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Internal Audit Department Contract Oversight Report 2019-3

Johnson Controls Pricing and Contractual Issues

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Summary

We tested a sample comprising 33.62% of all amounts invoiced by Johnson Controls Inc. (JCI) for fiscal years 2016 and 2017 (the last full years of contractual service). Based on the findings in our sample, we concluded that the County was materially overbilled from the contractual rates as awarded. Given an 80% certainty that this amount is within 10% accuracy, we estimate that the County was overbilled by \$310,376 over the entire sample.

A draft of this report was shared with the County Attorney's office and the Board of County Commissioners as background information for their proposed settlement agreement brought before the Board on October 22, 2019. The results of this review have been updated to reflect that settlement.

Total # Transactions	Total Amount of Transactions	Questioned Costs	Taxpayer Savings	Description	Total # Observations	# Open Observations
40	\$ 1,322,110.76	\$ -	\$ -	Statistical sample audited		
		\$ 117,397.04	\$ 117,397.04	Findings 1-3 + 8, Difference between amounts billed and paid for "lump sums", markups and discounts unsubstantiated or in excess of the contractual rates		
		\$ 13,384.91	\$ -	Finding 4, Mileage paid for vendor given local vendor preference		
		\$ 1,430.00	\$ -	Finding 5, Clerical hours billed outside common industry practice		
		\$ 67,249.23	\$ -	Finding 7, York equipment billed inconsistently or without list price		
40	\$ 1,322,110.76	\$ 199,461.18	\$ 117,397.04	Total audit sample results	8	0
			\$ (105,000.00)	Less settlement approved by BCC on October 22, 2019		
40	\$ 1,322,110.76	\$ 199,461.18	\$ 12,397.04	Final results	8	0

Purpose

The purpose of this review was to determine the accuracy of the amounts billed by JCI, discover any trends, and approximate the variance between the amounts billed and the amounts contractually owed.

Objectives and Scope

To determine a material amount of overbilling, we relied upon the materiality thresholds established in the Professional Practice Guide created through a collaboration with DCAA, DCMA, GAO, AICPA and industry professionals. These detail guidelines related to auditing concepts for government contract cost audits. As the Johnson Controls contracts under audit were over \$1 million yet less than \$10 million, and we chose the 2.81% materiality threshold, as shown:

Subject Matter Cost	\$100K	\$1M	\$10M	\$100M	\$500M	\$1B	>\$1B
Materiality Amount	\$5,000	\$28,117	\$58,114	\$889,140	\$2,973,018	\$5,000,000	Varies
Materiality Percentage	5%	2.81%	1.58%	0.89%	0.59%	0.50%	0.50%

Therefore, if we found that JCI had billing errors of 2.81% or more, we considered it a material overbilling.

We chose the monetary unit method of sampling, which is a value-weighted selection whereby sample size, selection and evaluation will result in a conclusion in monetary amounts. The objective of monetary unit sampling (MUS) is to determine the accuracy and projected variance of financial accounts, such as an accounts payable balance or amounts invoiced. See Appendix I for additional details of our sampling methodology.

Additionally, we checked for published audit reports of other governmental entities, to determine if there were any commonalities relating to issues with billing practices. The City of Phoenix issued an audit report dated June 21, 2019, where they concluded that there was, “insufficient documentation to determine if all invoices...were paid in accordance with the contract.” Their sampling method, “was conducted using a judgmental methodology to maximize efficiency based on auditor knowledge of the population being tested. As such, sample results cannot be extrapolated to the entire population.” They tested, “16 invoices (\$1.64 million)...in many cases, supporting documentation was not submitted with the invoice, or was paid based on a proposal rather than documentation of the actual costs.” Their findings have been incorporated as a supplement to our findings, and their entire report is included in Appendix II of this report.

Background

Between fiscal years 2012 and 2017, Johnson Controls comprised the majority of the County's spending related to HVAC equipment, maintenance and other mechanical:

Annual Spend	Johnson Controls	Trane	Cond. Air	Total
FY 2012 (Partial)	\$107,933.86	\$43,358.59	\$198,492.25	\$349,784.70
FY 2013	684,825.46	261,089.08	758,180.28	1,704,094.82
FY 2014	930,251.57	139,776.62	516,426.79	1,586,454.98
FY 2015	1,250,739.06	270,635.08	465,173.61	1,986,547.75
FY 2016	1,929,842.90	372,201.18	48,951.00	2,350,995.08
FY 2017	1,867,448.33	206,720.08	5,601.35	2,079,769.76
	<u>\$6,771,041.18</u>	<u>\$1,293,780.63</u>	<u>\$1,992,825.28</u>	<u>\$10,057,647.09</u>
	67.32%	12.86%	19.81%	100.00%

The departments primarily utilizing JCI were as follows:

JCI Initiators of Work		
Public Utilities	\$2,954,368.17	43.63%
Facilities	3,507,880.90	51.81%
Growth Mgmt	251,868.88	3.72%
Other	56,923.23	0.84%
	<u>\$6,771,041.18</u>	<u>100.00%</u>

Two contracts were utilized during that time:

Johnson Controls Breakdown of Contracts Utilized				
CONTRACT 10-5373	3/1/2011	5/29/2017	\$6,145,765.41	78.29%
Original estimate = \$160,000; amended 1/8/13 to \$750,000/yr				
Scope = HVAC & maintenance				
Lump sum or time & materials, no backup				
CONTRACT 15-6432	6/9/2015	6/8/2017	\$1,703,846.04	21.71%
Original estimate = \$850,000 annually				
Scope = HVAC, chiller, boiler, water heater, other mechanical				
Lump sum or time & materials, backup if > \$500				
		Total Spend (includes 2011)	<u>\$7,849,611.45</u>	<u>100.00%</u>

Contract 10-5373 allowed Johnson Controls to come up with a “lump sum” proposal based on the contractual rates awarded, but it did not require them to turn in the details supporting that proposal for payment:

- B. For construction (new work), retrofit projects and routine maintenance services, the Contractor may submit a proposal, either on a lump sum basis or a time and material basis with a “Not to Exceed” total, at the discretion of the County. All pricing shall be based on the rates indicated in Exhibit “A.” Each proposal shall be supported by a completed spreadsheet, the template for which shall be as shown in Exhibit “B,” attached hereto and incorporated by reference. For lump sum proposals, the spreadsheet is for identifying resource allocation only and not required for payment processing. The County shall pay the Contractor for the performance of work outlined in each proposal as accepted and approved by the Director of Facilities Management or his designee in compliance with the County Purchasing Policy and Administrative Procedures in effect at the time such services are authorized. Departmental requests for services shall be paid upon completion or partial completion of the work tasks as accepted and approved by the appropriate Department Director or his designee pursuant to the Contractor’s proposal and schedule for that department.

Without the details of the proposal, the Clerk’s Accounts Payable team was unable to determine if the invoices complied with the contractual terms. In addition, some terms required actual list prices, costs and other support, which was not provided.

Subcontractor	Subcontracted Services (includes communications Systems and other services provided through subcontractors)	JCI + 10%
	Non - Johnson Controls Inc. Catalogued Products	Vendor Quote + 10%
Overhead	Included	
Profit	10%	
Parts	In House Materials	List + Tax + Freight
	Discounts	List X .5
	Outside Vendor Materials	Cost + 25%

A subsequent amendment to contract 10-5373 required documentation, deleted the term “proper” as it related to the statutory requirements for an invoice, changed terms and allowed the Contractor’s internal printouts to substitute for third-party documentation.

RE: Contract # 10-5373 “Energy Management Services”

In order to continue the services provided for in the original Agreement document referenced above, the Contractor agrees to amend the Agreement retroactive to the original Board approval date, as provided herein.

Note: Language deleted has been ~~struck through~~. New language has been underlined.

Change # 1: Section 3 is hereby amended as follows:

[* * *]

3. **THE CONTRACT SUM.** The County shall pay the Contractor for the performance based on the unit prices and documentation set forth in Exhibit “A,” subject to Change Orders as approved in advance by the County. Payment will be made upon receipt of a proper Contractor’s invoice and upon approval by the Facilities Manager or his designee, and in compliance with Chapter 218, Fla. Stats., otherwise known as the “Local Government Prompt Payment Act”.

Parts

In House Inventoried Materials
Discounts
Outside Vendor Materials

*Unit Cost List+ Tax + Freight
*Unit Cost List X .5
*Unit Cost Cost + 25% + freight (if applicable)

Freight

Cost of freight delivery, from the factory to its final destination,
will be calculated on a Job by job basis.

*For Parts: Unit Cost documentation / justification back-up will be generated by the Contractor's electronic inventory system (for in-house vendor materials) or the Contractor's electronic integrated supplier program (for Outside Vendor Materials) and provided to the County.

Contract 15-6432 allowed Johnson Controls to come up with a "lump sum" proposal based on a "brief description," and no details tying the proposal back to the contractual rates was required. Time and Materials quotes required detailed documentation for individual items charged for over \$500.00.

In each scope of work the County's project manager reserves the right to specify: the period of completion; collection of liquidated damages in the event of late completion; and "lump sum" or "time and material" sums.

- If "lump sum" quote is requested, the Contractor shall provide: A not-to-exceed total cost for the entire scope of work including a brief description of the work to be completed;
- If "time and material" quote is requested, the Contractor shall provide:
 - A not-to-exceed total estimated cost for the entire scope of work;
 - The expected number of work hours by each position (and the hourly rate) and the extended total;

ITB 15-6432 Prevent. Maint. and On-Call Mechanical Contractor Services

-
- The breakdown of the cost for supplies, parts and equipment used for the scope of work; the contractor must provide itemized documentation of any supply, part or piece of equipment that is greater than five hundred (\$500) dollars; for supplies/materials, parts and equipment five hundred (\$500) or less, the contractor does not need to provide itemized documentation;
 - If applicable, a five (5%) percent mark-up of subcontractor's labor, supplies / materials and equipment may be included; the contractor must provide itemized documentation of any subcontractor's labor, supplies / materials, and equipment that is greater than five hundred (\$500) dollars; for labor, supplies / materials and equipment five hundred (\$500) or less, the contractor does not need to provide itemized documentation.

Numerous pricing and other contractual disparities were discovered related to invoices received from Johnson Controls, Inc., especially in their latest contract, 15-6432. The Clerk's Accounts Payable staff rejected a number of invoices for the following reasons:

JCI Rejection Reasons		
Billing lump sum vs Time & Materials	\$ 892,699.13	28.09%
Not a valid invoice	531,950.15	16.74%
Work has not been completed	434,603.07	13.67%
Calculation errors	428,474.89	13.48%
Missing backup	382,526.88	12.03%
Incorrect job descriptions	190,594.93	6.00%
Deficiencies in the product	132,226.65	4.16%
Not billing per contract language	42,644.58	1.34%
Billing sales tax	42,311.26	1.33%
Incorrect rates	36,515.27	1.15%
Overbilled on a task	18,866.58	0.59%
Items not received	9,562.85	0.30%
Other	35,529.45	1.12%
	\$ 3,178,505.69	100.00%
Rejected \$ as a % of Paid Invoices	46.94%	

This resulted in a number of meetings, emails and other discussions with the vendor, ultimately to include the County Attorney's office. An initial settlement was reached regarding certain invoices billed by Johnson Controls in 2018. Thereafter, JCI was used sparingly, mainly to finish work partially completed or perform proprietary work.

In August 2019, we were notified that Johnson Controls intended to sue the County for a difference owed of \$176,529.20, which included \$132,895.70 as named unpaid invoice balances, plus unspecified lost profits, overhead, interest and attorney's fees (see supporting Appendices III and IV). Prior to any further Board action, we assembled our work to provide an overview of the situation for the Board and their legal counsel, detailing the audit steps performed and conclusions reached.

Our original draft of this report was expanded to include the Board's agenda package from October 22, 2019. The settlement of \$105,000 brought forth by County staff was approved, and paid on October 28, 2019.

ISSUE	AUDIT RISK
<p>Issue 1: Lump Sum Quoting Methodology</p> <p>Finding: When doing quotes for "lump sum" projects, Johnson Controls quoted an average price that was substantially higher than the final amounts incurred based on the actual substantiated cost per the contractual terms. After the Clerk's Accounts Payable team rejected the "lump sum" invoices until additional documentation could be provided to support the actual costs incurred, the contractual costs were found to be 11.67% less than the quoted amount, on average.</p> <p>Discussion and Background: Johnson Controls had a contract which allowed for "lump sum" billings, although the quote was to be based on the contractual rates. Our sample included 25 out of 40 invoices which were bid as "lump sum", and comprised 71.76% of the total sample amounts billed. The City of Phoenix found that 8 of their 16 invoices audited had no supporting detail (including 6 of 7 with parts and materials which had contractual discount rates), and 4 of the 16 were supported only by a cost proposal rather than actual costs.</p> <p>Cause: Johnson Controls is either bidding more hours and/or materials than required, or using rates in excess of their contractual rates when estimating their "lump sum" proposal amounts. These "lump sums" are then invoiced without further support, at amounts which exceed the contractual rates awarded under the competitive bid.</p> <p>Effect: The County is being billed for "lump sum" work which averages 11.67% higher than the contractual rates upon which the contract was awarded. This is consistent with the City of Phoenix findings, although their sampling methodology did not allow them to do a projection about the effect on the entire sample.</p>	<p>High</p>
<p>Issue 2: Quotes Unrelated to Actual Work Performed</p> <p>Finding: We found a number of instances where quoted costs bore no resemblance to the actual costs of the projects.</p> <p>Discussion and Background: On one invoice, outside vendor materials estimated of \$1,350.99 (actual \$133.49) and JCI parts estimated at \$2,710 (actual \$0) were highly overbid, but actual labor of \$4,054 was much higher than \$1,635 estimate.</p> <p>Cause: Vendors selected through the competitive bidding process are able to operate outside of their contractual rates by combining their costs into a "lump sum" bid.</p> <p>Effect: The County is being invoiced for "lump sum" amounts that do not align with the work performed or the contractual rates.</p>	<p>High</p>

<p>Issue 3: Billing Errors</p> <p>Finding: 22 out of 40 invoices examined contained significant billing errors (greater than 2.81% materiality threshold as described on p. 4) on the part of Johnson Controls, even when Johnson Controls did a revised billing on a "time and materials" basis under the contract.</p> <p>Discussion and Background: In one instance, the proposal was overstated by \$5,879 as it contained overtime rates, although there was no need for work to be performed during overtime hours. Another invoice billed approximately 36% for services which were not included under the contract, and had to be added to the contract after the work was performed, to be paid. Still another invoice indicated that the vendor overbilled outside materials by 35% or \$7,166.24, because they did not factor in the discount given by the outside vendor. In total, the billing errors sampled were \$103,203.68 and approximated 8.17% of the total amounts billed in our sample. This would extrapolate to \$310,376 over the entire sample (with an 80% certainty that this amount is within 10% accuracy). The City of Phoenix found that 2 of 14 invoices with subcontracted work could not be verified because no supporting detail was provided, and 1 of the 14 was incorrectly charged markup. Additionally, they found that 2 of 7 invoices with hourly rates were charged incorrectly.</p> <p>Cause: The vendor appears to not quote or bill with a high level of accuracy.</p> <p>Effect: The County is being routinely billed erroneously for materials and services, which is supported by the findings in another municipality.</p>	<p>High</p>
<p>Issue 4: Mileage Charged by a Vendor Given Local Vendor Preference</p> <p>Finding: Although Johnson Controls claimed local vendor preference and stated that their "branch office in Naples will be responsible for this contract", they proposed a charge of \$1.75 per mile from as far away as Tampa, which would then be marked up an additional 10%.</p> <p>Discussion and Background: The contract was negotiated at a mileage charge of \$1.00 per mile, and mileage accounted for \$13,384.91 in the 40 invoices examined or an average of 334.62 miles (and therefore \$334.62 + 10% markup or \$368) per invoice.</p> <p>Cause: Johnson Controls has no incentive to avoid billing for mileage, and no controls exist to account for the validity of the mileage billed.</p> <p>Effect: The County is paying a significant amount of mileage for the services of a vendor who asserted local vendor preference.</p>	<p>Medium</p>

<p>Issue 5: Clerical Hours Billed Outside Common Industry Practice</p> <p>Finding: Clerical hours on billings were as high as 16 hours at \$55.00 per hour or \$880.00 on invoices with no justification or substantiation.</p> <p>Discussion and Background: These clerical billings seem far outside the industry norm, although they were allowed under the contract, as well as an additional profit markup of 10%.</p> <p>Cause: Johnson Controls has no incentive to control billings for clerical hours, and there is no control to validate whether the amounts billed are appropriate.</p> <p>Effect: The County is being billed for unvalidated clerical hours, which is outside of standard practice.</p>	<p>Medium</p>
<p>Issue 6: Unsubstantiated Billings for Markups and Discounts</p> <p>Finding: Despite contractual terms of cost plus markup for outside materials, the vendor initially denied furnishing the underlying invoices for backup to validate the cost and markup. Additional contract terms were for in-house materials at list price less a 50% discount, although the vendor refused to supply a price sheet to verify citing confidentiality.</p> <p>Discussion and Background: We were able to obtain an independent price list that supported the reasonableness of the prices charged on 70% of the invoices, with differences to the contractual amounts of 1% or less. We were not able to verify the prices on the larger air conditioning units, for which pricing was to be provided with the quotes.</p> <p>Cause: The vendor does not want to furnish the required backup to support their billings, despite the contractual obligation to do so. This is consistent with the findings of the City of Phoenix, who found that 8 of their 16 invoices audited had no supporting detail (including 6 of 7 with parts and materials which had contractual discount rates).</p> <p>Effect: Billings are unable to be audited without the required support, leading to the possibility of the County being overbilled. This is consistent with the findings of the City of Phoenix.</p>	<p>Medium</p>

<p>Issue 7: York Equipment Billed Inconsistently or Without List Price</p> <p>Finding: Billings on York equipment (100% owned by Johnson Controls) were inconsistent and often unsupported.</p> <p>Discussion and Background: Sometimes these York billings were billed as in-house materials at a 50% discount, and other times these were billed as outside materials and marked up. In one invoice, the same unit was flipped between the two treatments when the invoice was revised, but the cost under each treatment was identical. It was originally billed as an outside material cost of \$31,135 + 15% markup = \$35,805.25 but was revised as a JCI in-house part with a list price of \$71,610.50 x 50% discount = \$35,805.25. Without a market price for these units, we have no means of validating the correct pricing or treatment. The City of Phoenix found that 6 of 7 invoices audited which had parts and materials and contractual discount rates, did not provide supporting documentation.</p> <p>Cause: The vendor does not want to furnish the required backup to support their billings for their wholly-owned subsidiary.</p> <p>Effect: The County may be overbilled, and billings are unable to be audited without the required support. This is consistent with the majority of invoices audited by another governmental entity.</p>	Medium
<p>Issue 8: Billing for Quoting or Incomplete Work</p> <p>Finding: Johnson Controls often billed the County for the quoting process when their quote was not accepted, or they chose not to do the work. Additionally, the initiating departments often rejected invoices because the work had not been performed, the parts not received, or the job was not complete, yet Johnson Controls refused to reverse the billings.</p> <p>Discussion and Background: The majority of these issues arose when the billing disputes began, and the County Attorney's office advised Johnson Controls that these invoices would not be paid.</p> <p>Cause: Johnson Controls billed for services outside of their contract, which served no public purpose.</p> <p>Effect: The County was over-billed, requiring staff and legal time to take exception to this.</p>	Medium

Appendix I, Sampling Methodology

The first step involved in monetary unit sampling is to determine a sample size. We calculated the sample size required if we wanted to be 80% confident, within a 10% margin of error, assuming as many as 50% of the population could be wrong (this turned out to align with the our subsequent findings, but 50% is also the default used if the amount is unknown). Based on the population size of 1210 invoices in fiscal years 2016 and 2017 (the last full fiscal years the JCI contracts were used), our resulting sample size required was 40 invoices.

The total dollar amount of the invoices for fiscal years 2016 and 2017 was \$3,797,291.23. We then divided this sample size into the total dollar value of the population:

\$3,797,291.23 / 40 invoices to be tested = \$94,932.28
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Our next step was to lay out the 1200 invoices in order of invoice date (and secondarily by record number), total the cumulative amount of the invoices, and sample the invoice that triggered the next interval of \$94,932.28 of the cumulative total. A segment of the testing population is listed below as an example of the invoice/sampling methodology within the universe.

J	P	Y	Z	AA	AF	AG	AH
Secondary by Record Number for FY 2016					Intervals of		
Amount	Receipt Date		Cumulative Amount		\$ 94,932.28		Sample #
159.00	11/28/2016		2,225,733.16				
504.75	11/28/2016		2,226,237.91				
405.00	11/28/2016		2,226,642.91				
55,984.35	12/2/2016		2,282,627.26		2,278,374.74		24
81,133.81	4/18/2017		2,363,761.07				
73,925.49	7/19/2017		2,437,686.56		2,373,307.02		25
707.39	11/28/2016		2,438,393.95				
3,413.13	11/28/2016		2,441,807.08				
824.25	11/28/2016		2,442,631.33				
459.75	11/30/2016		2,443,091.08				
275.30	11/30/2016		2,443,366.38				
784.90	11/30/2016		2,444,151.28				
2,750.00	11/30/2016		2,446,901.28				
381.15	12/1/2016		2,447,282.43				
359.00	12/1/2016		2,447,641.43				
838.23	12/2/2016		2,448,479.66				
272.00	12/5/2016		2,448,751.66				
33,578.19	4/25/2017		2,482,329.85		2,468,239.30		26
136.00	12/6/2016		2,482,465.85				

This gave us a sample of 40 items, which tested approximately 34% of the total value of our sample. This high percentage of dollar values tested is the reason monetary unit sampling is most appropriate in this situation: It is a random process, yet still covers a very high percentage of the dollar values involved, allowing for enhanced accuracy in assumptions about the balances or variances thereof.

Appendix II, Audit Report of the City of Phoenix

Emphasis Added in Red by Collier County Internal Audit

Appendix III, October 22, 2019 Agenda Package Regarding JCI Settlement

Appendix IV, Breakdown of Invoices Cited in JCI Settlement