



September 20, 2010

## MEMORANDUM

**TO:** District Board of Trustees  
**FROM:** Barbara R. Sloan, President *BRS*  
**SUBJECT:** 2010 Energy Savings Statute 10% Reduction Goal

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### Item Description:

This report addresses the new 2010 Florida Statute outlining the 10% energy savings goal for all colleges and state universities. It also gives an overview of TCC's efforts to reduce energy usage and costs as demonstrated during the College's previous two years under the Energy Savings Performance Contract agreement with Johnson Controls that was begun in August 2008.

### Overview:

Florida Statute 1013.231:

1. Each Florida college and state university shall strive to reduce its campus wide energy consumption by 10 percent. While savings may be accrued by any means, the goal shall be to implement energy use policies or procedures or both and any equipment retrofits that are necessary to carry out this reduction. The reduction may be obtained by either reducing the cost of the energy consumed or by reducing total energy usage, or a combination of both.
2. Energy consumption expenditures incurred during the 2007-2008 fiscal year shall be used to establish the benchmark for the 10-percent goal. If a Florida college or state university can document that it has implemented energy use policies or procedures in the 2008-2009 fiscal year or the 2009-2010 fiscal year that resulted in reduction of energy usage or costs, those reductions may be counted towards the 10-percent goal.

### Johnson Control Institute Executive Summary:

Tallahassee Community College (TCC) and Johnson Controls Institute (JCI) entered into a Performance Contracting partnership on August 29th, 2007 in an effort to reduce energy and water costs.

Installation of all energy upgrades was formally accepted on August 31, 2008. This report documents the energy savings as a result of the project retrofits completed by JCI during the performance period year 2 (up to December 31, 2009) based on the annual reconciliation requirements specified under the contract.

JCI installed various improvements at the TCC campus, including lighting upgrades, water conservation upgrades, and additional control systems upgrades. Post-installation measurements were performed by the end of the installation period in order to verify the expected usage of the lighting and water upgrades.

The set of FIMs (Facility Improvement Measures) provides a cost reduction in energy, water, operation & maintenance (O&M) costs that totaled \$458,741 over the calendar year January 1, 2009 thru December 31, 2009. This cost reduction accounts for a 2.93% rate structure increase with respect to the rates used in year 1 report.

**Salient Facts:**

In terms of energy savings, a total of 3,309,950 kWh was saved during the Year 2 period. This represents a 24% reduction with respect to the annual baseline reflected in the contract. On water savings, a total of 12,078 kgal was saved in the same period, representing a 46% reduction with respect to the combined annual baseline on domestic/sewer and irrigation baselines reflected in the contract.

**Past Actions:**

None.

**Future Actions:**

The Board will continue to receive annual energy savings update reports.

**Funding/Financial Matters:**

The Performance Contracting project is self-funding through guaranteed energy savings.

**Staff Resource:**

Teresa Smith

**Recommended Action:**

Provided as information only.

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## Executive Summary

Tallahassee Community College (TCC) and Johnson Controls (JCI) entered into a Performance Contracting partnership on August 29<sup>th</sup>, 2007 in an effort to reduce energy and water costs.

Installation of all the energy upgrades was formally accepted on August 31<sup>st</sup>, 2008, with the exception of the Surveyor Software installation for computers power management, which has been partially implemented as of December 31<sup>st</sup>, 2008. This report documents the energy savings as a result of the project retrofits completed by JCI during the performance period year 2 (up to December 31<sup>st</sup>, 2009) based on the annual reconciliation requirements specified under contract.

JCI installed various improvements at the TCC campus, including Lighting upgrades, Water Conservation upgrades, and additional Control Systems upgrades. Post-installations measurements were performed by the end of the installation period in order to verify the expected usage of the lighting and water upgrades. For the Optimization and Control System for Ventilation, daily trended data have been reviewed and analyzed to ensure the system is operating as intended. A collaborative analysis and effort was performed regarding the Surveyor program to make sure the benefits obtained from this measure are evaluated and documented in this reconciliation report.

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In terms of Energy Savings, a total of 3,309,950 kWh were saved during Year 2 period. This represents a 24 % reduction respect to the annual baseline reflected in the contract. On Water Savings, a total of 12,078 kgal were saved in the same period, representing a 46% reduction respect to the combined annual baseline on domestic/sewer and irrigation baselines reflected in the contract.

### Year 2 Financial Summary

The following table summarizes the Year 2 Project Financial Overview:

**Table 1: Year 2 Project Financial Overview**

Operational Savings	\$ 26,817
Energy/Water Savings	\$ 431,924
Performance Period Year 2 Total Savings	\$ 458,741
Performance Period Year 2 Guarantee	\$ 401,276
Savings Surplus	\$ 57,465



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The following utility rates have been used in the calculations of performance period year 2:

- Energy Cost: \$0.092/kWh.
- Demand Cost: \$7.77/kW-month.
- Domestic Water Rate: \$1.33/kgal
- Sewer Rate: \$3.17/kgal

The Overall Project Financial Overview is summarized in Table 2. Every year this table will be updated accordingly to show the overall performance on an annual basis for the entire 10 year term compared to the guarantee. This table shows a surplus in the performance period Year 2 of \$57,465 over the corresponding guarantee term of the project.



**Table 2: Overall Project Financial Overview**

Performance Period	Guaranteed Annual Energy/Water Savings (a)	Annual Energy/Water Savings (b)	Guaranteed Annual Operational Savings (d)	Annual Operational Savings (e)	Guaranteed Total Annual Savings f=(a+d)	Total Annual Savings g=(b+c)	Annual Savings Surplus (g-f)
Installation period			\$				
1*	\$24,642	\$234,089	-	\$10,000	\$24,642	\$244,089	\$219,447
2	\$121,315	\$139,291	\$8,632	\$8,697	\$129,947	\$147,988	\$18,041
3	\$374,862	\$431,924	\$26,414	\$26,817	\$401,276	\$458,741	\$57,465
4	\$386,108		\$26,942		\$413,050		
5	\$397,691		\$27,481		\$425,172		
6	\$409,622		\$28,031		\$437,653		
7	\$421,911		\$28,591		\$450,502		
8	\$434,568		\$29,163		\$463,731		
9	\$447,605		\$29,746		\$477,351		
10	\$461,033		\$30,341		\$491,374		
10	\$717,493		\$48,212		\$765,705		
Totals	\$4,196,850	\$805,304	\$283,553	\$45,514	\$4,480,403	\$850,818	\$294,954

\* Given the contractual requirements for annual reconciliation at the end of each Calendar Year, Year 1 Guarantee has been pro-rated to a performance period of 4 months in order to be able to compare performance period between September 1st, 2008 (Commencement Date) and December 31st, 2008 and a 4-month performance period equivalent guarantee. This allows evaluating a 4-month performance period for initial year 1.

The Year 1 (first 12-month performance period) Utility savings guarantee was established in \$363,944 and Operational savings guarantee in \$25,896, which pro-rated in a 4-month period corresponds to a 4-month performance period guarantee of \$121,315 and \$8,632 respectively. In order to maintain total guarantee, Year 10 values reflect an extended final year for the 8 months extracted from the initial Yr 1 pro-ration.

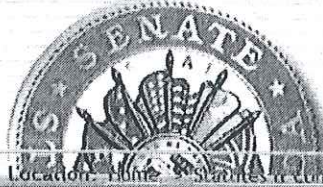


The following table presents a summary of the Energy, Water and Operational Savings for each FIM included in this project during Year 2.

**Table 3: Summary of Utility and Operational Savings for each FIM during Year 2**

<b>FIM</b>	<b>Description</b>	<b>Operational Yr 2 Period Savings</b>	<b>Utility Yr 2 Period Savings</b>	<b>Total Year 2 Savings</b>
CSU1	Optimal Start & Scheduling		\$38,019	\$38,019
CSU3	Vending Energy Control		\$588	\$588
CSU4	Dehumidification & Ventilation		\$20,750	\$20,750
CSU2	Controls & Commissioning Optimization	\$20,586		\$20,586
LSU1	Interior Lighting/Sensor Upgrades	\$2,846	\$290,110	\$292,956
LSU2	Exterior Lighting Upgrades		\$3,963	\$3,963
WSU1	Water Conservation	\$3,385	\$26,297	\$29,683
WSU2	Irrigation Upgrades		\$9,010	\$9,010
ASU3	Computer Power Management		\$43,186	\$43,186
<b>Total</b>		<b>\$26,817</b>	<b>\$431,924</b>	<b>\$458,741</b>

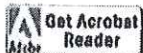




September 03, 2010

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## The 2010 Florida Statutes

Title XLVIII  
K-20 EDUCATION CODEChapter 1013  
EDUCATIONAL FACILITIES[View Entire Chapter](#)**1013.231** <sup>1</sup>Florida college and university energy consumption; 10-percent reduction goal.—

(1) Each <sup>1</sup>Florida college and state university shall strive to reduce its campuswide energy consumption by 10 percent. While savings may be accrued by any means, the goal shall be to implement energy use policies or procedures or both and any equipment retrofits that are necessary to carry out this reduction. The reduction may be obtained by either reducing the cost of the energy consumed or by reducing total energy usage, or a combination of both.

(2) Energy consumption expenditures incurred during the 2007-2008 fiscal year shall be used to establish the benchmark for the 10-percent goal. If a <sup>1</sup>Florida college or state university can document that it has implemented energy use policies or procedures in the 2008-2009 fiscal year or the 2009-2010 fiscal year that resulted in reduction in energy usage or costs, those reductions may be counted towards the 10-percent goal.

(3) Each <sup>1</sup>Florida college and state university shall submit a report to the Governor, the Speaker of the House of Representatives, and the President of the Senate by January 1, 2011, describing how they have met or plan to meet the 10-percent energy consumption reduction goal.

History.— s. 30, ch. 2010-155.

<sup>1</sup> Note.— Section 21, ch. 2010-70, directs the Division of Statutory Revision to prepare a reviser's bill to substitute the term "Florida College System institution" for the terms "Florida college," "community college," and "junior college" where those terms appear in the Florida K-20 Education Code.

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