

MONITORING-BASED COMMISSIONING (MBCx) TECHNICAL SHEET

Building Tune-up Program



The Delmarva Power Energy Savings for Business Program offers incentives for monitoring-based commissioning (MBCx).

To take advantage of these incentives, you must meet the following eligibility requirements:

1. Be a Delmarva Power customer and business in the Maryland territory.
2. Have an existing facility, as new construction is not eligible for this program.
3. Facility must meet eligibility and criteria requirements below.
4. Not be a temporary account or a vacant facility.

All projects require pre-approval.

All projects MUST receive pre-approval before purchasing equipment or beginning work. Please review the program process and eligibility requirements on the [program website](#) as well as the [Terms and Conditions](#) in this Technical Sheet. Please contact the program office with any questions.

Monitoring-Based Commissioning (MBCx) helps Delmarva Power commercial and industrial (C&I) customers determine energy usage in their facilities, identify energy-saving opportunities, and optimize their existing systems. A MBCx service provider will perform an energy audit of the facility, equivalent to an ASHRAE Level 2 audit and continuously monitor the performance of building systems (with primary focus on HVAC and control systems) to identify and alert the customer's facility operators to cost-effective savings opportunities. Incentives will be paid after the identified measures are installed and projected energy savings have been calculated.

Phase I: Installation Phase – Once eligibility requirements are met, Phase I requires submission of an ASHRAE Level 2 audit, or equivalent, and installation of automated remote monitoring and diagnostic equipment to interface with the existing Energy Management System (EMS/BAS).

Phase II: Monitoring Phase – Consists of long-term monitoring, including recommendation of operation and maintenance measures. A monthly MBCx Monthly Equipment Monitoring Report must be submitted to fulfill this phase.

Phase III: Implementation Phase – Implementation of operation and maintenance measures recommended in Phase II monthly MBCx Equipment Monitoring Report. The Implementation Summary and MBCx measure implementation report must be submitted on a quarterly basis to qualify for incentives. For each quarterly reporting period, provide the dates (e.g. 7/1/16 to 9/30/16), project description, and energy savings associated with the project. Data entered must match the MBCx Implementation Summary Report submitted. Equipment must be monitored for a minimum of six months, with a minimum of two quarterly reports submitted to the program.

How to Apply:

1. **The customer reviews requirements in the MBCx [Technical Resources Manual](#).**
2. **The application is completed and submitted via the online [Application Center](#). Pre-approval is required before proceeding. The following supporting information must be included with the application:**
 - Completed and signed [Terms and Conditions \(T&Cs\)](#)**
 - EPA Portfolio Manager or CBECs benchmark data report**
 - Copy of signed contract with the Service Provider. Minimum 18-month contract is required.**
3. **The Program reviews submitted documentation, revises and/or requests additional documentation as necessary. A site inspection may be required as part of the pre-approval process.**
4. **The Program emails the project pre-approval to the customer and Service Provider.**
5. **The customer or Service Provider submits documentation associated with Phase I, Phase II, and Phase III, as well as the customer signed pre-approval letter and final detailed invoice(s) upon completion.**
6. **The Program may require a post-installation inspection to verify compliance with program rules, accuracy of program documentation, and equipment operation.**
7. **The Program distributes the incentive check to the payee following final approval processing.**

ELIGIBILITY REQUIREMENTS

Monitoring-Based Commissioning (MBCx) helps Delmarva Power commercial and industrial (C&I) customers determine energy usage in their facilities, identify energy-saving opportunities, and optimize their existing systems. MBCx service providers examine all of the building's major energy-using systems for cost-effective savings opportunities, with the primary focus on electric use by HVAC and control systems.

The most cost-effective savings will likely result from larger customers with specific types of facilities. Therefore, facilities must meet the following criteria:

- Have higher-than-average electrical intensity (kWh/sq.ft.), based on analysis using the EPA ENERGY STAR® Portfolio Manager¹ or DOE CBECS Data²**
- Be more than 2 years old (this requirement recognizes that building less than 2 years old may not have one entire year of utility data to reflect a "fully occupied" building and consistent operating pattern)**
- Have an Energy Management System (EMS)**
- Have a signed MBCx service contract for a minimum of 18 months with the Service Provider that submits the application**
- Have mechanical equipment in relatively good condition and not near end of life**
- Demonstrate management commitment to implement low-/no-cost measures**

ELIGIBILITY REQUIREMENTS (CONTINUED)

Only building components that impact electric usage and demand will be considered for incentives. MBCx EEMs are typically HVAC system and central plant equipment operational improvements. Note that water savings indirectly affect electricity savings and hence should also be reported.

¹ [Portfolio Manager](#)

² [DOE CBECS](#)

MBCx PROCESS AND INCENTIVES

The MBCx process consists of three phases, generically described below. Details of the process, responsibilities, and deliverables can be found in the MBCx [Technical Resources Manual](#). An ASHRAE Level 2 energy savings study, or equivalent document, submitted for this application is not eligible for incentives under ASHRAE Level 2 study application.

Phase I: Installation Phase – ASHRAE Level 2 audit, or equivalent document submission and installation of automated remote monitoring and diagnostic equipment to interface with the existing Energy Management System (EMS/BAS) to report all existing parameters values at least three (3) times per hour, at 20-minute intervals, is required. Frequent download capability is preferred. MBCx implementation costs are limited to 25% of the MBCx service contract cost capped at a maximum of \$8,000 and \$0.04 per conditioned square foot for the ASHRAE Level 2 audit. Incentive is available upon completion of Phase I deliverables.

If an ASHRAE Level 2 audit is not submitted, the equivalent document must include project scope; which needs to include total project cost, project schedule, list of energy conservation measures (ECMs), and estimated savings. This document will be reviewed and additional information or data may be requested to meet program requirements. Deliverables can be found in the MBCx [Technical Resource Manual](#). Only the ASHRAE Level 2 audit is eligible for the \$0.04 per conditioned square foot incentive.

Phase II: Monitoring Phase – Does not provide incentives, yet is required to move onto Phase III. Consists of long-term monitoring, including recommendation of operation and maintenance measures. A quarterly MBCx Equipment Monitoring Report is submitted to fulfill this phase. A minimum of six months is required during this phase.

Phase III: Implementation Phase – Incentives are available upon implementation of operation and maintenance measures recommended in Phase II and documented in the monthly MBCx Equipment Monitoring Report. The Implementation Summary and MBCx measure implementation report must be submitted on a quarterly basis. A one-time incentive will be paid at a rate of \$0.20 per kWh saved annually for all measures that are approved, implemented, and completed.

Delmarva Power Energy Savings for Business Program

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EmPOWER Maryland programs are funded by a charge on your energy bill. EmPOWER programs can help you reduce your energy consumption and save you money. To learn more about EmPOWER and how you can participate, go to delmarva.com/business.

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