

Networked Lighting Controls

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II. Program Overview

An initiative to promote the specification, installation, programming and commissioning of Network Lighting Controls systems in large commercial, institutional and industrial buildings, both for new construction and retrofit projects.

The goals of this initiative are:

- 1. To obtain substantial kWh savings by using the full capabilities of digitally programmed and networked lighting controls and sensors.*
- 2. To improve the long-term duration and accuracy of savings of network lighting controls through improved training, commissioning, and verification.*
- 3. To take advantage of the latest control technologies that offer extraordinary flexibility to customize the lighting to suit business style and needs while generating significant energy savings.*

Manufacturers and vendors interested in qualifying their products for the program, please complete the Manufacturers Qualifications form which helps us to determine if the lighting controls manufacturer has the technical capabilities and resources to be eligible as a qualified provider.

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III. Project Incentives

- A. Qualifying projects receive an incentive of **\$0.50 per sq/ft**, in controlled, conditioned interior space(s).
- B. Project incentives for this initiative are subject to our standard Custom Application guidelines:
 - 1) Up to 75% of incremental cost (new construction), or
 - 2) Up to 50% of incremental cost (retrofit), or
 - 3) Up to a maximum of \$200,000.00 per project (projects of larger scale will be evaluated separately).
- C. 80% of the incentive will be paid upon meeting project requirements. The remaining 20% will be paid after project commissioning (three months after system initialization and space occupancy).

IV. Project Qualifications

- A. **>25,000** square feet (smaller projects may be considered case-by-case)
- B. **>150** lighting fixtures are controlled by the controls system
- C. Project must achieve **>40%** energy savings below baseline kWh usage through the implementation of the Network Lighting Controls system:
 - 1) New Construction and Retrofit baseline will be IECC 2012 or Stretch Code LPD multiplied by the assumed occupancy hours for each controlled space.
- D. Lighting must meet or exceed the current Massachusetts energy code, including controls and sensor requirements.
 - 1) If lighting design exceeds code LPD by 15% or more, then customer or customer representative can apply for additional Performance Lighting incentives separately.
- E. COM Check report or energy audit required for verification.
- F. New construction, remodeling, renovation and retrofit projects are eligible.
- G. Projects that are eligible for this Network Lighting Controls incentive program are not eligible for other prescriptive lighting incentives that support ballasts, occupancy sensors, photocells and time clocks. This includes measure codes: 10, 12, 61, 62, 64, 68.
- H. Projects must utilize the services of either a Lighting Designer or an Electrical Engineer to specify and engineer the network lighting controls system:
 - 1) At least one person on the project team needs to be: International Association of Lighting Designers (IALD) member; Lighting Certified (LC); Certified Lighting Efficiency Professional (CLEP); licensed Professional Engineer (PE).
 - 2) Special consideration will be given to specifiers, engineers, installers and commissioning/programming personnel who are factory trained and certified by the specified lighting controls system manufacturer.
- I. Signed Custom Application (to be used as “the application” from the customer)
- J. Use of a pre-approved participating technology/product (validated by NU and National Grid) - Consult with utility/PA representative for approved technologies
- K. Project proposal (see details in Section V)
- L. Commitment to provide energy usage report after 12 months of project commissioning.

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V. Project Requirements

- A. Signed custom application
- B. COM Check report
If a retrofit application: Provide COM Check or Lighting Simulation Analysis (AGI-32, Dialux, Radiance, Visual.) Calculated reports are to be reviewed and verified by someone who is either: International Association of Lighting Designers (IALD) member; Lighting Certified (LC); Certified Lighting Efficiency Professional (CLEP); licensed Professional Engineer (PE); Certified Energy Manager (CEM).
- C. Mass Save Performance Lighting application (TIER 1 or Tier 2 compliant), if applicable.
- D. Fixture specification/submittal sheets for pre-qualified Lighting Controls System. (See item IV.I)
- E. Minimal Lighting Controls Strategy:
 - a. Task Tuning
 - b. Time Scheduling
 - c. Programmed Occupancy Sensors
 - d. Programmed Daylight Harvesting
 - e. Integration capability with HVAC
 - f. Demand Response capability
- F. Additional Lighting Controls Strategies:
 - a. User control
 - b. Other:
- G. Lighting controls system training for owners, occupants and facilities personnel upon system initialization
- H. Follow up training for customer (including facility managers) scheduled 12 months after system initiation.
- I. Full equipment and/or system documentation including operational procedures.
- J. Include energy modeling report with the application showing:
 - a. Base case lighting controls requirements (based on current MA Energy Code controls requirements)
 - b. Proposed case (beyond MA Energy Code controls requirements)
 - c. Projected annual savings over base case
 - d. Projected average energy usage (LPD)
 - e. Scheduling assumptions (energy savings per controls strategy)
 - f. Description of energy conservation measures to be offered in the project
- K. Provide customer or customer representative sign-off upon final commissioning of lighting controls system
- L. Final commissioning three months after system initialization and space occupancy.
- M. Provide Energy Analysis report detailing actual energy usage savings by controls strategy over baseline kWh with six months of data after commissioning.

All applications and controls equipment are to be reviewed by the Program Administrator for approval.