

**COUNTY OF MILWAUKEE**  
**INTER-OFFICE COMMUNICATION**

**DATE:** June 29, 2012

**TO:** Supervisor Marina Dimitrijevic, Chairperson, County Board of Supervisors  
Supervisor Willie Johnson, Co-Chair, Finance, Audit, & Personnel Committee  
Supervisor David Cullen, Co-Chair, Finance, Audit, & Personnel Committee

**FROM:** Craig Kammholz, Fiscal and Budget Administrator, Department of Administrative Services

**SUBJECT:** Guaranteed Energy Savings Performance Contracting (GESPC) to Repair County Building Infrastructure – Proposal from Johnson Controls, Inc.  
Project # 5081-8479, Phase 2, Part B

**Request**

This report provides a summary of the due diligence analysis performed by the Department of Administrative Services – Fiscal Affairs (DAS) for Johnson Controls Inc. (JCI), Phase 2 Guaranteed Energy Savings Performance Contract (GESPC) proposal for the County Correctional Facility South (CCFS) building.

**Background**

JCI's Phase 2 proposal had originally included the installation of stand-alone natural gas boilers and chillers at the Children's Court Center, Parks Administration Building, and Fleet Garage at a cost of approximately \$3.6 million, which was a significantly higher cost than previous performance contracting projects. The conversion to natural gas units would have replaced the use of steam from the WE Energies plant. The overall savings was based on an assumed lower natural gas cost rather than actual utility usage. Considering the fluctuations of steam and natural gas utilities as well as the cost and complexity of the steam to gas conversion (which was deemed to be better served as a possible 2013 capital project), JCI and staff from the Architecture, Engineering and Environmental Services Section of the Department of Administrative Services – Facilities Management Division (AE&ES) submitted alternative projects for the same facilities at a cost of approximately \$1.8 million.<sup>1</sup> During the April 2011 County Board cycle, these alternative projects were approved, leaving approximately \$1.8 million available for other performance contracting projects.

In August of 2011, the County Board authorized JCI to conduct a Technical Energy Audit (TEA) for the CCFS. The TEA was completed in February of 2012 and also included a GESPC project development scenario. The TEA contract commits Milwaukee County to enter into a GESPC if the Energy Services Company (ESCO) provides, to the satisfaction of County staff, that the program can meet the County's terms of energy and water use savings. The cost of TEA will be rolled into the cost of the GESPC. Should the County decide not to proceed with a GESPC, the County is required to reimburse the ESCO for expenses actually incurred for the TEA (estimated at approximately \$55,000).

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<sup>1</sup> Children's Court Center: HVAC upgrades, solar power - hot water system, lighting upgrades, plumbing upgrades and vending misers; Fleet Management: HVAC upgrades, lighting upgrades, plumbing upgrades and vending misers; Parks Administration: vending misers.

As a result of the CCFS TEA, in the June 2012 County Board Cycle, the AE&ES Director requested authorization to prepare, review, approve and execute (contingent upon DAS' due diligence review) all contract documents as required to hire JCI to provide Phase 2 GESPC to repair and renew Milwaukee County building infrastructure based on the energy audits performed at the CCFS. The estimated cost of CCFS project is \$1,798,350, which would be funded by the remaining \$1.8 million balance (noted previously).

**Issue**

The AE&ES and JCI staff worked with Sheriff staff to develop energy conservation measures (ECM) with the most efficient payback timeline. The table below outlines the proposed ECMs as well as the overhead and profit submitted by JCI:

<u>Facility</u>	<u>Energy Conservation Measure</u>	<u>\$ Amount</u>
CCFS	Demand Control Ventilation Upgrade	\$ 38,163
CCFS	Constant Volume to Variable Air Volume AHU Upgrade	\$ 1,202,923
CCFS	Ozone Laundry System Upgrade	\$ 126,000
CCFS	Kitchen Exhaust Hood Upgrade	\$ 62,861
<b>TOTAL ECM:</b>		<b>\$ 1,429,947</b>

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	<u>Overhead &amp; Profit</u>	<u>\$ Amount</u>
	Profit @ 15% of the Total ECM Costs:	\$ 214,492
	Overhead @ 10% of the Total ECM Costs:	\$ 142,995
<b>TOTAL Overhead and Profit:</b>		<b>\$ 357,487</b>

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<b>TOTAL Project Costs:</b>	<b>\$ 1,787,434</b>
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The table above shows a discrepancy of just under \$11,000 between the initial calculated project costs (\$1,798,350) and the project costs as detailed in the table above (\$1,787,434). AE&ES and JCI staff will work together to reconcile this issue prior to the execution of a final agreement.<sup>2</sup>

The projected annual cost of the loan is listed in the table on page 3, along with the projected annual savings. The annual cost includes principal and interest costs for installation, project management, 5-year service contract, and Milwaukee County staff time associated with implementing the project.

<sup>2</sup> This discrepancy does not significantly affect the annual principal and interest costs as cited on page 3 of this due diligence report. For instance, the \$1,787,434 figure would result in annual principal and interest costs of \$231,790, rather than the \$233,205 (based on project costs of \$1,798,350) as cited on page 3.

YEAR	Projected Annual Savings	Annual Cost Principal and Interest	Net Savings
Year 1 (2013)	\$199,931	\$233,205	(\$33,274)
Year 2 (2014)	\$205,929	\$233,205	(\$27,276)
Year 3 (2015)	\$212,107	\$233,205	(\$21,098)
Year 4 (2016)	\$218,470	\$233,205	(\$14,735)
Year 5 (2017)	\$225,024	\$233,205	(\$8,181)
Year 6 (2018)	\$231,775	\$233,205	(\$1,430)
Year 7 (2019)	\$238,728	\$233,205	\$5,523
Year 8 (2020)	\$245,890	\$233,205	\$12,685
Year 9 (2021)	\$253,267	\$233,205	\$20,062
Year 10 (2022)	\$260,865	\$233,205	\$27,660
Year 11 (2023)	\$268,691	\$0	\$268,691
<b>10-YRTOTAL*</b>	<b>\$2,291,985</b>	<b>\$2,332,050</b>	<b>(\$40,065)</b>
<b>11-YRTOTAL*</b>	<b>\$2,560,675</b>	<b>\$2,332,050</b>	<b>\$228,625</b>

+Projected Annual Savings and Annual Costs Principal and Interest use a base project cost of \$1,798,350.

\*Totals are cumulative.

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Typically, performance contracts have a payback period of 10 years or less. The full payback for this proposal does not occur until year 11. For instance, the 10 year total net savings is a negative \$40,065, however, the 11 year total net savings shows estimated savings of \$228,625 (primarily due to the retirement of principal and interest after year 10). Additionally, JCI staff estimate a 15-20 year useful life of the proposed ECM improvements, which may extend savings up to an additional eight years (after which, the ECM improvements should be replaced, depending on condition).

The annual principal and interest costs for Phase 2 performance contract projects is allocated by dividing the total cost of a particular performance contract project by the net Phase 2 loan amount (i.e. \$7,176,000). The \$1,798,350 cost of the proposed performance contract project for the CCFS is approximately 25% of the net loan amount for Phase 2 performance contracting, resulting in annual principal and interest payments of \$233,205.

The table above represents a conservative increase of approximately 3% in annual savings (which assumes a 3% annual increase in utility costs). Based on a review of the last 10 years of utility rate costs, it is likely that electricity and natural gas costs will increase when taking into account historical utility cost trends.<sup>4</sup> Given the volatility of utilities, DAS agrees with JCI's conservative use of a 3% annual increase.


<sup>3</sup> For comparison purposes, the table on page 3 uses a 10-year pro forma in order to match the 10-yr debt term of the original \$7,176,000 loan amount for Phase 2 of performance contracting.

<sup>4</sup> Source: US Department of Energy Information Administration: 2000-2010 10-YR AVG increase for electricity in the State of Wisconsin is 5.2% (2011 data not available); 2001-2011 10-YR AVG increase for natural gas in the State of Wisconsin is 1.7%. Source: City of Franklin Water Utility: 2001-2011 10-YR AVG increase in water rate is 2.3%. The City of Franklin Water Utility supplies water to the CCFS facility.

**Conclusion**

The details of the implementation of the ECMs at the CCFS and standard contract terms and conditions for the performance contract have been reviewed and tentatively agreed to by JCI and County staff, including the Sheriff, AE&ES, Corporation Counsel, Risk Management and DAS Fiscal personnel.

Based upon the review by AE&ES staff on the analysis of the improvements and due diligence review of the related utility rates, it is likely that the overall savings will be achieved over time. However, the actual return on the investment will depend on future utility rates. If utility rates increase higher than projected, then the County will receive additional dollar savings, but if the utility rates decrease the County will see lower savings than projected.

  
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Craig Kammholz, Fiscal and Budget Administrator

cc: Chris Abele, County Executive  
Amber Moreen, Chief of Staff, County Executive's Office  
Supervisor Michael Mayo, Sr, Chair, Transportation and Public Works Committee  
Supervisor Willie Johnson, Co-Chair, Finance and Audit Committee  
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