



PERFORMANCE CONTRACTING VALUE REPORT for WEST NORRITON TOWNSHIP



Installation: October 2014 – May 2015
Presented by: Johnson Controls, Inc.
October, 2015

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Section 1: Executive Summary

Introduction

Johnson Controls is pleased to present this Installation Project Savings Report to West Norriton Township which summarizes the results achieved by the JCI program under the performance contract signed on the 30th of June, 2014. Among the energy conservation measures installed were street lighting buyback from utility, street lighting LED upgrades and additional exterior lighting LED upgrades. We have also considered in this project the additional Operation and Maintenance cost of the newly owned street lighting fixtures. We also supported the Township with the rebate applications to PECO for the improvements.

At Johnson Controls, we continuously exceed our customer's expectations by creating value-added solutions that improve our clients' business and working environments. The integration of innovative finance programs with capital improvements funded from operating expenses, allows revenue to be freed up for our clients to apply to their core business. This approach helped fund capital projects throughout the West Norriton Township and resulted in installation period cost savings of **\$69,290**.

Summary of Installation Period Results

When Johnson Controls and West Norriton Township formed a partnership, specific objectives were setup to measure the performance of the energy conservation project. The table below summarizes the delivered results. Note that installation period savings are not included in the JCI guaranteed savings, but are added benefits received by the township.

Table 1: Installation Period Results

Objective	Approach	Installation Period
Energy Cost Avoidance	Street and exterior lighting LED upgrades,	\$37,240
Reduced Operational & Maintenance Cost	Operational & Maintenance Savings	\$0
Sub - Total		\$32,050
Other Benefits	Act 129	\$32,050
Contract to Date Savings	Total Project Benefits	\$69,290

Thank You

We value your business. It has been and will remain our privilege to work in partnership with West Norriton Township.

To Date Financial Performance

The following table shows the cumulative contract to date savings.

Table 2: To Date Financial Performance

	Guaranteed	Installation	Actual to Date
Period of Performance: Installation	\$0	\$69,290	\$69,290

Annual Actual and Guarantee Savings

The savings during the installation period are not guaranteed. They are shown in the graph below along with the projected annual savings guarantees.

Figure 1: Annual Savings vs Guarantee



Installation Period (October 2014 – May 2015)

The following figure allows us to visualize the ECMs that have a greater contribution to the savings. During the construction period, the majority of the savings were realized based on ECM 1: Street Lighting Buy Back.

Figure 2: Savings by ECM



Environmental Benefits

Savings highlighted in this report for the installation period are purely operational and contractual. At this time, there is no form of energy savings and hence the environmental benefits sustain by the project are not yet realized.

Section 2: Facility Improvement Measures

ECM1: Street Lighting Buyback from Utility

As a result of West Norriton Township executing the street lighting buy back contract with the utility company, the rate by which the street lighting system is charged was changed from SL-S (street lighting suburban counties) to SL-E (street lighting customer owned service). On the SL-S rate, each lamp has an annual distribution fixed charged; while the SL-E rate has a monthly rate per service location and then bills a variable distribution charge. The difference in rate structure allows the generation of savings, which were determined to be as per the following table:

Table 3: Street Lighting Buyback Savings

ECM	Savings
Street Lighting Buyback	\$37,240

Additionally, after the original contract was signed with JCI, West Norriton Township has been able to purchase electricity at a lower rate (effective in the billing period starting on January 6, 2015). The rate dropped from \$0.0718/kWh in 2013 to \$0.0596/kWh in 2015. The following figures show pictures bills during those periods.

Figure 1: PECO bill for August 2, 2013 to September 3, 2013



Name: WEST NORRITON TWP
Account Number: 33134-00304

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Lighting Information

Size	No. of Luminaires	Wattage per Luminaire
25000S	3	294
20000M	4	429
16000S	1	192
12000M	31	275
09500S	2	131
08000M	101	191
05800S	67	94
04000M	303	115
02500L	98	202
01000L	277	103
	887	

Street Lighting Suburban Service - Current Period Detail		Service 08/02/2013 to 09/03/2013 - 32 days
Distribution Charge		14,808.47
State Tax Adjustment		-31.10
Hudson Energy Charge 1-877-493-7060		
ENERGY CHARGE 41034 KH * \$0.0718/KH		2,946.24
Sales Tax		187.85
Gross Receipts Tax		184.73
Total Current Charges		\$18,096.19

Notes:

- Rate: Street lighting suburban service
- Fixed distribution charge: \$14,808.47
- Energy consumption: 41,034 kWh
- Hudson commodity rate: \$0.0718

Figure 2: PECO bill for July 16 thru August 17 2015

 An Exelon Company	Emergency and Repairs: 1-800-841-4341. This is the number to call to report power outages, gas leaks or odors, and safety hazards related to PECO Equipment. For all other business, call 1-800-494-4000
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Name: WEST NORRITON TWP
Account Number: 26430-29129

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Lighting Information

Size	No. of Luminaires	Wattage per Luminaire
000LED	80	35
000LED	780	36
000LED	31	49
	891	

Street Lighting Customer Owned Service - Current Period Detail	Service 07/16/2015 to 08/17/2015 - 32 days			
Service Location Distribution Charge	898 Locations	X	\$7.09000	6,366.82
Generation Charges	11,048 kWh	X	0.05960	(658.46)
Transmission Charges	11,048 kWh	X	0.00060	6.63
Distribution Charges	11,048 kWh	X	0.00520	57.45
State Tax Adjustment				-17.35
Sales tax				424.32
Total Current Charges				\$7,496.33

Notes:

- Rate: Street lighting customer owned service
- Fixed location based distribution charge: \$6,366.82 (\$8,441.65 lower)
- Energy consumption: 11,048 kWh
- Commodity rate: \$0.0596 (\$0.0122 lower)

ECM 2: Street Lighting LED Upgrades

This energy conservation measure (ECM) replaced existing street lighting fixtures with LED models on existing utility poles. The scope of work on the contract included replacement of 879 lighting fixtures and the inclusion of 14 new fixtures for a total 893. Five (5) additional fixtures were identified during the implementation phase and added to the project, for a total of 898 fixtures upgraded. The following table summarizes the as-built scope of work.

Table 4: Street Lighting SOW Summary

PECO Nomenclature	Existing Type	Existing W	New Fixture Type	Installed W	Qty.
5800	Sodium	94	LED	35	15
5800	Sodium	94	LED	36	52
1000	Incandescent	103	LED	36	276
4000	Mercury	115	LED	35	65
4000	Mercury	115	LED	36	237
9500	Sodium	131	LED	36	2
8000	Mercury	191	LED	36	100
16000	Sodium	192	LED	49	1
2500	Incandescent	202	LED	36	98
12000	Mercury	275	LED	49	30
25000	Sodium	294	LED	105	3
20000	Mercury	429	LED	105	4
New Fixtures at the Port Indian Civic Association			LED	36	15
Total Fixtures Installed					898

Figure 2: New 35-Watt LED Street Fixtures

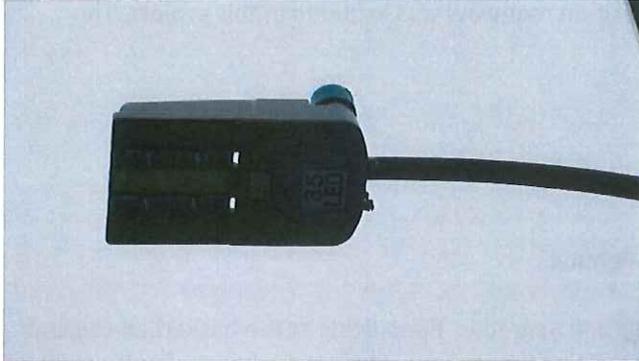


Figure 3: Acorn type street lighting fixture upgraded at Yorktown North St.



As part of the scope of work, JCI has submitted the required paperwork to PECO Energy Company to update the billing account information. The bill for the period 8/17/2015 to 9/16/2015 (shown above) already includes all the changes (locations and kWh consumption) which reflect the upgraded fixtures. At this time, there are no energy savings achieved by this energy ECM.

ECM 3: Additional Exterior Lighting LED Upgrades

As part of this project, additional exterior lighting (not on roadway) was included in this project. The locations of the improvements is listed below:

- Padden Park parking lot and pavilion.
- Firehouse Recreational site
- Centennial Park, parking lot and building.
- Squire Croft Park.
- Township Commissioners Building, parking lot lighting.

There was a change in the scope for the exterior lighting upgrades, flood lights at the basketball court at the Firehouse recreation site were replaced with same existing fixture type. Since that change won't produce energy savings, it was agreed with the Township to include scope on the exterior lighting of the Township building. Final line by line will be presented with the Year 1 performance report. At this time, there are no energy savings achieved by this ECM.

Figure 4: New 72W LED fixture at West Norriton parks and recreational areas.



Act 129

Johnson Controls made a commitment with West Norriton Township to pursue all incentives available through PECO applicable to the project: collect the technical information required, process the paperwork and apply on behalf of the township. The savings realized through rebates were not guaranteed in this project, but are an added project benefit.

Table 5: Rebate Revenue

ECM	Estimated	Received
Street lighting	\$25,009	\$32,050

Recommendations

In order to realize the benefits of the energy conservation measure, the township must perform regular maintenance on the fixtures. The ECMs may be checked periodically by the Performance Engineer throughout the guarantee period, but it is imperative that the operators of the systems are attentive to the systems' performance on a daily basis.

We also want to remind the Township that lighting fixtures are currently under the 10 year warranty, and it is not necessary to buy replacements for the fixtures or lamps upgraded at this time.

Conclusions

- This project has successfully accomplished the upgrades of West Norriton Township street lighting infrastructure with the replacement of a total of 898 fixtures.
- The implementation of this project will reduce West Norriton Township' street lighting energy use by 73%.
- Economic savings have been realized since the implementation of ECM 1: Street Light Buy Back. The Township also benefited from Act 129 receiving rebates from the utility company PECO.
- Additional exterior lighting on parks and township recreational areas, and the township administration building were also upgraded.

Appendices

Appendix A: Energy Rates

This reports shows savings achieved during the construction period, energy rates used to determine cost savings are the ones reported as baseline rate in the contract.

Table 1: Effective Energy Rates for Calculations

Building	Electric Generation \$/kWh
Street Lighting	\$0.0718

Cost Avoidance Acceptance Letter

Construction Period

West Norriton Township Energy Performance Project

I have received and reviewed the report for the construction period savings, ending on May 15, 2015. The tables and figures contained in the report support the calculations used to determine the savings number shown. The report also contains the agreed-upon methodology used to calculate the cost avoidance for the reporting period.

This report shows a combined utility and operation cost avoidance of \$69,290 for the construction period of the Performance Contract, ending on May 15, 2015. Construction period savings are not guaranteed.

Please sign below to indicate your receipt of the report for the construction period.

____Karla Villamizar_____ Date _____

For: Johnson Controls, Inc.

_____ Date _____

For: West Norriton Township

