Audit of the Department of Transportation's Energy Performance Contracts: Improved Oversight Is Needed to Ensure Savings

A Report to the
Governor
and the
Legislature of
the State of
Hawai‘i

Report No. 15-18
December 2015

THE AUDITOR
STATE OF HAWAI‘I

Office of the Auditor

The missions of the Office of the Auditor are assigned by the Hawai'i State Constitution (Article VII, Section 10). The primary mission is to conduct post audits of the transactions, accounts, programs, and performance of public agencies. A supplemental mission is to conduct such other investigations and prepare such additional reports as may be directed by the Legislature.

Under its assigned missions, the office conducts the following types of examinations:

1. Financial audits attest to the fairness of the financial statements of agencies. They examine the adequacy of the financial records and accounting and internal controls, and they determine the legality and propriety of expenditures.

2. Management audits, which are also referred to as performance audits, examine the effectiveness of programs or the efficiency of agencies or both. These audits are also called program audits, when they focus on whether programs are attaining the objectives and results expected of them, and operations audits, when they examine how well agencies are organized and managed and how efficiently they acquire and utilize resources.

3. Sunset evaluations evaluate new professional and occupational licensing programs to determine whether the programs should be terminated, continued, or modified. These evaluations are conducted in accordance with criteria established by statute.

4. Sunrise analyses are similar to sunset evaluations, but they apply to proposed rather than existing regulatory programs. Before a new professional and occupational licensing program can be enacted, the statutes require that the measure be analyzed by the Office of the Auditor as to its probable effects.

5. Health insurance analyses examine bills that propose to mandate certain health insurance benefits. Such bills cannot be enacted unless they are referred to the Office of the Auditor for an assessment of the social and financial impact of the proposed measure.

6. Analyses of proposed special funds and existing trust and revolving funds determine if proposals to establish these funds are existing funds meet legislative criteria.

7. Procurement compliance audits and other procurement-related monitoring assist the Legislature in overseeing government procurement practices.

8. Fiscal accountability reports analyze expenditures by the state Department of Education in various areas.

9. Special studies respond to requests from both houses of the Legislature. The studies usually address specific problems for which the Legislature is seeking solutions.

Hawai'i's laws provide the Auditor with broad powers to examine all books, records, files, papers, and documents and all financial affairs of every agency. The Auditor also has the authority to summon persons to produce records and to question persons under oath. However, the Office of the Auditor exercises no control function, and its authority is limited to reviewing, evaluating, and reporting on its findings and recommendations to the Legislature and the Governor.

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Audit of the Department of Transportation's Energy Performance Contracts

Report No. 15-18, December 2015

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Projected Energy Contract Costs and Savings

Total Cost Savings	$518 mil.
Project Costs	$363 mil.
Net Savings	$155 mil.

The division is unable to verify the achievement of $13.7 million in guaranteed savings covering the project's first two years.

Recommendations

Response

Prior Audits

Improved oversight of DOT's energy performance contract needed to ensure promised savings

Airports Division's "20-year" energy contract is flawed, but still protects the State's interests

The Department of Transportation-Airports Division's energy contract, executed in December 2013 with Johnson Controls, Inc., promises to address a host of current and future energy needs, and could serve as a model for other agencies to follow. However, we found flaws in the design and implementation of the project. Contrary to State Procurement Office guidance, the contract allows for automatic acceptance of the annual savings report, which is a key document for ensuring savings match guaranteed levels. This provision weakens the division's ability to challenge or dispute any savings issues discovered after the 90-day review period expires.

We also found flaws that could undermine the energy contract's $518 million savings guarantee. The department thought the energy contract covered a 20-year term, but the contract actually expires after 19 years. Consequently, $60 million in savings are scheduled to occur after the contract expires. This error occurred even though the division said it had "ample" time to review the contract, which was reviewed by multiple internal and outside parties. The division was unaware of this flaw until we brought it to their attention.

Lax administration of energy contract undermines accountability for savings guarantee

Johnson Controls' annual savings report is the division's foundation for assessing whether the project has achieved the savings that were guaranteed. Thus, it is imperative the division be able to thoroughly review the report in a timely fashion. We found the division lacks the procedures and expertise needed to evaluate these annual savings reports. The division's incomplete review of the first savings report left it unaware of significant reporting problems that undermine Johnson Controls' accountability for ensuring savings exceed costs, as required by law. The division was therefore unable to verify whether $13.7 million in guaranteed savings for the project's first two years was achieved, undermining the public's confidence in the department's ability to ensure the energy contract delivers promised benefits.

Agency response

The Department of Transportation generally agreed with our findings and recommendations, and reported that it has begun implementing all our recommendations. Among other things, the department said it has amended the energy contract to correct flaws we identified.

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A Report to the Governor and the Legislature of the State of Hawai‘i

Submitted by

THE AUDITOR
STATE OF HAWAI‘I

Report No. 15-18
December 2015

Foreword

This is a report on our audit of the Department of Transportation's energy performance contract. We conducted the audit pursuant to Act 119, Session Laws of Hawai'i 2015, which required the Auditor to conduct an audit of the energy performance contracts of the Department of Transportation, including an evaluation of the terms and conditions for monitoring utility consumption, a determination of utility cost savings to the State, and payments to the contractor.

We wish to express our appreciation for the cooperation and assistance extended to us by officials and staff of the Department of Transportation, and other individuals whom we contacted during the course of our audit.

Jan K. Yamane
Acting State Auditor

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Chapter 1
Introduction

This audit was requested by the 2015 Legislature through Act 119, Session Laws of Hawai‘i (SLH) 2015, which requires the Auditor to conduct a financial and management audit of the Department of Transportation (DOT)’s energy performance contracts. The audit is to address: (1) an evaluation of the terms and conditions for monitoring utility consumption; (2) a determination of utility cost savings to the State; and (3) payments to the contractor.

Background

According to a 2014 U.S. Department of Energy report, Hawai‘i is the most oil-dependent state in the nation, with about 85 percent of its energy derived from imported petroleum and petroleum products. Hawai‘i relies on imported oil to meet 74 percent of its electricity generation needs.

The U.S. Department of Energy and the State of Hawai‘i entered into a Memorandum of Understanding in 2008 to establish the Hawai‘i Clean Energy Initiative in an effort to transform the way energy efficiency and renewable energy resources are planned and used in Hawai‘i. The initiative, which serves as a foundation for Hawai‘i’s long-term clean energy strategy, has a goal to meet 70 percent of Hawai‘i’s energy needs by 2030 through clean energy. Clean energy refers to a combination of 40 percent from renewable energy generation and 30 percent from energy efficiency and conservation measures. To align Hawai‘i’s energy policy laws with the State’s energy goals, the 2009 Legislature passed Act 155 establishing renewable and energy-efficiency standards in Hawai‘i.

State and county agencies face increasing energy costs and the need to replace or upgrade aging, inefficient, and obsolete energy- and water-consuming equipment. Capital improvement and operating budgets have typically been inadequate to fund such upgrades. Energy contracts are an innovative way to use guaranteed energy and water savings to finance and build energy and water conservation measures. State agencies that reduce costs via energy contracts can continue to receive energy expenditure budget appropriations at pre-retrofit levels as an incentive to increase adoption of such energy contracts.

Energy contracts

An energy contract is a comprehensive agreement in which an energy services company performs an investment grade audit and develops, designs, arranges financing for, installs, and often operates and maintains energy- and water-saving improvements for a customer (for example, a State agency). The energy services company is compensated with a portion of resulting cost savings, lease payments, or specified revenues. The level of payment depends on verified energy savings, energy production, and avoided maintenance and equipment replacement costs. Energy contract projects are generally financed by third-party lenders.

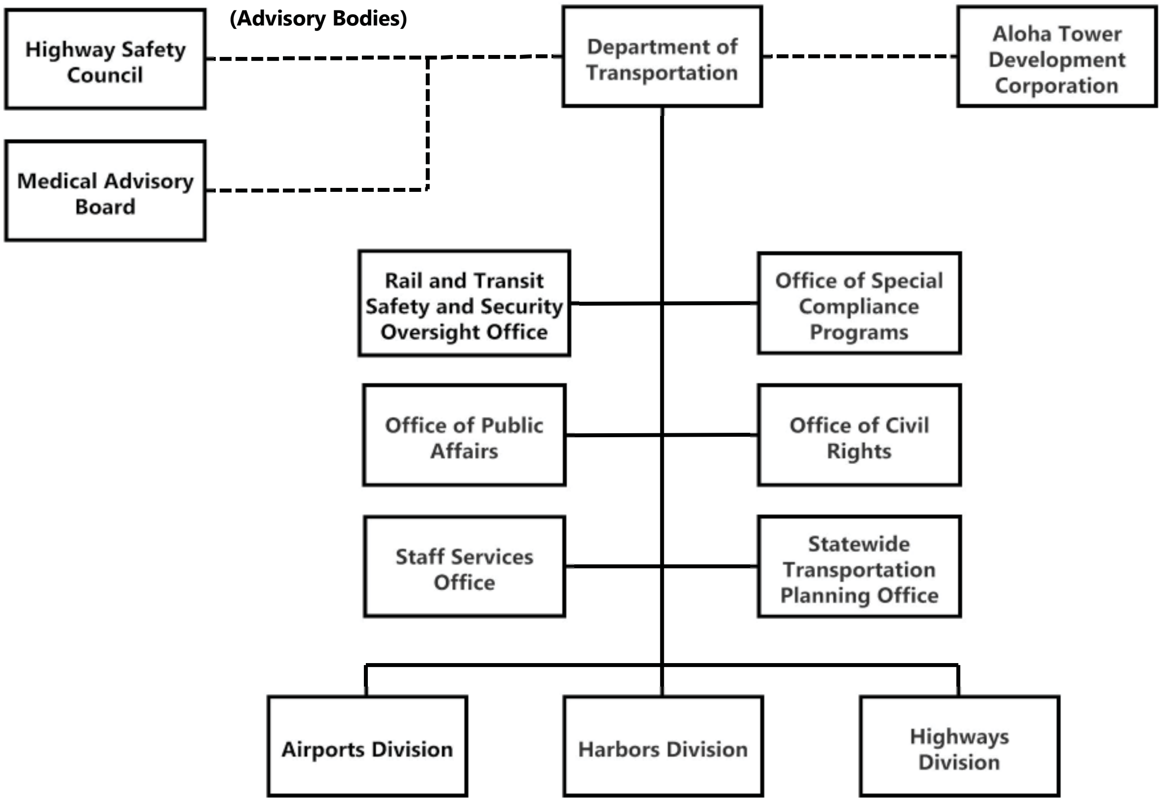
Agencies can use cost savings generated by energy contracts to pay off the original investment as well as finance and maintenance costs. Costs of energy efficiency improvements are paid for with savings from utility cost and operations and maintenance, with no up-front funds from the customer.

A key feature of an energy contract is that an energy services company guarantees energy and water savings. If savings levels are not met, the energy services company pays the difference between the estimated and actual savings to the agency. Measurement and verification services help an agency and an energy services company ensure that savings guarantees and equipment performance levels are met. This savings guarantee places performance risk on the energy services company rather than the agency.

DOT's mission and organization

The Department of Transportation has the largest energy contract of any state government nationwide. The department is responsible for planning, designing, constructing, operating, and maintaining 11 commercial service airports, four general aviation airports, ten commercial harbors, and 2,450 lane miles of highway. DOT consists of six offices and three modal divisions: Airports, Harbors, and Highways. The subject of this audit is the Airports Division. The divisions are headed by their respective deputy directors. Exhibit 1.1 shows the placement of the Airports Division within DOT's organization.

Exhibit 1.1
Department of Transportation Organizational Chart

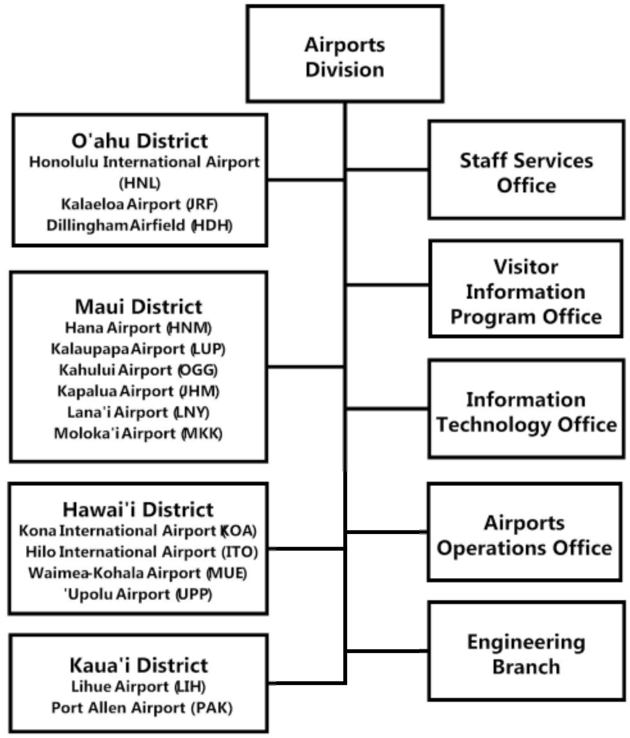


Source: Department of Transportation

Airports Division

The mission of the Airports Division is to develop, manage, and maintain a safe and efficient global air transportation organization. An administrator directs the management, operation, maintenance, and construction of all state aviation facilities. The division consists of four districts (O‘ahu, Maui, Hawai‘i, and Kaua‘i), each of which maintains various airports and airfields around the state. In addition, the division has four offices and one branch: (1) Staff Services Office, (2) Visitor Information Program Office, (3) Information Technology Office, (4) Airports Operations Office, and (5) Engineering Branch. The Engineering Branch advises the airports administrator and others on engineering matters and oversees much of the implementation and administration of the division’s energy contract. Exhibit 1.2 shows the organization of the Airports Division.

Exhibit 1.2
Airports Division Organizational Chart



Source: Department of Transportation

Airports Division funding

The Airports Division receives no general funds and must be self-sustaining. The DOT imposes and collects charges for airport system services and properties to generate revenues to fund the division's operating expenses. The Airport Revenue Fund is expected to generate enough revenue to pay for program operation and maintenance costs and to contribute a fee to the State's general fund for central services. Its primary revenues come from the aviation fuel tax, landing fees, airport use charges, concession fees, and investment income. Other revenue sources include rentals and miscellaneous earnings.

The division receives special funds and federal funds for its operating budget. From FY2012–2013 to FY2014–2015, the division's annual appropriations for its operating budget averaged $445 million. Exhibit 1.3 shows the division's appropriations, by means of financing, over the past three years.

Exhibit 1.3
Airports Division Appropriations by Means of Financing, FY2013–FY2015

	FY2013	FY2014	FY2015
Special funds	$414,064,024	$418,211,031	$484,146,396
Federal funds	8,300,000	3,450,000	7,037,250
Total appropriations	**$422,364,024**	**$421,661,031**	**$491,183,646**

Source: General and supplemental appropriations acts, SLH 2012 through 2014

Airports Division's energy contract

The Airports Division's FY2015 budget of $491 million accounts for about half of DOT's operating budget of $914 million. In 2013, the division executed a long-term contract with Johnson Controls, Inc.` to provide energy efficiency services and equipment and to perform measurement and verification, and maintenance services. Savings are monitored via an annual savings report provided by Johnson Controls.

Payments for the energy contract are funded from Airports Division's budget designated to cover utility expenses and result in no increase in its total appropriation. The Airports Division plans to use energy contract savings, which result from the difference between electricity costs and current financing payments, for energy-related maintenance services. Any excess savings are retained in the special fund and can be used for other allowable expenses.

Procurement of DOT's energy contract started in 2011, when the department issued an Invitation for Proposals (IFP) to solicit proposals for energy efficiency services and equipment at statewide DOT facilities. The IFP used a State Procurement Office list of pre-qualified energy service companies. Johnson Controls was selected by an evaluation committee with approval from the director of transportation. Johnson Controls is a global provider of products and services that include energy efficiency systems for buildings.

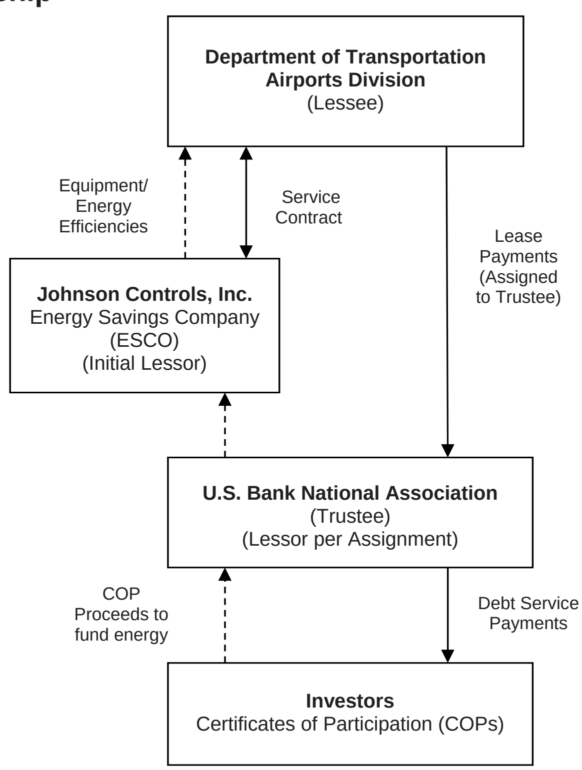
The DOT executed an agreement with Johnson Controls for an *investment grade audit*, which is a document designed to provide a competent reviewer sufficient technical detail to realistically assess potential energy and cost savings to energy savings projects. The audit provided by Johnson Controls included a list of proposed energy conservation measures, including services, equipment, and activities designed to increase energy efficiency and reduce energy consumption or operating and maintenance expenses.

In late 2013, DOT chose to implement $150 million of $202 million in airport energy conservation measures proposed by Johnson Controls. The construction period of the Airports Division's energy conservation measures commenced in January 2014 and was anticipated to be completed by January 2016. According to DOT, in July 2015, the Highways Division executed a $60 million energy contract with Johnson Controls. As of September 2015, the Harbors Division was negotiating a $26 million energy contract with Johnson Controls.

Financing and payment responsibilities for the Airports Division's energy contract

Costs relating to the lease and installation of equipment to implement the Airports Division's energy contract were financed by $167.7 million in lease revenue certificates of participation. These lease revenue certificates were issued by the division to investors and are payable from the division's revenues. Proceeds from the sale are disbursed by a trustee to Johnson Controls, at the direction and approval of the State, for financing the acquisition and installation of energy conservation measures and for other purposes. The trustee for the Airports Division's energy contract is U.S. Bank National Association in Seattle, Washington. The trustee for the certificate owners holds rights to installed equipment until the certificates of participation are paid off, at which point the division assumes ownership. Exhibit 1.4 shows the relationship of responsibilities for services and payment between the involved parties.

Exhibit 1.4
Financing Services and Payment Responsibilities Relationship



Source: Department of Transportation

The division makes lease payments, including principal and interest, to the trustee. The trustee then makes debt service payments to the investors. The division also makes service contract payments to Johnson Controls for measurement and verification, and maintenance services. Exhibit 1.5 shows the schedule for $255.5 million in lease rent payments due through 2029 for the lease revenue certificates of participation.

Exhibit 1.5
Schedule of Lease Payments, FY2015–FY2029

Year(s) ending June 30	Principal	Interest	Total
2015	$ -	$ 9,316,420	$ 9,316,420
2016	-	8,343,063	8,343,063
2017	4,745,000	8,271,887	13,016,887
2018	5,675,000	8,058,838	13,733,838
2019	6,490,000	7,787,162	14,277,162
2020–2024	52,615,000	32,413,188	85,028,188
2025–2029	98,215,000	13,556,868	111,771,868
Total	**$167,740,000**	**$87,747,426**	**$255,487,426**

Source: Airports Division's June 30, 2014, audited financial statements

Airports Division's energy contract costs

Under the terms of the division's energy contract, the two-year period for all project-related construction is expected to be complete in January 2016. Exhibit 1.6 shows energy contract savings, total costs, and net savings through 2034. Annual savings amounts include guaranteed electric, water, and operations cost savings as projected by Johnson Controls. Projected cost amounts include measurement and verification services and an annual service contract for maintenance of air conditioning, lighting, photovoltaic, and building automation systems. Costs also include debt service payments.

Exhibit 1.6
Projected Airports Division Energy Contract Costs and Savings, FY2014–FY2034 (in thousands)

Total Cost Savings	$	518,026
Project Costs		
Measurement and Verification Services	$	21,945
Maintenance contracts		85,685
Debt Service		255,487
Total Project Costs	$	363,117
Net Savings	$	154,909

Source: Airports Division's energy contract with Johnson Controls and its June 30, 2014, audited financial statements

Prior Audits

We have conducted three prior audits relevant to this audit.

Our Report No. 95-29, *Audit of State Contracting for Professional and Technical Services* (November 1995), found the Airports Division's internal control structure failed to safeguard public assets, did not ensure competition in the contractor selection process, and failed to require adequate planning for contracted work. In addition, the division's management failed to adequately monitor contracts, project managers' monitoring efforts were ineffective, and project managers themselves were not monitored. We concluded that the division's internal control structure over contractual services was inadequate.

Our Report No. 05-05, *Audit of Selected Agencies' Procurement of Professional Services Contracts* (May 2005), found cumbersome, untimely, and questionable professional procurement practices by the audited agencies, and a failure to provide formal training by audited agencies for personnel responsible for procuring professional services. While DOT had written procedures for its professional services selection process, the Highways Division had developed its own procedures. The Airports Division also had its own system, called "project development and tracking." Neither required supporting documentation with contracts.

Our Report No. 13-04, *Procurement Examination of the Department of Transportation* (May 2013), found two material weaknesses involving the department's internal controls over procurement of goods and services. One was that recurring violations and questionable practices demonstrated the Airports Division's overreliance on contractors and willingness to put contractors' needs ahead of the public interest. We recommended that improved training and department-wide oversight could reduce procurement violations and inconsistencies between divisions.

Objectives of the Audit

1. Assess whether the design of the Department of Transportation's Airports Division's energy performance contract protects the State's interests.

2. Determine whether the Airports Division is adequately ensuring the achievement of guaranteed savings.

3. Make recommendations as appropriate.

Scope and Methodology

This audit reviewed the management and fiscal practices of the Airports Division's energy contract, which was DOT's only finalized energy performance contract at the time our audit was initiated. We focused on FY2012 through FY2015. Our audit did not involve testing or validating energy contract annual savings report data, as only one such report was available, and that report was conducted while project construction was ongoing.

We conducted interviews with key program staff and reviewed relevant documents, including those regarding the contract's administration, to determine whether relevant laws, rules, and policies were met; the system was efficiently and effectively managed; and there was documentary evidence of ongoing performance monitoring.

Our audit was conducted from May 2015 through September 2015 pursuant to the Office of the Auditor's *Manual of Guides* and 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 the evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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Chapter 2
Improved Oversight of DOT's Energy Performance Contract Is Needed to Ensure Promised Savings

The Department of Transportation (DOT)'s Airports Division's energy contract with Johnson Controls, Inc. presents a promising approach to addressing a host of current and future energy needs. In addition to cutting the division's energy use by 49 percent, the agreement is expected to result in improved lighting and cooling at airport facilities statewide, while furthering the State's goal of reducing oil dependency. At the same time, the project should generate net savings of $155 million with little risk to the State.

The division's energy contract is the largest such state agreement nationwide and could serve as a model for other agencies. Although the energy contract's design comports with recommended practices and therefore protects the State's interests, we found some contract flaws and problems with the division's project implementation. Most significantly, the energy contract that DOT thought encompassed a 20-year term actually expires after 19 years. That error results in $60 million in savings being scheduled to occur after the contract expires, thereby undermining the veracity of the savings guarantee.

We found the division failed to verify savings reported by Johnson Controls on a timely basis, thus undermining accountability for a state law that requires annual energy contract payments not exceed savings. The division was unaware that an initial annual savings report provided by Johnson Controls was submitted seven months late, and that it relied on 12 months of savings instead of six to achieve a $1.9 million savings guarantee. The division was also unaware that a second annual savings report, which was supposed to account for another $11.8 million in guaranteed savings, was overdue.

That the division was unaware of these problems is troubling, especially since the agency claims it had ample time to review the energy contract before it was executed. These errors occurred despite the energy contract having been reviewed by DOT staff, the Department of the Attorney General, an outside attorney, and a third-party energy consultant. Fortunately, the energy contract contains provisions that resolve these flaws; however, the fact that design and implementation problems could go unnoticed during those multiple reviews, and for an 18-month period after contract execution, could jeopardize public confidence in DOT's ability to plan and implement this complex project and other energy contracts.

Summary of Findings

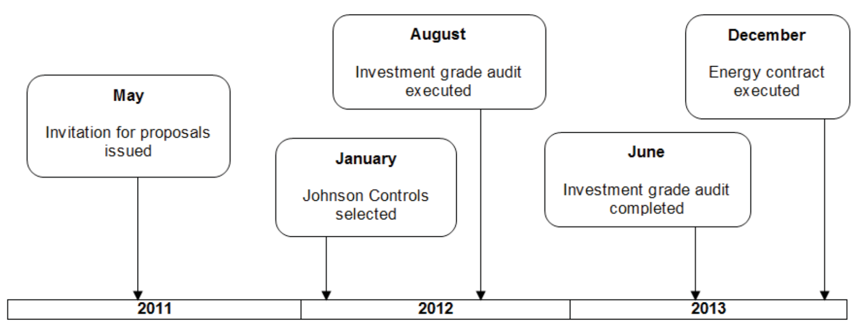
1. The Department of Transportation-Airports Division's "20-year" energy contract is flawed, but still protects the State's interests. The energy contract establishes responsibilities, guarantees, and benchmarks for protecting the State's interests, but more could be done. The department's review of the energy contract failed to identify flaws that undercut the $518 million savings guarantee.

2. Lax administration of faulty energy contract undermines accountability for savings guarantees. The division's inadequate review failed to identify flaws in the first annual savings report. The division also could not verify achievement of $13.7 million in savings, and lacks a framework to evaluate the accuracy of energy contract project savings.

Airports Division's "20-Year" Energy Contract Is Flawed, but Still Protects the State's Interests

It took DOT more than two-and-a-half years to solicit and procure the Airports Division's energy contract with Johnson Controls. In June 2013, DOT accepted an investment grade audit from Johnson Controls outlining the project scope and savings. DOT was expected to execute an energy contract with Johnson Controls one or two months after the audit was submitted. However, it was not until six months later, in December 2013, that the $150 million energy contract was executed. Exhibit 2.1 shows the timeline leading up to the energy contract's execution.

Exhibit 2.1
Airports Division's Energy Contract Timeline



Source: Department of Transportation

The energy contract requires Johnson Controls to provide energy efficiency services and equipment and other services at 12 airports, while delivering $518 million in guaranteed annual energy, operating, and maintenance cost savings during the life of the contract. Overall, the agreement includes 58 pages of terms and conditions, 335 pages of schedules, and was designed in compliance with suggested guidelines meant to protect the State's interests. However, we found that multiple reviews of the energy contract did not catch errors and an omission that weaken the division's ability to hold Johnson Controls accountable for delivering guaranteed savings.

Energy contract establishes responsibilities, guarantees, and benchmarks for protecting the State's interests, but could be improved

An investment grade audit is the technical and economic foundation of a successful guaranteed energy savings project. We found that the division's investment grade audit sets a firm foundation for the division's energy contract. The resulting energy contract also complies with best practices meant to ensure the success of such performance-based projects to protect the State's interests. However, we found that the division omitted a basic contract provision requiring formal acceptance of the Johnson Controls savings report after a 90-day report reconciliation period. This omission could weaken the division's ability to challenge or dispute savings issues.

Investment grade audit sets solid foundation for division's energy contract

According to the Department of Business, Economic Development and Tourism's (DBEDT's) *Guide to Energy Performance Contracting*, an investment grade audit needs to provide sufficient technical detail so that a technically competent reviewer can effectively assess the proposed energy savings project. The audit's results must establish and define appropriate consumption baselines for all utilities to allow for a realistic analysis of potential energy and cost savings. An investment grade audit should include the installed cost, annual cost savings, annual maintenance cost, payback period, lifespan, and environmental impact of each proposed energy and water saving measure.

We determined that the division's investment grade audit agreement complies with key suggested guidelines contained in DBEDT's energy contract guide. We also found that the division adequately reviewed the audit's report on proposed airports energy conservation measures. According to DBEDT's guide, an agency should conduct a rigorous technical review of an investment grade audit report and meet with the energy services company to discuss the proposed energy and water conservation measures and projected costs and savings. DOT's review included a director-appointed committee of department engineers and financial staff that held meetings, which included presentations by Johnson Controls. The committee evaluated whether proposed energy conservation measures met with criteria established by the DOT director prior to recommending a list of measures for adoption. DOT also used a third-party consultant to perform a technical review of the investment grade audit.

Exhibit 2.2 shows photovoltaic panels on a Honolulu International Airport rooftop that were among 13 energy conservation measures evaluated in the investment grade audit and which were ultimately installed by Johnson Controls.

Exhibit 2.2
Photo of Photovoltaic Panels on Honolulu International Airport Rooftop

Source: Office of the Auditor

Division's energy contract contains terms and conditions that protect the State's interests

A properly designed energy contract should contain a variety of terms and conditions to protect an agency's interests. These key components include defined roles and responsibilities for the parties involved, accountability for savings and costs for contractor performance, measurement and verification services and costs, and equipment warranties and ownership. We found that the division's energy contract contains terms and conditions that comply with DBEDT and U.S. Department of Energy guidelines.

A key component for ensuring savings and cost accountability are terms requiring that an energy services company guarantee the energy and water savings will cover all costs during the term of the contract. The contract should include a properly documented baseline and identify all savings components, including electricity and water costs, operations and maintenance savings, and all other costs to be covered by savings. If savings do not cover the costs in any given year, the contract should require the contractor to pay the difference. Any excess savings should be kept by the agency and should not be used to cover prior shortfalls or future guarantees. Last, the contract should include dispute procedures.

The division's energy contract complies with these provisions by establishing baseline consumption and conditions, identifying saving components, and identifying service and debt service costs to be covered by energy and cost savings. If annual cost savings are less than savings guaranteed, Johnson Controls must pay the division the difference. The division keeps excess savings beyond the guaranteed savings, and excess savings cannot be used by Johnson Controls to cover prior shortfalls or future guarantees. Procedures are in place to resolve savings disputes.

According to the DBEDT guide, an energy contract should have a measurement and verification plan that specifies procedures an energy services company must follow to demonstrate that installed energy conservation measures deliver guaranteed savings amounts. The U.S. Department of Energy provides that measurement and verification fees of 2 percent to 10 percent of annual cost savings are acceptable, and deliverables for services provided by an energy services company should be clearly defined. In addition, contracts should identify an annual savings verification reporting interval, define the reporting format of annual savings reports, and specify that data supporting measurement and verification activities be submitted with those reports. Contracts should also provide that an agency is responsible to verify savings calculations or claims in a report. Last, State Procurement Office contract administration guidelines stipulate that acceptance of a contract deliverable, such as the Johnson Controls annual savings report, should be formally documented.

We determined that the division's fees for measurement and verification services fall within an acceptable range of between 3.8 percent and 5.1 percent over the life of the contract. The energy contract requires Johnson Controls to deliver an annual savings report within 60 days of the end of each guarantee year, with the first savings report covering a six-month period from January to June 2014. Subsequent reports must cover a 12-month period from July to the following June with the final report covering a six-month period ending December 2032. The contract also specifies the format of the annual report and states that the division has 90 days to independently verify the annual savings report.

The energy contract lacks requirement to formally accept Johnson Controls savings report

We found a provision in the energy contract that is to the State's disadvantage and could weaken the division's ability to challenge or dispute savings issues discovered after the annual savings report's 90-day review period lapses. The annual savings report is a key document for the division, as it provides the means for measuring and verifying the energy, operating, and maintenance cost savings against guaranteed savings levels. If reported annual energy savings are less than savings guaranteed, Johnson Controls must pay the difference. Thus, documenting acceptance or non-acceptance of this report is critical to ensuring the department's accountability for monitoring guaranteed savings targets.

We found the division omitted from the energy contract, at Johnson Control's request, a requirement that it formally accept the company's annual savings report. Section 5.3.2 of the energy contract states that the division has 90 days to approve or reject the annual savings report upon receipt from Johnson Controls; however, the annual savings report is automatically accepted if the division fails to respond within that period. Automatic acceptance contradicts State Procurement Office guidance that acceptance or non-acceptance of a deliverable should be formal and written. Exhibit 2.3 shows the relevant energy contract provision.

Exhibit 2.3
Annual Savings Report's Automatic Acceptance Term

5.3.2. Reconciliation. Upon receipt of the Annual Savings Report, DOT-A shall have ninety (90) days to approve or reject the Annual Savings Report. In the event that DOT-A fails to respond within ninety (90) days from JCI providing the Annual Savings Report, the Annual Savings Report shall be deemed accepted. In the event that DOT-A disagrees with the Annual Savings Report, the parties shall attempt to resolve the dispute through cooperation and good faith negotiations. If the parties fail to reach resolution, they may seek any remedies available under Section 24.1 of this Agreement.

Source: Airports Division's energy contract

When we brought this to its attention, the division told us it agrees that the provision is not in the State's best interest and that a contract change order will be prepared to address the issue.

Review of energy contract failed to identify flaws that undercut $518 million savings guarantee

The accuracy and reasonableness of utility and other operational savings estimates are critical for ensuring accountability for energy contract cost savings. The division's engineering program manager told us that he and the DOT's deputy attorney general prepared the energy contract. The engineering program manager added that the contract language was further reviewed by multiple outside parties on behalf of the division, including outside legal counsel and an energy consultant. The final draft of the contract was signed by the transportation director.

Our review of the contract and its attachments found a flaw of conflicting contract termination dates. About $60 million in guaranteed savings occur after the "20-year" energy contract expires, in 19 years. This defect could make it more difficult for the division to enforce savings guarantees. However, we determined that the energy contract contains provisions that could potentially resolve the issue. At the time we ended fieldwork, the division said it was in the process of preparing a change order to rectify this deficiency.

About $60 million in guaranteed savings occur after the "20-year" energy contract expires in 19 years

According to DOT budget documents, the energy contract proposal solicitation, and a news release announcing the project, the division's deal with Johnson Controls lasts 20 years. However, we found that because of a drafting oversight, the energy contract actually ends after 19 years. Although savings guarantee details are specified in Schedule P of the contract—which runs for 20 years, from January 2014 to December 2033—the contract itself terminates in December 2032. As a result of these conflicts, a 12-month guarantee period encompassing nearly $60 million in guaranteed savings occurs after the contract terminates. Exhibit 2.4 shows the guaranteed savings schedule including the 12-month period that ends after the contract terminates in December 2032.

Exhibit 2.4
Energy Contract Guaranteed Savings Schedule

			Guaranteed Electric Cost Savings	Guaranteed Water Cost Savings	Other - Rebates	Other - Capital Avoidance	Operations Cost Savings	Total Cost Savings
Construction Years	Year 1	2014	1,032,182				871,767	$ 1,903,949
	Year 2	2015	8,916,992	453,236			2,461,492	$ 11,831,720
Performance Years	Stub Yr 2.5	2016	7,665,635	237,949			1,272,650	$ 9,176,234
	Year 3	FY 2017	15,714,552	487,796			2,583,480	$ 18,785,827
	Year 4	FY 2018	16,500,279	512,185			2,660,984	$ 19,673,449
	Year 5	FY 2019	17,325,293	537,795			2,740,813	$ 20,603,901
	Year 6	FY 2020	18,191,558	564,684			2,823,038	$ 21,579,280
	Year 7	FY 2021	19,101,136	592,919			2,907,729	$ 22,601,783
	Year 8	FY 2022	20,056,193	622,565			2,994,961	$ 23,673,718
	Year 9	FY 2023	21,059,002	653,693			3,084,810	$ 24,797,505
	Year 10	FY 2024	22,111,952	686,377			3,177,354	$ 25,975,684
	Year 11	FY 2025	23,217,550	720,696			3,272,675	$ 27,210,921
	Year 12	FY 2026	24,378,428	756,731			3,370,855	$ 28,506,013
	Year 13	FY 2027	25,597,349	794,568			3,471,980	$ 29,863,897
	Year 14	FY 2028	26,877,216	834,296			3,576,140	$ 31,287,652
	Year 15	FY 2029	28,221,077	876,011			3,683,424	$ 32,780,512
	Year 16	FY 2030	29,632,131	919,811			3,793,927	$ 34,345,869
	Year 17	FY 2031	31,113,738	965,802			3,907,745	$ 35,987,284
	Year 18	FY 2032	32,669,424	1,014,092			4,024,977	$ 37,708,493
	Year 19	FY 2033	34,302,896	1,064,797			4,145,726	$ 39,513,419
	Stub Yr 19.5	FY 2034	17,569,776	545,384			2,103,497	$ 20,218,657
Total			441,254,359	13,841,387	0.00	0.00	62,930,021.36	$ 518,025,768

Source: Airports Division's energy contract

The division was unaware of this discrepancy in dates. Initially, the division's engineering program manager said the conflict was a result of a rush to complete the contract. The program manager subsequently said the division had ample time to negotiate and finalize the contract, and that the discrepancies we found were due to the length of the contract and the time elapsed between writing various sections.

The division has a means for resolving energy contract defects

The energy contract contains provisions to resolve flaws identified by our audit. Changes related to work, which include matters of design, procurement, installation, and commissioning of energy conservation measures, are allowed via change order. Further, the core agreement can be amended. Regardless of whether the contract is modified through change order or amendment, both parties must mutually agree to any change in writing. As of the end of our fieldwork in mid-September 2015, the division reported that it was drafting a change order to the contract to resolve issues identified during our audit.

Lax Administration of Energy Contract Undermines Accountability for Savings Guarantees

The annual savings report submitted by Johnson Controls is the foundation for assessing project performance to ensure achievement of savings guarantees. Therefore, it is imperative that the division have the capability to thoroughly verify and analyze the report in a timely fashion. We found the division's incomplete review of the project's first savings report left it unaware of significant reporting problems that undermined accountability. Because of this, the division is unable to verify the achievement of $13.7 million in guaranteed savings covering the project's first two years. The division lacks a framework of training, procedures, and expertise needed to evaluate annual savings reports to ensure guarantees are met.

Division's inadequate review failed to identify flaws in first annual savings report

We found the division's lack of a comprehensive understanding of the energy contract's reporting requirements led to an inadequate review of Johnson Control's first annual savings report. As a result, the division was unaware that the initial report submitted by Johnson Controls covered an incorrect reporting period, and therefore did not comply with the energy contract's reporting requirements. The division automatically accepted the erroneous savings report because it was unaware of the need to accept or reject its contents within 90 days. Further, the report did not quantify $13.8 million in lost water savings, and misrepresented the reason the anticipated savings would not occur.

The annual savings report is the main vehicle for ensuring guaranteed savings are achieved

An annual savings report is meant to document whether implemented energy conservation measures have produced guaranteed savings. Therefore, annual reports are essential to maintaining a historical set of performance, inspection, and testing information for a project. Verified savings values presented in an annual savings report allow an agency to determine whether annual savings guarantees have been met. If savings guarantees are unmet, an annual savings report serves as the basis for an agency to collect payments for underachievement. The report provides a foundation for future reporting and enables an agency to verify measurements, calculations, and savings of all energy conservation measures once all equipment is installed and performing. However, the annual savings report provided by Johnson Controls was erroneous.

We reviewed the only annual savings report submitted by Johnson Controls. We found that the report conformed with suggested U.S. Department of Energy guidelines, but did not comply with the division's energy contract reporting requirements. For instance, under the energy contract's terms, Johnson Controls was required to submit its first savings report by September 2014. The report was also supposed to determine whether the contractor achieved its promise of guaranteed savings during a six-month period from January through June 2014. In its report, however, Johnson Controls provided a savings total that encompassed an erroneous time period of 12 months. As a result, the contractor did not meet the terms of the contract, and any analysis to determine whether first year guaranteed savings have been met is clouded.

We found that the division received the savings report in March 2015, which was seven months late. The report stated that first year savings were $3 million. Because the report relies on 12 months of savings to achieve a six-month savings guarantee, it is unsuitable for determining whether the guaranteed savings for the first year were achieved. When we notified the division's engineering project manager of the error, we were told that the agency and Johnson Controls were operating on a "common understanding" that the first guarantee year of the contract was 12 months. However, upon further examination of the contract's requirements, the project manager concluded that, contrary to his initial statement, the first guarantee year covered the first six months of the project and the cost savings presented in the report could not be verified. At the time we ended fieldwork in mid-September 2015, the division said efforts were underway to amend the energy contract to resolve the issue.

Airports Division allowed 90-day review window on erroneous first savings report to lapse

Johnson Controls made its first annual savings report available in February 2015; however, the division elected to receive it in March 2015, after which the division had 90 days to review and reconcile the report. The 90-day period was the agency's opportunity to verify the accuracy of the project's costs and savings against guarantees or reject the report. According to energy contract terms, once the 90-day reconciliation period expires, the annual savings report and the facts and figures therein are automatically accepted.

We found that as of September 2015, the division had not completed its review of the initial annual savings report. Moreover, the division was not aware that the 90-day reconciliation had expired until we raised the issue. By failing to verify the savings report on a timely basis and tacitly accepting its findings, the division surrendered its oversight duties. The division subsequently stated that it reached an agreement with Johnson Controls to extend the reconciliation period for the initial annual savings report. The division provided a draft, unexecuted change order that seeks to extend the first annual savings report review to December 31, 2015.

Johnson Controls' first savings report fails to identify $13.8 million in water savings that will not be achieved

The $518 million in total guaranteed savings agreed to in December 2013 includes water savings totaling $13.8 million over the life of the contract. However, Johnson Controls' initial annual savings report stated that a 2014 change in Honolulu Board of Water Supply (BWS) sewer credits policy would negatively impact water savings for the remainder of the energy contract. Johnson Controls said it anticipated making up that shortfall with excess energy savings. However, the report did not quantify the amount of savings lost.

The division accepted Johnson Controls' explanation for the lost savings at face value. When questioned, the division clarified to us that the $13.8 million in guaranteed water savings would not materialize due to a 2014 BWS policy change that eliminated evaporative water credits that would have reduced sewage costs. However, we determined that Johnson Controls misrepresented the reason for the lost water savings.

Our review of the timeline for the policy change cited by both Johnson Controls and the division found that the last change relating to evaporative water credits for sewer costs took effect July 1, 2012. Therefore, the policy change predates the agreements that launched this project. The investment grade audit between DOT and Johnson Controls, which identified energy and water conservation measures for airports, started in August 2012, about two months after the policy change took effect. The division's energy contract with Johnson Controls that contains the guaranteed water savings was executed in December 2013, about 18 months after the policy change took effect.

When questioned about this oversight, the division clarified that the change in policy occurred in 2012 and that the $13.8 million water cost savings estimate was based Johnson Controls' "incomplete understanding" of City and County of Honolulu billing practices. Despite this, Johnson Controls has already installed water meters, transmitters, and other equipment related to water conservation measures at an undisclosed cost. The division stated that Johnson Controls will honor the overall savings guarantee by replacing the lost water savings with additional electricity savings. As of the end of our fieldwork, the division told us the water savings issue was unresolved but asserted that some water savings may still be achieved.

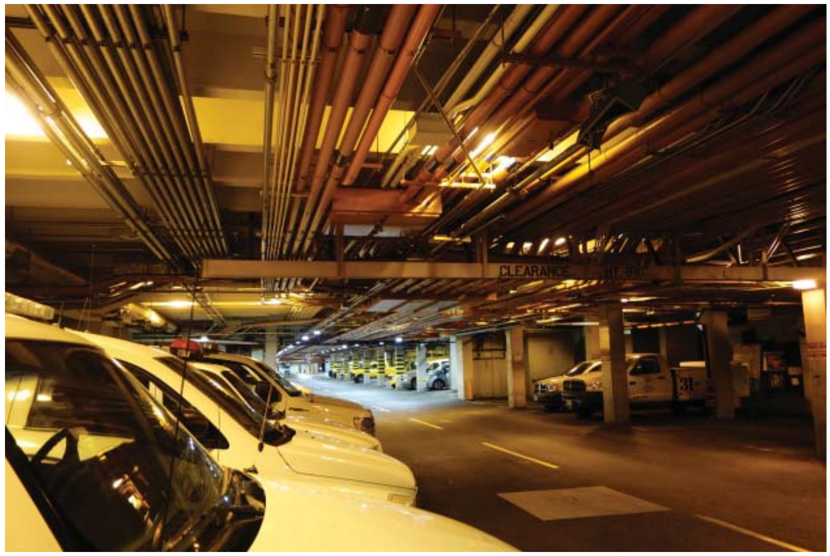
The division could not verify achievement of $13.7 million in guaranteed savings because it was unaware of inaccurate and late savings reports

State law requires energy contract annual savings to exceed costs. However, the division cannot ensure compliance with that statute because of inaccuracies contained in Johnson Control's first year's savings report and because a required, second annual savings report is overdue. Unaware of these deficiencies, the division was unable to take steps to resolve them.

The energy contract's first year savings guarantee of $1.9 million is unverifiable and may not have been achieved

Section 36-41, Hawai‘i Revised Statutes (HRS), requires that an energy contract's total payments not exceed total savings on an annual basis. In the event that actual annual verified savings are less than the annual amount guaranteed by an energy service company, the energy service company shall pay the agency the difference between the guaranteed amount and the actual verified amount. For the division's energy contract, savings are achieved through energy conservation measures that include replacing 74,500 light fixtures. Exhibits 2.5 and 2.6 show upgrades that replace older, high-pressure sodium lights with brighter, more efficient light-emitting diode or (LED) lights.

Exhibit 2.5
Photo of Honolulu International Airport Cargo Loading Area LED Light Upgrades



Source: Office of the Auditor

This photo shows a roadway to the interisland baggage claim unloading zone at the Honolulu International Airport where upgrades were under construction. Improvements in lighting quality between the old lighting (foreground) and the new, upgraded lighting (background) were readily observed.

Exhibit 2.6
Photo of Honolulu International Airport Arrivals LED Light Upgrades

Source: Office of the Auditor

This photo shows the arrivals curbside pickup area at Honolulu International Airport where installation of new LED lighting is complete.

Because Johnson Controls' first annual savings report mistakenly covers the first 12 months of the project rather than the first six months, the division is unable to demonstrate whether the project's first year guaranteed savings of $1.9 million matched or exceeded annual project costs as required under state law.

Division was unaware that Johnson Controls' report on second year $11.8 million savings guarantee was overdue

Johnson Controls was required to submit a second annual savings report in August 2015, according to energy contract terms. However, we found that no second annual report had been delivered as of September 2015. Further, the division was unaware that the deadline for the second savings report had expired until we raised the issue. The division's failure to ensure Johnson Controls filed the savings report on time undermines accountability for ensuring that the guaranteed $11.8 million savings for the second year of the energy contract were achieved. Accordingly, the division is unable to demonstrate that the project's second year of savings exceeded costs as required by law. When we ended fieldwork in mid-September 2015, the division reported that efforts were underway to adjust the energy contract's terms to resolve the reporting issue. However, we note that at the time, the division had yet to complete its review of Johnson Controls' first annual savings report.

The division lacks a framework to evaluate accuracy of energy contract project savings

We found that the division lacked basic knowledge of key energy contract requirements, which was compounded by an informal process for reviewing Johnson Controls' annual savings report. Reviews of the first annual savings report were deferred until more than half of a 90-day reconciliation period had elapsed. Moreover, contracts were not in place for consultants who were needed to aid the division's review of the annual savings report.

Informal process and unfamiliarity led to untimely reconciliation of annual savings report

The division has a 90-day window to review and reconcile the facts and figures presented in the annual savings report. Thus, a timely review is needed to ensure guaranteed savings are achieved; and if not, that Johnson Controls pays the division the difference between the guaranteed amount and the actual verified amount. However, we found the division lacked a formal, documented process for reviewing the annual savings report.

The division's inefficiency was exemplified as follows:

- A third-party consultant hired to review the report was not provided a copy until 49 days into the reconciliation period; and

- The in-house audit staff for the division was only directed to review the report on the 85th day of the reconciliation period.

As of September 2015, the division was seeking to extend the review period for the initial savings report to the end of December 2015, nine months after the report was received. Written procedures could improve the annual savings report review process and aid in ensuring such reviews are timely.

We also found that division staff were unfamiliar with the reporting and reconciliation requirements of the contract. For example, the division was not aware that the 90-day reconciliation for the first savings report had expired and thus the report could be deemed accepted under the contract. We found there was no formal training of division staff on how to understand and interpret Johnson Control's annual savings report. Such training will not occur until after construction is completed at the end of this year, even though the performance period of the energy contract started in 2014.

The division said energy contract discrepancies that led to the misunderstanding of contractual requirements were caused in part by the voluminous nature of the contract, which is 3,479 pages long. At the same time, the division's engineering project manager said there was "ample" time to review the energy contract before it was executed. We note that the definitions and requirements relating to reporting and reconciliation of reports appear within the first 27 pages of the contract.

Energy consultant contract expired in August 2015, leaving the division without technical expertise

The division told us it would continuously monitor progress and review reports through, among others, a third-party consultant. The division identified the consultant as the same one who provided technical expertise during the procurement and design phases of the energy performance contract. The division reiterated that it intends to use that consultant to aid in an ongoing technical review of Johnson Control's annual savings report. Despite its intention to keep using the consultant, the division allowed a contract with the consultant to expire in mid-August 2015, even though the review of the Johnson Controls savings report was incomplete. The division said DBEDT plans to use the same consultant to fulfill the division's consultant needs. However, no documentation exists between the division and DBEDT to account for the services because, according to the division, the services are authorized by statute and do not require the expenditure of division funds. Lack of a formal agreement between the division and the consultant is problematic because the consultant will not be held directly accountable for reviewing and reconciling of the energy contract's first annual savings report.

Division has yet to solicit bids for energy contract auditing services

The division is currently using in-house audit staff to review Johnson Controls' annual savings report figures against past utility billings. Because that review puts a strain on in-house resources, the division said that such services will be contracted to an outside agent in the future. However, as of September 2015, the division had yet to solicit bids for this work, even though the contract had entered into its second performance reporting period. A lack of a supportive framework inhibits the division's ability to reconcile Johnson Controls' annual savings report in a timely manner.

Conclusion

The Department of Transportation's Airports Division's energy contract is a model for state agencies seeking an innovative, low-risk way to upgrade facilities while lowering energy costs. We found that the division's foundational investment grade audit and subsequent energy contract terms comport with best practices to protect the State's interests. However, an inadequate review by multiple internal and outside reviewers failed to detect contract flaws that could undermine achievement of the contract's total $518 million savings guarantee. We also found that the division has not verified its contractor's first annual savings report and was unaware that the second report was overdue. Without proper verification, the division cannot ensure that contract obligations are being met. These deficiencies could undermine the public's confidence in the division's ability to ensure the energy contract pays off. It is encouraging that the division has already begun to fix problems identified in our audit. However, the division needs to follow through on that effort in a timely manner to ensure Johnson Controls is held accountable for achieving guaranteed savings, and to confirm that the State's centerpiece energy contract is indeed a model for other agencies seeking to execute similar energy performance agreements.

Recommendations

1. The director of transportation should:

   a. Review the DOT-Harbors and -Highways energy contracts with Johnson Controls to ensure they do not contain flaws found in the Airports Division’s energy contract, and revise those two agreements, as needed, to ensure that the:

      i. Duration of those contracts align with guaranteed savings schedules so that all savings are achieved within the contract term; and

      ii. Contracts integrate State Procurement Office guidelines calling for formal and written acceptance or rejection of deliverables, such as energy contract annual savings reports;

   b. Establish procedures for review and independent verification of annual savings reports delivered by Johnson Controls to ensure that such analysis is completed within required reconciliation periods; and

   c. Ensure training is provided so that staff have sufficient expertise on measurement and verification processes, and other forms of performance and savings monitoring.

2. The Airports Division deputy director should:

   a. Amend the division’s energy contract to:

      i. Align guaranteed savings with the contract terms and conditions while holding to the contract’s $518 million savings guarantee; and

      ii. Integrate State Procurement Office guidelines so that the acceptance or rejection of Johnson Controls’ annual savings report is by formal and written means;

   b. Review the energy savings measures in the contract with Johnson Controls to ensure the anticipated cost savings are reasonable and applicable throughout the contract term;

   c. Ensure staff are trained to understand measurement and verification processes and other forms of performance and savings so they can properly interpret Johnson Controls’ annual savings report;

d. Follow-through on plans to procure outside audit consultants to reconcile annual savings reports;

e. Ensure third-party consultants providing review and verification of Johnson Controls' annual savings reports are on contract with, or are directly accountable to, the division; and

f. Establish procedures for review and independent verification of Johnson Controls' annual savings report to ensure the analysis is completed within the 90-day reconciliation period.

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Response of the Affected Agency

Comments on Agency Response

We transmitted a draft of this report to the Department of Transportation on November 25, 2015. A copy of the transmittal letter is included as Attachment 1. The department's response, dated December 8, 2015, is included as Attachment 2.

The department said it recognized the challenge we faced in understanding and auditing this project in a short time period and appreciated our effort to understand the subject and produce this report. The department agreed with all our recommendations and said it has begun implementing them. Among other things, the department said it has amended the energy contract to correct the flaws we identified.

The department also provided a number of comments, including its assertion that the energy contract firmly defines a 20-year term. However, the department's comment merely reinforces the need to revise the contract's definitions since the language cited by the department conflicts with a contract duration term established elsewhere within the contract. In response to our finding that it allowed a necessary third-party consulting contract to expire in August 2015, the department said it has access to the consultant's services via a contract between the consultant and the Department of Business, Economic Development, and Tourism. The department misses our point that this indirect relationship undermines accountability because the consultant is not directly responsible to the department for services provided in support of the energy contract. Accordingly, we stand by our finding. The department also acknowledged our finding that Johnson Controls' first savings report failed to identify $13.8 million in water savings that will not be achieved.

ATTACHMENT 1

STATE OF HAWAI'I
OFFICE OF THE AUDITOR
465 S. King Street, Room 500
Honolulu, Hawai'i 96813-2917

JAN K. YAMANE
Acting State Auditor

(808) 587-0800
FAX: (808) 587-0830

November 25, 2015

COPY

The Honorable Ford Fuchigami
Director
Department of Transportation
Aliiaimoku Building
869 Punchbowl Street, Room 509
Honolulu, Hawai'i 96813

VIA EMAIL ONLY: ford.n.fuchigami@hawaii.gov

Dear Mr. Fuchigami:

Attached for your information is a PDF of our confidential draft report no. 4, *Audit of the Department of Transportation's Energy Performance Contracts: Improved Oversight Is Needed to Ensure Savings*. We ask that you telephone us by Tuesday, December 1, 2015, on whether or not you intend to comment on our recommendations. If you wish your comments to be included in the report, please submit your hard copy response to our office no later than 12:00 p.m., Wednesday, December 9, 2015.

The Governor and presiding officers of the two houses of the Legislature have also been provided PDF copies of this confidential draft report.

Since this report is not in final form and changes may be made to it, access to the report should be restricted to those assisting you in preparing your response. Public release of the report will be made solely by our office and only after the report is published in its final form.

Sincerely,

Jan K. Yamane
Acting State Auditor

Attachment

DAVID Y.IGE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
DIR 1.11076

December 8, 2015

RECEIVED

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OFC. OF THE AUDITOR
STATE OF HAWAII

Ms. Jan K. Yamane
Acting State Auditor
Office of the Auditor
465 S. King Street, Room 500
Honolulu, Hawaii 96813

Subject: Department's Response to the Report on the Audit of the Department of Transportation's Energy Performance Contracts

Dear Ms. Yamane:

The Airports Division Energy Performance Contract was a complex undertaking involving unique procurement, highly technical subject matter and innovative financing which spanned several years of preparation and implementation. The Department of Transportation (DOT) recognizes the challenge the Auditor's Office faced in understanding and auditing this project in a four month time period and acknowledges and truly appreciates the effort made and understanding gained by the Auditors in producing the report.

Noteworthy acknowledgements in the report include:

- The Airports Division energy contract terms and conditions complied with Department of Business, Economic Development and Tourism (DBEDT) and U.S. Department of Energy guidelines
- The Investment Grade Audit (IGA), which is the technical and economic foundation of a successful guaranteed energy savings project, set a firm foundation for the Airports Division energy contract
- The IGA was adequately reviewed by the Airports Division including a rigorous technical review
- The above efforts resulted in an energy contract which complies with best management practices meant to insure the success of such performance-based projects to protect the State's interests.

Most importantly the report recognizes the Airport Division's energy contract, the largest such state agreement nationwide, could serve as a model for other agencies: *"The Department of Transportation (DOT)'s Airports Division's energy contract with Johnson Controls, Inc. presents a promising approach to addressing a host of current and future energy needs. In addition to cutting the division's energy use by 49 percent, the agreement is expected to result in improved lighting and cooling at airport facilities statewide, while furthering the State's goal of reducing oil dependency. At the same time, the project should generate net savings of $155 million with little risk to the State."*

The DOT considers the Airports Division's energy savings project a major accomplishment and hopes other agencies will follow with similar projects. Along with the benefits cited by the Auditor's Office the DOT also received the following benefits:

- $518 million guaranteed savings in energy costs over the two-year construction period and eighteen-year performance period; actual savings realized are estimated to be 8% higher
- 319 union and 87 management, administrative and professional jobs created in Hawaii
- $757.8 million added in economic development
- $5.73 million contribution to the general fund through payment of the general excise tax
- $4.3 million in energy efficiency rebates from Hawaii Energy
- 74,500 light fixtures and 372 transformer replacements
- 8,748 (2.65 kW) solar photovoltaic panels installed (with this installation, Airports will have a total of nearly 5.2 MW of photovoltaics installed)
- Upgrades and replacement of chilled water and air conditioning systems; installation of smart controls to maximize efficiency, indoor air quality, and occupant comfort
- Addresses deferred maintenance such as roof repairs to accommodate the upgrades
- Fulfills half of Hawaii's commitment to the US Department of Energy, Performance Contracting Accelerator Program, under the Better Buildings Initiative, as well as exceeds Hawaii's commitment to the Clinton Global Initiative Commitment to Action
- Recognized as the largest single state contract for energy performance contracting in the nation by the Energy Services Coalition (ESC); Hawaii was awarded the ESC's *Race to the Top* award for the state with the highest per capita investment using performance contracting
- Savings measures were installed at 12 airports, 75% of the work will be performed at the Honolulu International Airport, 17% at Kahului Airport, 3% at Hilo International Airport, 3% at Lihue Airport, 1% at Kalaeloa Airport, and the remaining airports are less than 1%
- Over 20 years, the energy saved could power 123,791homes (Source: DBEDT)

The DOT considers an audit to be a management tool to identify areas for improvement. The DOT acknowledges and agrees with all the recommendations in the report and has already begun implementation of the recommendations.

The DOT appreciates the opportunity to comment on the subject draft report which was provided on November 25, 2015. The DOT provides the following comments on the report.

Timeliness of Savings Reports and a 19 vs. 20 year Contract

Several findings were based on an error in the definition of the Guarantee Year contained in Section 1.1.44 of the energy contract which has been rectified via an executed contract amendment. The first two years of the contract were to construct the energy savings improvements for which a notice to proceed was issued on January 6, 2014. At the end of the construction period on January 6, 2016 the performance or energy savings period starts. The performance period needs to match the state fiscal year since savings are realized in electrical appropriations and those savings are used to pay for some maintenance services related to the contract. Therefore, the first "year" of the performance period is only six months from January 2016 through June 2016. Thereafter from July 2016 to June 2033 the performance period years are from July to June to match the state fiscal years, and the last "year" to December 2033 to make twenty full years is again six months. The definition erroneously placed the initial six month period at year zero instead of at year three.

With the definition correction in place the savings reports are no longer "late" but have been submitted at the proper time, within 60 days after each guarantee year, with the first year having been submitted prior to the end of February 2015 and the second report not due until February 2016. This correction addresses the following findings in the report: page 11, paragraph 3; page 18, paragraph 4; page 19, paragraphs 2 and 3; page 20, paragraph 1; page 23 paragraphs 1 and 2; page 24, paragraph 3; and page 25 paragraph 3.

The erroneous guarantee definition also brought into question the contract length with the audit citing a possible 19 vs. 20 year duration however, the contract term definition contained in Section 1.1.87 firmly places the contract duration at 20 years: "Term shall mean the time period commencing from the issuance of the Notice to Proceed through the twentieth (20th) anniversary thereof, or as may be earlier terminated pursuant to the provisions of this Agreement."

The contract also contains a table titled Schedule P which shows by year the annual savings, expenses and debt service and clearly shows the 6 month "years" starting at year 3 and year 19.5. Of the 3,479 page contract Schedule P was the most referred to document during contract formulation, project financing and construction savings reporting. This resulted in the contracted parties having a common understanding of the contract 20 year term, when the six month "years" should occur, and when the energy savings reports should be submitted. The parties administered the contract based on that mutual understanding which correlates to the current amended and corrected contract and the contract Schedule P which always showed correctly when the six month "years' occurred.

Contract Provision for Automatically Accepting the Energy Savings Report After the 90 Day Review Period if DOT Does Not Respond.

The DOT acknowledges the finding that the State Procurement Office Guideline recommending a formal written acceptance of a vendor submittal in all circumstances would not be in effect if the DOT did not respond during the 90 day review period. This contract provision has been changed via a contract amendment to require DOT provide formal written acceptance of the energy savings report even after the 90 day review period expires. The DOT appreciates the finding so the contract improvement could be made.

Acceptance of the First Energy Savings Report

The DOT formally sent back with questions the first year savings report on May 7, 2015 which is within the 90 day contract review period and is waiting for Johnson Controls' complete response before formal acceptance. The DOT utilized the services of a third-party consultant with national expertise to review the savings report in a timely manner which provided the questions prior to May 7, 2015.

The Auditor's Office report cites the third-party consultant contracting vehicle expiring in August 2015 leaving the Airports Division without a technical review resource. However, DOT has access to the same consultant's services via a contract between the consultant and DBEDT in effect since May 2014 for energy performance contract support services. The support for energy savings contract administration has been and continues to be provided by DBEDT to DOT and other state agencies in accordance with their statutory framework, mission goals and availability of funds. The DOT will also contract for additional savings report review and audit services prior to the submission of the 2nd energy savings report in February 2016.

Via the DBEDT contract, the third-party consultant is currently assisting DOT Airports, Highways and Harbors Divisions with developing standards for submission and acceptance of energy savings reports for DOT which will address the findings regarding DOT's lack of structure and training in this area. While these standards are being developed the Airports Division's maintenance engineers and internal auditing staff are able to perform global checks of the energy savings through analysis of Hawaiian Electric Company invoices. So far these checks have shown energy savings above the amounts called for in the contract.

Johnson Controls First Savings Report Fails to Identify $13.8 million in Water Savings that will not be Achieved

DOT acknowledges the finding on this issue. DOT still allowed the equipment related to water conservation measures to be installed because the equipment provides important data on the overall operation of the chilled water plant. In addition, Johnson Controls is in ongoing discussions with the City and County of Honolulu Department of Environmental Services to look at alternatives for recognizing the evaporative water credits since the Airport's water system is unique.

Regardless of the outcome Johnson Controls will honor and guarantee the contractual water savings amount and has already implemented additional electrical savings measures to cover the water savings.

Lax Administration Energy Contract Undermines Accountability for Savings Guarantees

The findings in this section were addressed above. The DOT would like to suggest the usage of another term in lieu of the word "Lax" whose dictionary definition states "not sufficiently strict, severe or careful" with synonyms including " negligence, remiss and careless." More appropriate may be the word "Timeliness" since the promptness of some DOT actions were called into question. The DOT also suggests that the word "Timeliness" is better applied than "Inadequate." The DOT staff and the rest of the team involved in procuring, implementing and administering this contract are hard working, highly dedicated and far from lax. Any shortcomings are more likely the result of workload and staffing shortages. As noted in the draft report, "Airports Division's '20-year' energy contract is flawed, but still protects the State's interests." DOT has amended the contract to correct the flaws and the State's interests have been and will continue to be fully protected in a diligent manner by DOT staff and the project team.

In Conclusion

Although the concept of energy savings performance contracts has been around for decades implementation of projects in Hawaii is relatively new. For Hawaii state government, the Department of Accounting and General Services has implemented three projects, Honolulu Community Colleges one project and DOT three projects. The DOT has found its biggest challenge to be educating internal and external parties involved in the statutory requirements, contract development, project implementation process, and benefits of an energy savings project. The DOT appreciates the efforts of the Office of the Auditor in writing this report which will facilitate education of anyone involved in implementing an energy savings project helping Hawaii reach its goals for clean energy through energy efficiency, conservation measures and renewable energy generation.

Sincerely,

FORD N. FUCHIGAMI
Director of Transportation