

I. EXECUTIVE SUMMARY

Introduction

Constellation, an Exelon company, is pleased to present this annual Measurement & Verification Report to City of Morgantown.

Under the requirements of the guaranteed energy service agreement, Constellation has provided and installed the Energy Conservation Measures (ECMs) as proposed through the IGA report and the Guaranteed Energy Savings Agreement.

Since the projected energy savings for each ECM is dependent upon its design and performance, any variation to those parameters need to be documented. Any changes to the original design may adversely affect the proposed energy savings.

The intent of this report is to identify, verify, and document the critical parameters for energy savings and establish their compliance with the approved designs set forth in the IGA Report for all of the ECMs involved.

This report is structured such that Section I provides an executive summary of the report which includes project background information, locations, ECM substantial completion dates, and an overview of annual ECM savings. Section II provides an overview of the ECMs, a review of the scope of work and installed equipment for each of these ECMs, and a summary of the Measurement and Verification (M&V) methodology and savings for each of these ECMs. The Appendices in Section III provide detailed worksheets, M&V data, and documentation.

Project Background

On July 7, 2008, Constellation submitted a response to the Request for Qualifications (RFQ) issued by the City of Morgantown for a Guaranteed Energy Savings Contract on June 6, 2008. Through this proposal, Constellation identified its project team's technical ability and its financial ability to help the City of Morgantown exceed expectations with respect to the energy savings initiative. On September 17, 2008, Constellation submitted a Letter of Intent (LOI) to the City of Morgantown to gain authorization to conduct an Investment Grade Audit (IGA). On

November 6, 2008, the City of Morgantown signed the LOI. On April 22, 2009, Constellation submitted an Investment Grade Audit report which summarized the potential for energy savings from the analysis performed during the detailed energy audit phase. On July 14, 2009, the City of Morgantown signed the Guaranteed Energy Savings Agreement. On April 29, 2010 Constellation finished ECM construction and provided the City of Morgantown with a Final Completion Approval Form, which was signed by both parties on that date. On December 12, 2011 the year one performance M&V report was sent to the City of Morgantown. This Guaranteed Energy Savings Contract includes ten ECMs, which affect 16 facilities/areas within the City of Morgantown shown in the table below.

| Project Locations | Addresses |
|----------------------------|---|
| MGW Airport | 100 Hart Field Road, Morgantown, WV 26505 |
| City Hall | 389 Spruce Street, Morgantown, WV 26505 |
| Southside Fire Station | 228 South High Street, Morgantown, WV 26501 |
| Maintenance Building | Greenbag Road, Morgantown, WV 26505 |
| BOPARC Ice Rink | 1001 Mississippi Street, Morgantown, WV 26501 |
| Public Safety Building | 300 Spruce Street, Morgantown, WV 26505 |
| Public Safety Parking | 300 Spruce Street, Morgantown, WV 26505 |
| Parking Garage - Chestnut | Chestnut Street, Morgantown, WV 26505 |
| Parking Garage - Wharf | Wharf Street, Morgantown, WV 26505 |
| Parking Garage - D Parking | D Parking, Morgantown, WV 26505 |
| Signs and Signal Building | Greenbag Road, Morgantown, WV 26505 |
| Norwood Fire Station | Morgantown, WV 26505 |
| Metropolitan Theatre | 371 High Street, Morgantown, WV 26505 |
| Garlow House | Morgantown, WV 26505 |
| City Library | 373 Spruce Street, Morgantown, WV 26505 |
| Traffic Signals | City Wide - See Intersections Table – ECM 1 Lighting Upgrades |

The ECMs were implemented for the project and substantially completed by the dates provided in the following table.

| Project ECM Description | Substantial Completion Date |
|--------------------------------|------------------------------------|
| Interior Lighting Upgrade | 13-Nov-09 |
| Traffic Signal Upgrade | 13-Nov-09 |
| Pipe Insulation | 16-Oct-09 |

| Project ECM Description | Substantial Completion Date |
|------------------------------|-----------------------------|
| VFD Air Handling | 16-Oct-09 |
| Boiler Upgrade | 15-Oct-09 |
| New Metal Roof | 12-Oct-09 |
| New Garage Panel Doors | 21-Aug-09 |
| Roustan Ice Plant | 25-Sep-09 |
| HHW Boiler and Fill Upgrade | 25-Sep-09 |
| HVAC Upgrade – Floor 1 South | 2-Oct-09 |

Utility Rates

Base Utility Rates - The base unit rates agreed upon in the contract

| Building No. | Building Name | Electricity (kW) | Electricity (kWh) | Fuel (MCF) | Water/Sewer (kgal) |
|--------------|-----------------------------|------------------|-------------------|------------|--------------------|
| 1 | MGW Airport | \$10.32000 | \$0.03443 | \$13.30731 | \$3.82000 |
| 2 | City Hall | \$10.32000 | \$0.03443 | \$12.60400 | \$4.01000 |
| 3 | Southside Fire Station | \$10.32000 | \$0.03443 | \$13.09266 | \$4.23000 |
| 4 | Maintenance Building | \$10.32000 | \$0.03443 | \$12.17700 | \$3.79000 |
| 5 | Public Safety Building | \$10.32000 | \$0.03443 | \$13.22364 | \$4.23000 |
| 6 | BOPARC Ice Rink | \$10.32000 | \$0.03443 | \$13.56414 | \$3.92000 |
| 7 | Public Safety Parking | \$10.32000 | \$0.03443 | - | - |
| 8 | Parking Garage – Chestnut | \$10.32000 | \$0.03443 | - | - |
| 9 | Parking Garage - Wharf | \$10.32000 | \$0.03443 | - | - |
| 10 | Parking Garage - D Parking | - | \$0.08088 | - | - |
| 11 | Signs and Signal Building | - | \$0.08088 | - | - |
| 12 | Norwood Fire Station | - | \$0.08088 | - | - |
| 13 | Metropolitan Theatre | - | \$0.08088 | - | - |
| 14 | Garlow House | - | \$0.08088 | - | - |
| 15 | City Library | \$10.32000 | \$0.03443 | - | - |
| 16 | City Wide - Traffic Signals | - | \$0.08088 | - | - |



Project Savings Escalation Rates

The following rates are defined in Schedule D, Exhibit-1 of the contract and are applied annually starting January 1, 2010.

| Annual Escalation Rates - As Per Schedule D of the Contract | | | | |
|---|------------------|-------------------|------------|--------------------|
| Escalation Date | Electricity (kW) | Electricity (kWh) | Fuel (MCF) | Water/Sewer (kgal) |
| January 1, 2010 | 15% | 15% | 3% | 3% |
| January 1, 2011 | 15% | 15% | 3% | 3% |
| January 1, 2012 | 3% | 3% | 3% | 3% |
| January 1, 2013 | 3% | 3% | 3% | 3% |
| January 1, 2014 | 3% | 3% | 3% | 3% |
| January 1, 2015 | 3% | 3% | 3% | 3% |
| January 1, 2016 | 3% | 3% | 3% | 3% |
| January 1, 2017 | 3% | 3% | 3% | 3% |
| January 1, 2018 | 3% | 3% | 3% | 3% |
| January 1, 2019 | 3% | 3% | 3% | 3% |
| January 1, 2020 | 3% | 3% | 3% | 3% |
| January 1, 2021 | 3% | 3% | 3% | 3% |
| January 1, 2022 | 3% | 3% | 3% | 3% |
| January 1, 2023 | 3% | 3% | 3% | 3% |
| January 1, 2024 | 3% | 3% | 3% | 3% |
| January 1, 2025 | 3% | 3% | 3% | 3% |

The utility rates utilized for the savings calculations are based on the annual escalation rates shown above and are as follows:

| Current Utility Rate - Based on Escalation Rates from January 1, 2012 | | | | | |
|---|------------------------|------------------|-------------------|------------|--------------------|
| Building No. | Building Name | Electricity (kW) | Electricity (kWh) | Fuel (MCF) | Water/Sewer (kgal) |
| 1 | MGW Airport | \$14.05765 | \$0.04690 | \$14.54126 | \$4.17422 |
| 2 | City Hall | \$14.05765 | \$0.04690 | \$13.77273 | \$4.38184 |
| 3 | Southside Fire Station | \$14.05765 | \$0.04690 | \$14.30670 | \$4.62224 |
| 4 | Maintenance Building | \$14.05765 | \$0.04690 | \$13.30614 | \$4.14144 |
| 5 | Public Safety Building | \$14.05765 | \$0.04690 | \$14.44983 | \$4.62224 |
| 6 | BOPARC Ice Rink | \$14.05765 | \$0.04690 | \$14.82190 | \$4.28349 |
| 7 | Public Safety Parking | \$14.05765 | \$0.04690 | - | - |



| Current Utility Rate - Based on Escalation Rates from January 1, 2012 | | | | | |
|---|-----------------------------|------------------|-------------------|------------|--------------------|
| Building No. | Building Name | Electricity (kW) | Electricity (kWh) | Fuel (MCF) | Water/Sewer (kgal) |
| 8 | Parking Garage - Chestnut | \$14.05765 | \$0.04690 | - | - |
| 9 | Parking Garage - Wharf | \$14.05765 | \$0.04690 | - | - |
| 10 | Parking Garage - D Parking | - | \$0.11017 | - | - |
| 11 | Signs and Signal Building | - | \$0.11017 | - | - |
| 12 | Norwood Fire Station | - | \$0.11017 | - | - |
| 13 | Metropolitan Theatre | - | \$0.11017 | - | - |
| 14 | Garlow House | - | \$0.11017 | - | - |
| 15 | City Library | \$14.05765 | \$0.04690 | - | - |
| 16 | City Wide - Traffic Signals | - | \$0.11017 | - | - |

| Current Utility Rate - Based on contract escalation rates | | | | | |
|---|-----------------------------|------------------|-------------------|------------|--------------------|
| Building No. | Building Name | Electricity (kW) | Electricity (kWh) | Fuel (MCF) | Water/Sewer (kgal) |
| 1 | MGW Airport | \$14.05765 | \$0.04690 | \$14.54126 | \$4.17422 |
| 2 | City Hall | \$14.05765 | \$0.04690 | \$13.77273 | \$4.38184 |
| 3 | Southside Fire Station | \$14.05765 | \$0.04690 | \$14.30670 | \$4.62224 |
| 4 | Maintenance Building | \$14.05765 | \$0.04690 | \$13.30614 | \$4.14144 |
| 5 | Public Safety Building | \$14.05765 | \$0.04690 | \$14.44983 | \$4.62224 |
| 6 | BOPARC Ice Rink | \$14.05765 | \$0.04690 | \$14.82190 | \$4.28349 |
| 7 | Public Safety Parking | \$14.05765 | \$0.04690 | - | - |
| 8 | Parking Garage - Chestnut | \$14.05765 | \$0.04690 | - | - |
| 9 | Parking Garage - Wharf | \$14.05765 | \$0.04690 | - | - |
| 10 | Parking Garage - D Parking | - | \$0.11017 | - | - |
| 11 | Signs and Signal Building | - | \$0.11017 | - | - |
| 12 | Norwood Fire Station | - | \$0.11017 | - | - |
| 13 | Metropolitan Theatre | - | \$0.11017 | - | - |
| 14 | Garlow House | - | \$0.11017 | - | - |
| 15 | City Library | \$14.05765 | \$0.04690 | - | - |
| 16 | City Wide - Traffic Signals | - | \$0.11017 | - | - |



Annual Savings Summary

The following table lists the achieved energy savings and energy cost savings resulting from each ECM in the measurement year. Annual Operations & Maintenance (O&M) savings, where applicable, are mutually agreed upon for the ECM in accordance with the Investment Grade Audit (IGA) Report and contract schedules. The achieved cost savings are a product of the utility unit savings and the unit prices for electricity, fuel, and water.

| Energy Conservation Measures | Annual Achieved Savings | | | | |
|-------------------------------|-------------------------|-----------------------|--------------------|-----------------------|---------------------------|
| | Electric Demand (kW) | Electric Energy (kWh) | Fuel Savings (MCF) | Water Savings (kgal) | Utility Cost Savings (\$) |
| Lighting Upgrade | 2,793 | 1,474,529 | - | - | \$119,747 |
| Pipe Insulation | - | - | 92 | - | \$1,319 |
| ATC Upgrades | - | 242,425 | 2,570 | 19 | \$47,863 |
| VFD Air Handling | - | 18,393 | 208 | - | \$3,868 |
| Boiler Upgrade | - | - | 453 | - | \$6,546 |
| New Metal Roof | - | 355 | 932 | - | \$12,418 |
| New Garage Panel Doors | - | - | 216 | - | \$2,790 |
| Roustan Ice Plant | 65 | 1,902 | - | 946 | \$5,055 |
| HHW Boiler and Fill Upgrade | - | - | 225 | - | \$3,335 |
| HVAC Upgrade - Floor 1 South | - | - | 480 | - | \$6,980 |
| Energy Savings Total = | 2,858 | 1,737,604 | 5,176 | 965 | \$209,921 |
| | | | | Year 2 O&M | \$21,763 |
| | | | | Project Total | \$231,684 |

Savings to Date

The following table illustrates the achieved cost savings to date relative to the guaranteed cost savings. Guaranteed cost savings were laid out in the IGA Report and contract schedules of the Guaranteed Energy Savings Agreement (GESA). Savings are measured and verified annually for the first five years after construction as per Schedule D, Exhibit-1 of the agreement.

| YEAR | GUARANTEED SAVINGS | ACHIEVED SAVINGS |
|--------------------------|--------------------|------------------|
| INSTALLATION WORK PERIOD | \$70,888 | \$70,888 |
| 1 | \$200,891 | \$225,013 |
| 2 | \$219,781 | \$231,684 |
| 3 | \$226,375 | |
| 4 | \$233,167 | |
| 5 | \$240,161 | |
| 6 | \$247,366 | |
| 7 | \$254,787 | |
| 8 | \$262,431 | |
| 9 | \$270,304 | |
| 10 | \$278,413 | |
| 11 | \$286,765 | |
| 12 | \$295,368 | |
| 13 | \$304,230 | |
| 14 | \$313,356 | |
| 15 | \$80,689 | |
| Total = | \$3,784,972 | \$527,585 |