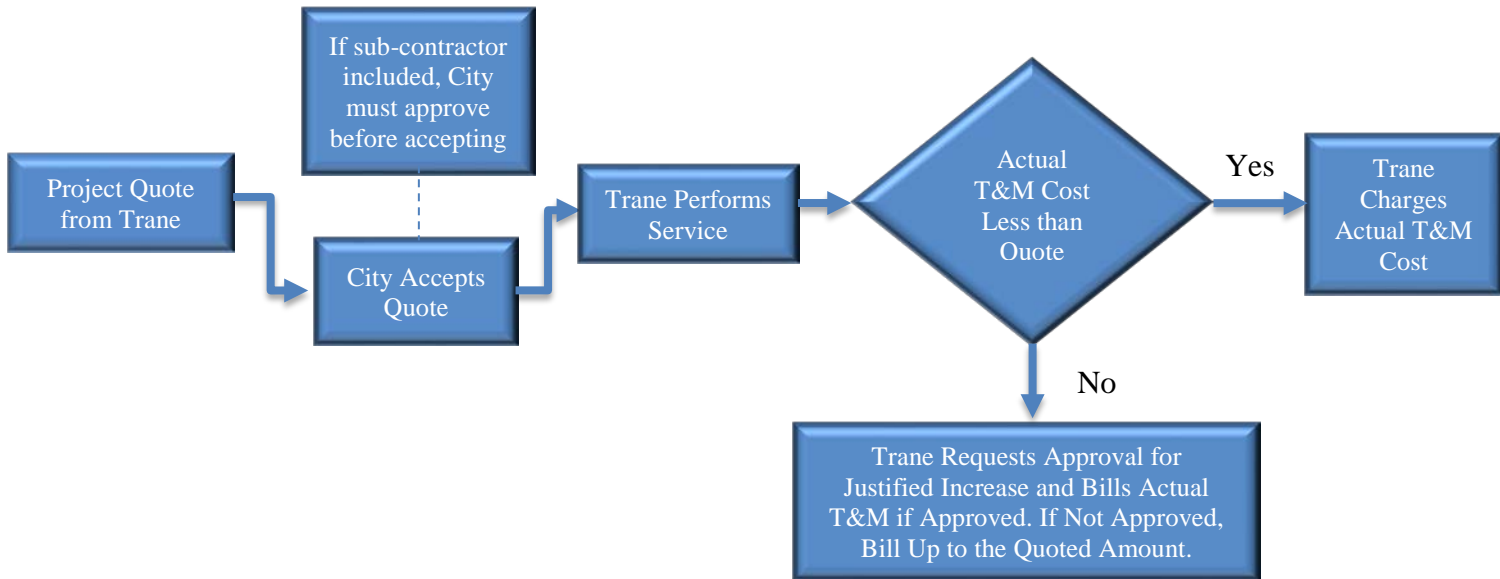
The following process should be followed for quoted service projects:

- Provide quote for project;
- Perform service, after City acceptance of quote and written approval of sub-contractor(s) (if applicable);
- If the actual T&M cost of the project is less than the quote – bill for the actual T&M cost and provide the City with all supporting documentation; and
- If the actual T&M cost is estimated to be more than the quote – request approval and provide the City with a justification for the increased costs,
  - If the City approves the increase, bill for the actual T&M cost and provide the City with all supporting documentation,
  - If the City denies the increase, bill the quoted amount and provide the City with all supporting documentation.

The following graphic illustrates the process that should be followed by Trane for quoted

service projects.

### Billing Process for Trane’s Quoted Services



Two quoted services were identified and reviewed within the statistical random sample of 22 invoices. Services for both of quoted services were billed at or very near the quoted price. Actual T&M cost documentation illustrates that Trane overcharged \$11,930 for the quoted services. However, an extrapolation estimate could not be derived for a potential over or under payment because a unique quoted project population could not be derived from the 255-invoice audit population. The table below illustrates the overcharges for the two quoted services reviewed.

### Billed vs. Actual T&M Cost for Quoted Services

Invoice Number	Quoted Amount	Billed Amount	Actual Documented T&M Cost	Billed vs. Actual T&M Cost
38136458	\$28,417.93	\$28,418.06	\$17,606.29	\$10,811.77
38369692	\$4,787.02	\$4,787.00	\$3,668.36	\$1,118.64
<b>Total Overcharge</b>				<b>\$11,930.41</b>

Source: Trane, Inc.

In addition to the two statistical random sample quoted services, a large dollar \$226,458 quoted service project was judgmentally selected for review. The review identified an undercharge variance between the amount billed vs. actual T&M cost of \$(11,917) and an overcharge for unlicensed Journeymen of \$10,790, which results in a net undercharge of \$(1,127). An extrapolation estimate is also not possible for this amount because judgmental samples are not statistically valid for extrapolation estimates.

The contract includes language that generally outlines the process above. However, the contract does not specifically establish the quoted billing process outlined above. The contract states, “The City must be notified of and must approve the proposed sub-contractor in writing prior to issuance of a CRO/POR [Purchase Order] or secondary Procurement Contract for a specific project.” The contract also states,

*Any additional materials services deemed necessary by the Supplier shall be documented and submitted to the requesting Department for approval. The City shall not be liable for the materials or a service other than those approved in advance or actually required to stabilize an emergency situation.*

Trane stated that it was unaware of the quoted billing process because it is not established within the contract and will work with the City to correct this issue for future quoted billings.

#### RECOMMENDATIONS

Trane should:

- Ensure future billing rates are aligned with the labor qualifications of each employee being billed, especially those rates that require a Journeyman license.
- Ensure trip charges are no longer billed to the City.
- Ensure the actual T&M amount of services is invoiced and all supporting documentation is provided when billing for quoted services.
  - If the actual T&M cost is estimated to be more than the quote – request approval and provide the City with a justification for the increased costs.
- Ensure written approval is received from the City for all sub-contractor(s) prior to the issuance of a Purchase Order.
- Work with the City to determine and remedy the actual labor and trip overcharge costs that are estimated at \$23,004 for the audit period.
- Work with the City to identify and remedy any billing variances for quoted services.
- Work with the City’s Department of Finance & Administrative Services – Purchasing Division to clarify and include the process for quoted service billings in the contract.



RESPONSE FROM TRANE

**A. Incorrect Labor Charges for Unlicensed Journeymen**

*“One project manager who worked on City projects has over 30 years of HVAC Experience, however, he is lacking in his New Mexico Journeyman Certification. We billed him at the City contract rate for JRs based on his great experience, unaware that the labor contract stipulated a JR license for this role.”*

**B. Trip Charge Billings & other invoicing problems**

- *“It is standard billing practice in the HVAC service industry to include a “Truck Charge” or “Trip Charge” as part of the cost associated with a service call.*
- *“Due to the standardization of Trane U.S. Inc. billing software and the unique nature of the City of Albuquerque’s service contract, custom billing (bespoke invoices each month) is required to provide the City with suitable invoices. It appears the removal of the Truck Charges automatically added by our billing system (such charges are ubiquitous in other service invoices) were occasionally missed.*
- *“Incorrect/missing information on Trane Invoices made it challenging for City Accounts Payable department to process invoices efficiently.”*

**C. Billing for Quoted Services**

*“Trane and the City were both apparently confused by the wording of this section of the contract, as it is atypical of the traditional process for “Quoted” services, as outlined below:*

- *“In the contracting/service industry, a “quote” is normally a fixed price estimate where the contractor includes a combination of parts, labor, subcontractors, and risk contingency in order to accomplish the prescribed task. The Owner normally is not exposed to any additional price risk, nor are they the beneficiary of any cost savings in a Quoted Service project.*
- *“Time and Material agreements are where the owner and contractor share in the cost/risk, and bill labor, subcontractors and material at an agreed upon, fixed markup.*

*“The current contract blends the language of Quoted Service with components of a Time and Material job. Due to the blended language, Trane missed opportunities to bill for cost overruns, and missed opportunities to share cost savings with the City. The audit findings indicate that this was a net-loss to Trane, and a benefit to the City.*

- *“Irrespective of the financial outcome, we encourage more clarity/rewording of this clause of the contract to avoid confusion.*

- ***“The current form of the agreement lacks the incentives for a fair and responsible contractor, e.g. there is no benefit of running a good job, as the savings and lower cost actually results in lower margin for the contractor.”***

*See Appendix B for complete vendor response.*

ESTIMATED COMPLETION DATES

***“To address this gap, Trane U.S. Inc. has since, significantly invested in JR training and certification for our applicable associates.”***

***“Our local Trane office has implemented a Billing Accuracy Program to reduce billing errors/improve invoicing process.”***

2. TRANE SHOULD ENSURE THAT ITS INVOICES CONTAIN THE INFORMATION REQUIRED BY THE CONTRACT.

Trane is not including some of the information required on each invoice. Three general information requirements that were excluded from various invoices reviewed are the following:

1. Work Sheet/Job Ticket number,
2. Itemized trade list and discounted percentages for material, and
3. Detail documentation to support quoted service billings.

The inclusion of the above information helps the City verify the costs and billings from Trane. Without the information on or attached to the invoice, the City may not be able to verify the costs of service, which will delay payments to Trane.

The contract states that “All invoices shall include the following documentation:”, which includes the Work Sheet/Job Ticket number, and itemized trade list and discounted percentages for material. In addition, quote documentation must be itemized in such a fashion to show hourly labor costs, line item material costs, miscellaneous expenses, gross receipts tax, and total estimated cost.

As mentioned in the previous finding, the contract does not specifically establish the quoted billing process. The establishment of this process within the contract will allow for clarification about the detailed documentation to support quoted service billing that will be required with future billings.

Trane stated that the Work Sheet/Job Ticket number has been inserted within a few different invoices fields in the past. However, management will discuss and determine where this information can be inserted going forward. Different Trane divisions use certain fields for

specific purposes, which impacts the insertion of this information. Trane also stated that the current billing system is not capable of including the Trade List price and the resulting extended price. They acknowledge the issue but are not able to comply because of a system limitation. Trane was also unaware of the quoted billing process because it is not established within the current contract and will work with the City to correct this issue for future quoted billings.

#### RECOMMENDATION

Trane should ensure invoices contain all the information required by the contract when billing the City for services including the Work Sheet/Job Ticket number, Trade List price, discounted percentage, and detailed documentation to support quoted services.

#### RESPONSE FROM TRANE

***“We have reviewed the Contract with our local Trane office and have implemented a Billing Accuracy Program to reduce billing errors/improve invoicing process.”***

***See Appendix B for complete vendor response.***

#### ESTIMATED COMPLETION DATES

***“All invoices shall include the following documentation:***

- Contract Release Order (CRO) or Purchase Order Release (POR) Number  
Using City Department/Division***
- Service Date***
- Hourly Rate***
- Worksheet/Job Ticket No.***
- Brief Description of Services & Materials provided***
- Itemized breakdown of material(s) used***
- Verification of cost of material(s)***
- Discount on material per contract (20% off List Price)***
- Total Amount***
- Total Amount of Authorization Remaining”***

## CONCLUSION

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Contractual compliance and invoice accuracy are key requirements of City vendors. Opportunities exist for Trane to improve in these areas. The review of Trane’s invoices identified various contractual and billing issues. By addressing the items contained in this report, Trane will help improve and strengthen its relationship with the City departments and contractual compliance.

We greatly appreciate the assistance, involvement, and cooperation of Trane’s management and staff. Their time, assistance, involvement and cooperation are greatly appreciated.

Vendor Audit – Vendor Report  
Trane, Inc.  
August 28, 2019

19-105

PREPARED:

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Lawrence L. Davis, Internal Audit Manager

REVIEWED:

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Alan R. Gutowski, Sr. Information Systems Auditor

APPROVED:

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Jim Thompson, City Auditor  
Office of Internal Audit

APPROVED FOR PUBLICATION:

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Edmund Perea, Chairperson, Accountability  
in Government Oversight Committee

## APPENDIX A

### OBJECTIVES

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The audit objectives were to determine:

1. Are the vendor's billings accurate and in conformance with the contract?
2. Is the vendor in compliance with the licensing and insurance requirements of the contract?

### SCOPE AND LIMITATIONS

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Our audit did not include an examination of all functions and activities related to Trane's contract. Our scope was limited to the objectives above.

This report and its conclusions are based on information taken from a sample of transactions and do not represent an examination of all related transactions and activities.

Trane management is responsible for establishing and maintaining effective internal control and complying with laws, regulations, contracts, and agreements.

In performance audits, a deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct (1) impairments of effectiveness or efficiency of operations, (2) misstatements in financial or performance information, or (3) noncompliance with provisions of laws, regulations, contracts, or grant agreements on a timely basis. A deficiency in design exists when (a) a control necessary to meet the control objective is missing or (b) an existing control is not properly designed so that, even if the control operates as designed, the control objective is not met. In the performance audit requirements, the term significant is comparable to the term material as used in the context of financial statement engagements. A deficiency in operation exists when a properly designed control does not operate as designed, or when the person performing the control does not possess the necessary authority or qualifications to perform the control effectively.

Our consideration of internal control was for the limited purpose described in our audit objectives and was not designed to identify all deficiencies in internal control. Therefore, unidentified deficiencies may exist. Accordingly, we do not express an opinion on the effectiveness of Trane's internal control.

As part of the performance audit, we tested Trane's compliance with certain provisions of laws, regulations, contracts, and agreements and noncompliance with which could directly and significantly affect the objectives of the audit. However, opining on compliance with those provisions was not an

objective of the performance audit and accordingly, we do not express an opinion.

The scope of this audit was limited due to the limitations of the vendor's software system to maintain historical trade list prices. Test work confirmed that a minimum discount rate of 20 percent applied to Trane provided parts and materials within the audit sample. In addition, an extrapolation estimate could not be derived for a potential over or under payment because a unique quoted project population could not be derived from the 255-invoice audit population.

We conducted this performance audit in accordance with generally accepted government auditing standards for performance audits, as prescribed in *Government Auditing Standards*, revision 2011, issued by the Controller General of the United States. 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.

## METHODOLOGY

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Methodologies used to accomplish the audit objectives include but are not limited to the following:

- Reviewed procurement contract and corresponding General Instructions, Terms and Conditions;
- Reviewed supporting vendor insurance documents and coverage limits;
- Reviewed and verified employee Journeyman license credentials with the State of New Mexico's website;
- Determined the population of paid invoices during the audit period;
- Identified contractual and non-contractual parts;
- Developed samples (judgmental and random statistical) from data supporting the objectives and assessed the evidence against underlying criteria to the objective. Evidence includes physical (e.g. observation of operational HVAC units, etc.), documentary (e.g. invoices, service quotes, verification of trade list prices, etc.), and testimonial (e.g., interviews, inquiries, etc.) that supports compliance or non-compliance with the underlying criteria to each objective;
- Recalculated invoices to verify that all are mathematically accurate;
- Evaluated the results of testing to determine and document if sufficient, appropriate evidence has been obtained to address audit objectives and reduce audit risk to an acceptable level and that evidence is sufficient and appropriate to support findings and conclusion; and
- Performed other methodologies as needed.

## VENDOR RESPONSE

## APPENDIX B

August 23, 2019

To: Jim Thompson, City Auditor, and Office of Internal Audit

From: Peter Hugenroth, Area Manager, Trane U.S. Inc.

Subject: Audit Report No. 19-105, Vendor Response

Interested Parties:

Working with the Office of Internal Audit, the Albuquerque office of Trane U.S. Inc. cooperated fully during the audit process, and will take this opportunity to respond to the findings.

### **Finding #1 TRANE SHOULD ENSURE THAT ITS BILLINGS ARE ACCURATE AND IN CONFORMANCE WITH THE CONTRACT.**

#### **A. Incorrect Labor Charges for Unlicensed Journeymen**

- One project manager who worked on City projects has over 30 years of HVAC Experience, however, he is lacking in his New Mexico Journeyman Certification. We billed him at the City contract rate for JRs based on his great experience, unaware that the labor contract stipulated a JR license for this role.

#### **Remediation:**

- To address this gap, Trane U.S. Inc. has since, significantly invested in JR training and certification for our applicable associates.

#### **B. Trip Charge Billings & other invoicing problems**

- It is standard billing practice in the HVAC service industry to include a "Truck Charge" or "Trip Charge" as part of the cost associated with a service call.
- Due to the standardization of Trane U.S. Inc. billing software and the unique nature of the City of Albuquerque's service contract, custom billing (bespoke invoices each month) is required to provide the City with suitable invoices. It appears the removal of the Truck Charges automatically added by our billing system (such charges are ubiquitous in other service invoices) were occasionally missed.
- Incorrect/missing information on Trane Invoices made it challenging for City Accounts Payable department to process invoices efficiently.

#### **Remediation:**

- Our local Trane office has implemented a Billing Accuracy Program to reduce billing errors/improve invoicing process.

#### **C. Billing for Quoted Services**

Trane and the City were both apparently confused by the wording of this section of the contract, as it is atypical of the traditional process for "Quoted" services, as outlined below:

- In the contracting/service industry, a "quote" is normally a fixed price estimate where the contractor includes a combination of parts, labor, subcontractors, and risk contingency in order to accomplish the prescribed task. The Owner normally is not exposed to any additional price risk, nor are they the beneficiary of any cost savings in a Quoted Service project.



- Time and Material agreements are where the owner and contractor share in the cost/risk, and bill labor, subcontractors and material at an agreed upon, fixed markup.

The current contract blends the language of Quoted Service with components of a Time and Material job. Due to the blended language, Trane missed opportunities to bill for cost overruns, and missed opportunities to share cost savings with the City. The audit findings indicate that this was a net-loss to Trane, and a benefit to the City.

- Irrespective of the financial outcome, we encourage more clarity/rewording of this clause of the contract to avoid confusion.
- The current form of the agreement lacks the incentives for a fair and responsible contractor, e.g. there is no benefit of running a good job, as the savings and lower cost actually results in lower margin for the contractor.

**Finding #2 TRANE SHOULD ENSURE THAT ITS INVOICES CONTAIN THE INFORMATION REQUIRED BY THE CONTRACT.**

- A. Work Sheet/Job Ticket Number**
- B. Itemized trade list and discounted percentages for material(s)**
- C. Detail Documentation to support quoted service billings**

**Remediation:**

- We have reviewed the Contract with our local Trane office and have implemented a Billing Accuracy Program to reduce billing errors/improve invoicing process.

All invoices shall include the following documentation:

- Contract Release Order (CRO) or Purchase Order Release (POR) Number  
Using City Department/Division
- Service Date
- Hourly Rate
- Worksheet/Job Ticket No.
- Brief Description of Services & Materials provided
- Itemized breakdown of material(s) used
- Verification of cost of material(s)
- Discount on material per contract (20% off List Price)
- Total Amount
- Total Amount of Authorization Remaining

We appreciate our long standing relationship with the City of Albuquerque which has been 25 plus years of service. This includes sustainable energy savings equipment & DDC Controls Projects. We have increased comfortability for City employees in all their buildings. We have assisted in increasing the life expectancy on all HVAC equipment, in addition to quarterly on-site training for the City of Albuquerque maintenance staff. We welcome the opportunity to discuss this further with the City's advisory panel during the review

Sincerely,  
 Peter Hugenroth  
 Area Service Manager  
 916-214-0202  
[Pete.Hugenroth@irco.com](mailto:Pete.Hugenroth@irco.com)