ENERGY EFFICIENCY CONTRACTS 2021
MONITORING AND COST SAVINGS

PERFORMANCE AUDIT SERVICES
PROGRESS REPORT
ISSUED JULY 27, 2022

LOUISIANA LEGISLATIVE AUDITOR
1600 NORTH THIRD STREET
POST OFFICE BOX 94397
BATON ROUGE, LOUISIANA 70804-9397

LEGISLATIVE AUDITOR
MICHAEL J. "MIKE" WAGUESPACK, CPA

FIRST ASSISTANT LEGISLATIVE AUDITOR
ERNEST F. SUMMERVILLE, JR., CPA

DIRECTOR OF PERFORMANCE AUDIT SERVICES
KAREN LEBLANC, CIA, CGAP, MSW

AUDIT TEAM
KRISTA BAKER-HERNANDEZ, CIA, CGAP, CRMA, MPP
GARY DUTY, CIA, CFE, MPA

FOR QUESTIONS RELATED TO THIS PERFORMANCE AUDIT, CONTACT KRISTA BAKER-HERNANDEZ, PERFORMANCE AUDIT MANAGER, AT 225-339-3800.

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LOUISIANA LEGISLATIVE AUDITOR

July 27, 2022

The Honorable Patrick Page Cortez
President of the Senate
The Honorable Clay Schexnayder,
Speaker of the House of Representatives

Dear Senator Cortez and Representative Schexnayder:

This report provides the results of our performance audit of the two state energy efficiency contracts in effect as of June 30, 2021. These contracts include Southeastern Louisiana University (SELU) and the Louisiana Department of Corrections (LADOC).

The report contains our findings and conclusions. I hope this report will benefit you in your legislative decision-making process.

We would like to express our appreciation to the management and staff of SELU and LADOC for their assistance during this audit.

Sincerely,

Michael J. "Mike" Waguespack, CPA
Legislative Auditor

MJW/aa

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1600 NORTH THIRD STREET • POST OFFICE BOX 94397 • BATON ROUGE, LOUISIANA 70804-9397
WWW.LLA.LA.GOV • PHONE: 225-339-3800 • FAX: 225-339-3870

Louisiana Legislative Auditor
Michael J. "Mike" Waguespack, CPA

Energy Efficiency Contracts 2021 Monitoring and Cost Savings

July 2022

Audit Control # 40210036

Introduction

Louisiana Revised Statute 39:1622 (E)(2) requires the Louisiana Legislative Auditor to conduct periodic performance audits of each performance-based energy efficiency contract entered into by a state agency and in effect on and after January 1, 2010. In accordance with this mandate, we conducted a performance audit of the two state energy efficiency contracts in effect as of June 30, 2021. These contracts include:

- Southeastern Louisiana University (SELU) with Honeywell International, Inc. (SELU - Honeywell)
- Louisiana Department of Corrections (LADOC) with Johnson Controls, Inc. (LADOC - Johnson Controls)

The objective of our audit was:

To determine if the energy service companies conducted their monitoring activities and achieved the cost savings required by their contracts as of June 30, 2021.

SELU - Honeywell. Honeywell International, Inc. has conducted its monitoring activities and achieved the annual cost savings required by the contract for Year 18.

LADOC - Johnson Controls. Johnson Controls has conducted its monitoring activities and achieved the annual cost savings required by the contract for Year 8.

Appendix A details our audit scope and methodology, and Appendix B summarizes background information.

Objective: To determine if energy service companies conducted their monitoring activities and achieved the cost savings required by their contracts as of June 30, 2021.

Based on our analysis, Johnson Controls and Honeywell are in compliance with the monitoring requirements specific to their contracts. The energy service companies are providing the required cost-savings verification reports to the agencies. In addition, Honeywell met its cost savings guarantee for the SELU - Honeywell contract, and Johnson Controls met its cost savings guarantee for the LADOC - Johnson Controls contract. Each of these contracts is discussed in detail below.

SELU - Honeywell Contract

Contract Summary. On December 19, 2001, SELU entered into a contract with Sempra Energy Services, now Honeywell, to design and install energy conservation measures and to provide monitoring and training services. The contract term is 20 years and has a total cost of $12,141,955 with projected savings of $12,581,651, which will be achieved over the duration of the contract.[1] Exhibit 1 below shows the projected financial performance for the full term of the energy efficiency contract.

Exhibit 1: Projected Financial Performance
SELU - Honeywell Contract

(A) Total Lease Payments	(B) Service Costs	(C) Total Costs (A+B)	(D) Energy Savings	(E) Lighting Material Savings	(F) Mechanical Maintenance Savings	(G) Total Savings (D+E+F)	(H) Projected Net Savings (G-C)
$11,751,142	$390,813	$12,141,955	$11,823,501	$502,337	$255,813	$12,581,651	$439,696

Note: The calculations in this exhibit are based on rounded numbers.
Source: Prepared by legislative auditor's staff using information from the SELU Energy Efficiency Contract.

Honeywell is in compliance with the monitoring requirement. The SELU - Honeywell contract requires Honeywell to provide monitoring services on both the guaranteed cost savings and the equipment installed. As required by the contract, Honeywell monitors the energy savings and provides SELU with an annual performance report detailing the cost savings achieved. Each report serves to identify cost savings achieved over the previous year relative to the agreed-upon baseline. SELU is required to pay Honeywell a fee for the monitoring work performed as specified in the contract. The fee is adjusted annually based on the Average National Consumer Price Index. For the first year following project completion, SELU was

[1] Per the SELU-Honeywell contract, the Annual Energy Savings Guarantee equals the total lease payments. The total lease payments, over the term of the contract, equal $11,751,142. The contract lists the Total Projected Savings as $12,581,651.

required to pay a $27,608 fee for monitoring. In Year 18 of the contract, SELU was required to pay Honeywell $24,892 in monitoring fees.

Honeywell achieved the annual guaranteed cost savings for Year 18 of the contract. The SELU - Honeywell contract contains a cost-savings guarantee for each year of the contract. Based upon the cost-savings report, Honeywell has exceeded the annual guaranteed savings for Year 18 of the contract through October 2021. In previous years, SELU staff monitored real-time energy usage on the campus using a centralized energy monitoring system. This system allowed SELU to identify any inaccuracies in Honeywell's cost-savings report, but SELU staff stated that due to faulty metering devices, the ability to benchmark and verify energy savings is sometimes challenging. However, SELU reported no issues with the reliability of Honeywell's process for generating annual cost-savings verification reports.

To calculate annual cost savings, Honeywell follows a Measurement & Verification Plan that uses an estimated energy usage multiplied by the actual energy rate costs for that particular year.[2] Honeywell staff stated that measuring actual energy usage for all installed equipment is cost prohibitive, which is why the verification plan is based on assumed energy usage. However, Honeywell samples energy usage for certain equipment and conducts an annual audit to ensure all installed equipment is running properly. This helps ensure the energy usage of the installed equipment matches the estimated energy usage.

SELU has developed additional energy savings measures outside of the contract with Honeywell. Beginning in 2014, SELU has worked to switch to efficient LED light bulbs that use less energy and also help decrease labor costs, since LED light bulbs need to be changed less often. According to SELU officials, the university has continued LED retrofits over the past year and the LED retrofits initiative is 85% complete. Additionally, SELU has used geothermal energy to power some buildings, substantially reducing its electricity and natural gas consumption. SELU management stated that it would like to expand its use of geothermal energy in the future. SELU's additional energy savings measures are beyond what is specified in SELU's contract with Honeywell and will further increase SELU's total energy savings over the life of the contract.

Exhibit 2 is a summary of contract results to date, including whether the cost-savings guarantee was met for each year. Overall, Honeywell has exceeded the annual savings guarantees by $1,498,435 through October 2021.

[2] SELU staff gather utility rates from monthly invoices and provide this information annually to Honeywell.

Exhibit 2: SELU - Honeywell Contract Cost-Savings Summary						
Year	**(A) Energy Savings**	**(B) Lighting Material Savings**	**(C) Mechanical Maintenance Savings**	**(D) Total Savings (A+B+C)**	**(E) Annual Guaranteed Savings**	**(F) Savings in Excess of Guarantee (D-E)**
Interim (Feb 02 - Oct 03)	$691,729			$691,729		$691,729
Year 1 (Nov 03 - Oct 04)	613,252	$20,000	$10,185	643,437	$573,608	69,829
Year 2 (Nov 04 - Oct 05)	627,969	20,600	10,490	659,059	621,131	37,928
Year 3 (Nov 05 - Oct 06)	627,969	21,218	10,805	659,992	621,681	38,311
Year 4 (Nov 06 - Oct 07)	627,969	21,855	11,129	660,953	620,481	40,472
Year 5 (Nov 07 - Oct 08)	627,969	22,510	11,463	661,942	618,881	43,061
Year 6 (Nov 08 - Oct 09)	627,969	23,185	11,807	662,961	621,431	41,530
Year 7 (Nov 09 - Oct 10)	623,060	23,881	12,161	659,102	622,729	36,373
Year 8 (Nov 10 - Oct 11)	623,060	24,597	12,526	660,183	623,044	37,139
Year 9 (Nov 11 - Oct 12)	623,060	25,335	12,902	661,297	622,950	38,347
Year 10 (Nov 12 - Oct 13)	623,060	26,095	13,289	662,444	622,200	40,244
Year 11 (Nov 13 - Oct 14)	623,060	26,878	13,688	663,626	618,450	45,176
Year 12 (Nov 14 - Oct 15)	623,060	27,685	14,098	664,843	618,950	45,893
Year 13 (Nov 15 - Oct 16)	623,060	28,515	14,521	666,096	623,450	42,646
Year 14 (Nov 16 - Oct 17)	623,060	29,371	14,957	667,388	621,700	45,688
Year 15 (Nov 17 - Oct 18)	623,060	30,252	15,406	668,718	618,950	49,768
Year 16 (Nov 18 - Oct 19)	623,060	31,159	15,868	670,087	618,775	51,313
Year 17 (Nov 19 - Oct 20)	623,060	32,094	16,344	671,498	622,275	49,223
Year 18 (Nov 20 - Oct 21)	**623,060**	**33,057**	**16,834**	**672,951**	**619,185**	**53,766**
Total	**$11,921,546**	**$468,287**	**$238,473**	**$12,628,306**	**$11,129,871**	**$1,498,435**

Cost savings for the years highlighted in gray were reviewed in prior reports. The reports are available on the Legislative Auditor's website at http://www.lla.la.lgov.
Source: Prepared by legislative auditor's staff using information from the SELU Cost-Savings Reports.

LADOC - Johnson Controls Contract

Contract Summary. On September 22, 2011, LADOC entered into a performance-based energy efficiency contract with Johnson Controls. The contract term is 16 years. The original contract covered nine sites; however, the contract was amended in 2013 to compensate for the closure of Forcht-Wade Correctional Center and C. Paul Phelps Correctional Center.[3] The amendment reduced the total cost of the contract by $891,303, to $39,631,903, and the total guaranteed savings by $1,081,596 to $39,741,809. Act 51 of the 2017 Regular Legislative Session allowed LADOC to further amend its contract to deduct the guaranteed savings attributable to the closed sites. As such, LADOC and Johnson Controls amended the contract again on January 18, 2018, to reduce the total guaranteed savings by an additional $552,709. The contract was amended again on February 26, 2020, to account for the closing of Louisiana Correctional Institute for Women. This amendment reduced the total cost of the contract by $831,365 and the guaranteed savings by 2,371,384.

[3] The six remaining sites are LADOC Headquarters, Dixon Correctional Institute, B.B. Rayburn Correctional Center, Elayn Hunt Correctional Center, David Wade Correctional Center, and Louisiana State Penitentiary.

The contract's amended total projected net savings is -$1,982,822 because LADOC incurred costs for work Johnson Controls completed at Forcht-Wade Correctional Center, C. Paul Phelps Correctional Center, and Louisiana Correctional Institute for Women before the agency closed the three sites, but no energy savings will actually be achieved.[4] Exhibit 3 summarizes the cost and savings guarantee terms of the amended contract.

Exhibit 3: Projected Financial Performance
LADOC - Johnson Controls Contract

(A) Net Lease Payments	(B) Service Costs	(C) Total Costs (A+B)	(D) Electricity and Natural Gas Savings	(E) Water Savings	(F) Operational Savings	(G) Total Guaranteed Savings (D+E+F)	(H) Projected Net Savings (G-C)
$33,079,706	$5,720,832	$38,800,538	$34,277,375	$763,342	$1,776,999	$36,817,716	-$1,982,822*

*The negative projected net savings is a result of LADOC incurring costs prior to the closure of Forcht-Wade Correctional Center, C. Paul Phelps Correctional Center, and Louisiana Correctional Institute for Women but related savings will not be achieved as a result of the closure of the three sites. The Projected Net Savings does not take into account actual savings in excess of the guaranteed savings. See exhibit 4 for the savings in excess of the guarantee through Year 8 which is $1,793,259.
Source: Prepared by legislative auditor's staff using information from the LADOC Energy Efficiency Contract.

Johnson Controls is in compliance with the monitoring requirement. The LADOC-Johnson Controls contract contains a service agreement in which Johnson Controls provides measurement and verification services, waste management compactor monitoring, and premium level services on identified facilities and equipment. The 2020 contract amendment reduced the annual service costs LADOC will pay Johnson Controls beginning in Year 7 to the end of the contract because of the closure of Forcht-Wade Correctional Center, C. Paul Phelps Correctional Center, and Louisiana Correctional Institute for Women. The amendment reduced the total service agreement cost from $6,552,197 to $5,720,832, a reduction of $831,365. The service agreement is paid in monthly installments throughout the term of the contract.

As part of the service agreement, Johnson Controls calculates the measured annual energy, operation, and maintenance savings achieved; reconciles the energy, operation, and maintenance savings with the guaranteed savings; and advises LADOC of whether there is a guaranteed savings shortfall or guaranteed savings surplus for the applicable guarantee year. As required, Johnson Controls provided LADOC an annual report that details this information for Year 8 of the contract.

Third-Party Monitoring. The Division of Administration (DOA), Office of Facility Planning and Control contracted E/S3 Consultants, Inc. (E/S3) to serve as an independent third-party consultant on the energy efficiency contract between LADOC and Johnson Controls. E/S3 monitors measurement and verification services provided by Johnson Controls. Specifically, E/S3 reviews Johnson Controls' annual energy and costs savings/shortfall calculations, and measurement and verification methodology, as well as recommends adjustments to the baseline used to calculate cost savings.

[4] The LADOC-Johnson Controls contract contains an annual cost savings guarantee for each year of the contract. Therefore, the negative projected net savings for the total contract term doesn't affect this guarantee.

DOA first entered into a contract with E/S3 on February 11, 2013, and the latest amendment to the contract is dated July 16, 2018, and covers three years. The cost for Year 3 of the contract is $18,216. The cost associated with the E/S3 contract is not included in the calculation of net cost savings because Louisiana Revised Statute 39:1622 requires that energy savings companies pay a fee, not to exceed 2.5% of the contract, which goes into the Energy Performance Contract Fund to pay for contract oversight. The LADOC contract is the only existing energy efficiency contract with a third-party monitor.

Johnson Controls achieved the annual guaranteed cost savings for Year 8 of the contract. The LADOC - Johnson Controls contract contains a cost-savings guarantee for each year of the contract. Based on the cost-savings reports, Johnson Controls exceeded the annual savings guarantee for Year 8 through June 2021. The actual savings reported by Johnson Controls in its cost-savings verification report was independently reviewed and verified by E/S3.

Exhibit 4 is a summary of contract results to date, including whether the cost-savings guarantee was met for each year. Overall, Johnson Controls has exceeded the annual savings guarantees by $1,793,259 through June 2021.

Exhibit 4: LADOC - Johnson Controls Contract Cost-Savings Summary

Year*	(A) Electricity Savings	(B) Gas Savings	(C) Water/Sewer Savings	(D) Operation Savings	(E) Total Savings (A+B+C+D)	(F) Guaranteed Savings	Savings in Excess of Guarantee (E-F)
Construction (Jan 12 - Jun 13)	$370,885	$526,810	$95,553	N/A	$993,248	$559,951	$433,297
Year 1 (July 13 - Jun 14)	771,617	973,396	276,605	$143,901	2,165,519	2,294,181	-128,662
Year 2 (July 14 - Jun 15)	799,337	1,009,879	274,351	143,901	2,227,468	2,335,772	-108,304
Year 3 (July 15 - Jun 16)	797,568	1,240,544	283,352	143,901	2,465,365	2,340,543	124,822
Year 4 (July 16 - Jun 17)	855,445	1,334,776	272,890	143,901	2,607,012	2,383,060	223,952
Year 5 (July 17 - June 18)	969,694	1,190,433	235,103	143,901	2,539,131	2,426,427	112,704
Year 6 (July 18 - June 19)	1,028,645	1,117,338	210,599	143,901	2,500,483	2,470,661	29,822
Year 7 (July 19 - June 20)	1,354,953	1,346,590	171,050	50,403	2,922,996	2,266,786	656,210
Year 8 (July 20 - June 21)	1,369,888	1,176,297	162,181	50,403	2,758,769	2,309,351	449,418
Total	**$8,318,032**	**$9,916,063**	**$1,981,684**	**964,212**	**$21,179,991**	**$19,386,732**	**$1,793,259**

Cost savings for the year highlighted in gray was reviewed in a prior report. The report is available on the Legislative Auditor's website at http://www.lla.la.gov.

Source: Prepared by legislative auditor's staff using information from LADOC Cost-Savings Report.

APPENDIX A: SCOPE AND METHODOLOGY

Louisiana Revised Statute 39:1622 (E)(2) provides that the Louisiana Legislative Auditor (LLA) shall conduct annual performance audits of performance-based energy efficiency contracts entered into by state agencies. LLA shall establish a written schedule for the execution of such performance audits, with the schedule posted on LLA's website no later than February 1 of each year.

Audits shall be conducted on each performance-based energy efficiency contract in effect on and after January 1, 2010. LLA shall coordinate with the Commissioner of Administration to develop a description of information to be included as part of each energy efficiency contract performance audit. In accordance with this legislative mandate, we performed a performance audit of the energy efficiency contracts currently in place as of June 30, 2021. Our audit objective was:

To determine if the energy service companies conducted their monitoring activities and achieved the cost savings required by their contracts as of June 30, 2021.

To answer the audit objective, we conducted the following procedures:

- Contacted Office of Facility Planning and Control to determine if there were any new performance-based energy efficiency contracts entered into by state agencies in effect as of June 30, 2021.

- Researched and reviewed state laws on energy efficiency contracts.

- Researched and summarized various aspects of current energy efficiency contracts, including contracts held by Southeastern Louisiana University (SELU) and the Louisiana Department of Corrections (LADOC).

- Contacted SELU and LADOC staff to determine the status of the state agency energy efficiency contracts in effect as of June 30, 2021, including any new contract amendments.

- Obtained energy performance and savings verification reports from the energy savings companies (Honeywell and Johnson Controls) to determine compliance with the contract monitoring requirements. We used this report to summarize the cost savings achieved for Year 18 of the energy efficiency contract between SELU and Honeywell.

- Gained an understanding of SELU's energy monitoring system and controls in place over the system.

- Obtained the third-party independent review of JCI's Year 8 Energy Performance and Savings Report. We used this report to summarize the cost savings achieved for Year 8 of the energy efficiency contract between LADOC and Johnson Controls.

- Communicated with officials at SELU and LADOC to develop an understanding of the processes used to track and verify the energy consumption associated with the equipment installed as part of the contract.

We conducted this performance audit in accordance with generally accepted *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

We obtained an understanding of internal control that is significant to the audit objective and assessed the design and implementation of such internal control to the extent necessary to address our audit objective. We also obtained an understanding of legal provisions that are significant within the context of the audit objective, and we assessed the risk that illegal acts, including fraud, and violations of applicable contract, grant agreement, or other legal provisions could occur. Based on that risk assessment, we designed and performed procedures to provide reasonable assurance of detecting instances of noncompliance significant to those provisions.

APPENDIX B: BACKGROUND

Louisiana Revised Statute (R.S.) 39:1622 provides that Louisiana state agencies are allowed to enter into performance-based energy efficiency contracts for services and equipment. The state agency awards a contract to an energy service company through a request for proposal process and the contract extends for a period equal to the lesser of 20 years or the average life of the equipment installed by the performance contractor. The energy service company provides equipment and services to the agency intended to reduce the agency's energy consumption.

Current Energy Efficiency Contracts. There were two energy efficiency contracts in effect as of June 30, 2021. These contracts include the following:

- Southeastern Louisiana University (SELU) with Honeywell International, Inc. ("SELU - Honeywell")

- Louisiana Department of Corrections (LADOC) with Johnson Controls, Inc. ("LADOC - Johnson Controls")

These contracts range from 16 to 20 years in length. Below is a summary of state energy efficiency contracts in effect as of June 30, 2021.

Exhibit 5: Active State Energy Efficiency Contracts
As of June 30, 2021

State Agency	Energy Service Company	Contract Initiation	Contract Length	Performance Commencement Date*	Total Cost	Total Guaranteed Savings	Projected Net Savings**
SELU	Honeywell International, Inc.	December 19, 2001	20 Years	November 1, 2003	$12,141,955	$12,581,651	$439,696
LADOC	Johnson Controls, Inc.	September 22, 2011	16 Years	July 1, 2013	$38,800,538	$36,817,716	$-1,982,822

*The performance commencement date is the first day of the month after the month in which all equipment is installed and commenced operating per the contract, and the date that the first guarantee year and calculation of savings commences.
**Projected Net Savings does not take into account actual savings in excess of the guaranteed savings. See Exhibits 2 and 4 for this information. The negative projected net savings for the LADOC-Johnson Controls contract is a result of LADOC incurring costs prior to the closure of three facilities before related savings could be achieved.
Source: Prepared by legislative auditor's staff using information from SELU - Honeywell, and LADOC - Johnson Controls.

Monitoring. Both contracts, in accordance with Louisiana Administrative Code 34:V.2505(D), require that the energy service company use the International Performance Measurement and Verification Protocol standard to measure the financial performance of the respective contracts. The energy service companies provide the agencies with quarterly or annual reports throughout the term of the contract that summarize the contractor's performance relative to the guaranteed cost savings. These reports compare the actual energy consumed for the given time period to an agreed-upon energy consumption baseline to determine the amount of energy saved.

Cost Savings. R.S. 39:1622 (C)(1) requires energy efficiency contracts to include a method to establish their guaranteed cost savings. These savings, at a minimum, must ensure a total annual savings sufficient to fully fund any financing arrangement entered into to fund the contract.[5] In the event that the guaranteed savings are not met, the energy service company must pay the agency the difference between the guaranteed savings amount and the actual savings amount. This arrangement helps agencies finance equipment and system upgrades that they might otherwise not be able to afford.

[5] Act 869 of the 2004 Regular Legislative Session established this cost savings requirement.