



**BUILDING OPERATOR**  
**CERTIFICATION**

# BOC LEVEL I TRAINING

## FALL 2017 – SPRING 2018

Sponsored by the 18 SMMPA Member Municipal Utilities,  
 Minnesota Energy Resources, and the Midwest Energy Efficiency Alliance

“The value of being proactive was reinforced by this amazing program. The discussion exposed all of us to building management experiences and insightful reference material.

Class breaks and lunch time led to the development of new contacts.”

Craig French  
 Crenlo, Inc.  
 Rochester, Minnesota

“The BOC Level I Training is a valuable tool whether you are just starting building operations or if you are a seasoned professional.

The knowledge shared by the instructors and fellow classmates each session always bring up new ideas and styles in building efficiencies and operations.”

Jess Dunlap, Utility Operations Supervisor  
 Austin Utilities  
 Austin, Minnesota

“The BOC Level I Training provided an understanding of tools already available for effective energy saving strategies within building operations. The classroom style training provided extensive discussions with both industry experts and local building operators to generate cost and energy saving ideas. I left each monthly session with a list of ideas to review or implement right away within our facility.”

Jason Rohe, PE, Facilities Engineer  
 Amesbury Truth  
 Owatonna, Minnesota



**TEAMING UP TO SAVE YOU MONEY**



**CONSERVE & \$AVE®**





## ● BUILDING OPERATOR CERTIFICATION TRAINING

The 18 Southern Minnesota Municipal Power Agency (SMMPA) Member Utilities and Minnesota Energy Resources are proud to sponsor Building Operator Certification (BOC) training for commercial and industrial customers interested in energy efficiency. The BOC is a nationally recognized professional development training program designed to educate operations and maintenance staff in the energy-efficient operation of building systems. The Midwest Energy Efficiency Alliance (MEEA) administers a regional BOC program in 10 Midwest states; specifically with the support of the Minnesota Department of Commerce.

Building Operator Certification (BOC) training includes nearly 74 hours of classroom and project work (7.4CEUs) in building systems operation and maintenance. Each class in the series is completed in one-day, except BOC 1001, Energy Efficient Operation of Building HVAC Systems, which is a two-day class. To become certified, participants must pass an exam at the end each day of training, complete assigned projects, and complete a national certification exam. Those who complete the class without taking the national certification exam will earn a Training Certificate of Completion. Unless otherwise noted, training begins at 8:00 a.m. and ends by 4:00 p.m. Breakfast, lunch and refreshments will be provided. Early registration is encouraged.

### WHO SHOULD PARTICIPATE?

#### **Plant, Facility, Building Operators, Maintenance & Operations Personnel**

The BOC Level I certification program is designed for operators with two or more years of experience in building operations and maintenance who wish to broaden their knowledge.

## ● GOALS OF THE PROGRAM

BOC achieves measurable energy savings in public facilities, commercial, and industrial buildings by training individuals directly responsible for day-to-day operations. The program establishes a standard of professional competence in energy and resource-efficient building operations and maintenance. It also identifies and recognizes building operators who meet this standard.

## ● BOC LEVEL I COURSE DESCRIPTIONS

### ● BOC 1001

#### **Energy Efficient Operation of Building HVAC Systems (2 Days)**

Provides an overview of the Building Operator Certification program and fundamentals of building systems. Focuses on operation and maintenance of envelope, central heating, cooling, air and ventilating systems in buildings. Emphasis is placed on group problem-solving and exercises with respect to preventive maintenance.

*PROJECT: HVAC Equipment Floor Plan*

### ● BOC 1002

#### **Measuring and Benchmarking Energy Performance (1 Day)**

Operators learn how energy is used in commercial buildings and how to identify and prioritize conservation opportunities. Includes basic principles of energy accounting, evaluation of fuel options, operation and maintenance strategies to improve efficiency, and energy management planning techniques. Participants will learn how to perform quantifiable evaluations of their facilities' energy use in order to be able to target prospects for energy conservation.

*PROJECT: Benchmark Your Building in ENERGY STAR Portfolio Manager*

### ● BOC 1003

#### **Efficient Lighting Fundamentals (1 Day)**

Covers lighting fundamentals and types of lighting for economical and energy efficient lighting systems. Participants learn principles of efficient lighting including evaluation of lighting levels, quality and maintenance. Other topics include lighting fixture and control technologies, common upgrades, retrofit and redesign options, and management strategies as they apply to space use and function.

*PROJECT: Lighting Survey and Lighting Retrofit Case Study*

### ● BOC 1004

#### **HVAC Controls Fundamentals (1 Day)**

Provides an introduction to automatic control systems and equipment, particularly for central air systems. Participants will learn to target possible inefficiencies in their HVAC systems and to evaluate potential problems as part of an enhanced operation and maintenance program.

*PROJECT: HVAC Controls Review*

### ● BOC 1005

#### **Indoor Environmental Quality (1 Day)**

Introduces the basic causes of indoor environmental quality problems and begins to develop a method of diagnosis and solution. Students will gain an understanding of the dynamic components of indoor environmental quality in relation to source control, occupant sensitivity and ventilation. Emphasis will be placed on communications with building occupants for reliable investigations without aggravating existing issues.

*PROJECT: Develop an Occupancy Schedule*

### ● BOC 1006

#### **Common Opportunities for Low-Cost Operational Improvement (1 Day)**

This class introduces common opportunities that offer the greatest energy savings potential. This module examines typical areas and problems associated with different system types and equipment as well as tools and techniques for identifying opportunities.

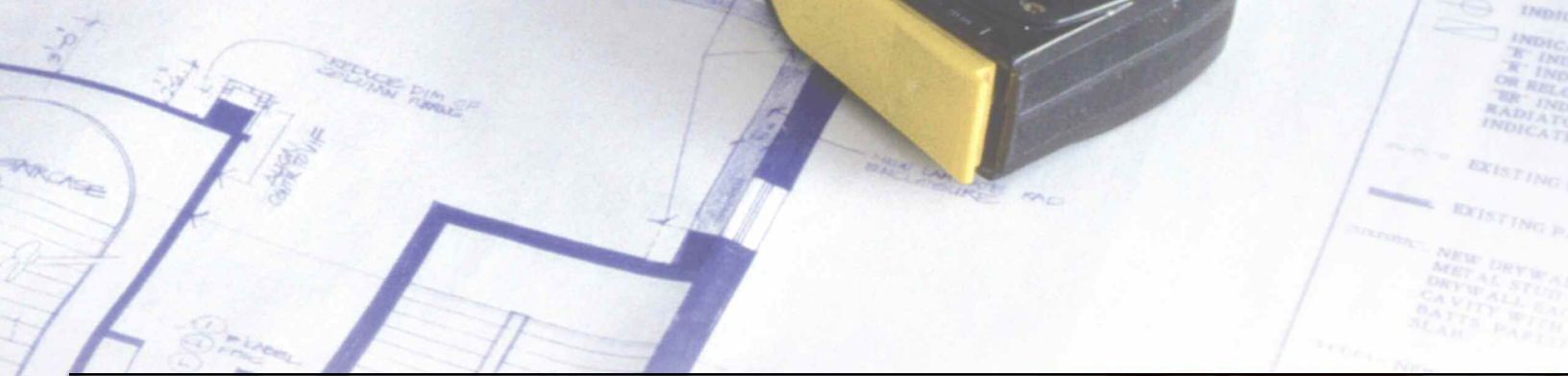
*PROJECT: None*

### ● BOC 1007

#### **Facility Electrical Systems (1 Day)**

Participants will learn basic electrical theory, safety procedures, power distribution, and energy conservation to develop a practical understanding of electricity and its use in commercial facilities. Participants will learn basic troubleshooting in order to effectively work with licensed staff and/or contractors with ongoing electrical problems and maintenance support.

*PROJECT: None*



● **BOC LEVEL I TRAINING SCHEDULE: FALL 2017 – SPRING 2018**

Level I training consists of seven courses. Individuals who earn this certificate gain improved job skills and are able to operate and maintain more comfortable, energy-efficient facilities. Operators earn a certificate by:

- Attending 8 days of training over 7 months
- Completing 5 project assignments
- Passing class tests
- **Location:** Austin Utilities  
1908 14th ST NE  
Austin MN 55912 (see map on back)
- **Time:** Unless otherwise noted, training begins at 8 a.m. and ends by 4 p.m.
- **Cost:** The cost of the training is \$1,200 per person.

*Are you a veteran? If so, you qualify for a \$200 tuition discount!  
Email Haley Keegan at [hkeegan@mwalliance.org](mailto:hkeegan@mwalliance.org) for the discount code.*

Customers of Austin Utilities, Owatonna Public Utilities, Rochester Public Utilities, or Minnesota Energy Resources may be eligible for a rebate upon successful completion of the training.

- **Register:** Online registration is available at [www.boccentral.org](http://www.boccentral.org).  
**Registration deadline is October 13, 2017.**  
**Class size is limited. Registration will be accepted on a first come, first served basis.**
- **Dates:**
  - Wed-Thurs, November 1-2, 2017
  - Wednesday, December 6, 2017
  - Wednesday, January 3, 2018
  - Wednesday, February 7, 2018
  - Wednesday, March 7, 2018
  - Wednesday, April 4, 2018
  - Wednesday, May 2, 2018
- **Courses:**
  - BOC 1001 – Energy Efficiency Operation of Building HVAC Systems
  - BOC 1002 – Measuring and Benchmarking Energy Performance
  - BOC 1003 – Efficient Lighting Fundamentals
  - BOC 1004 – HVAC Controls Fundamentals
  - BOC 1005 – Indoor Environmental Quality
  - BOC 1006 – Common Opportunities for Low-Cost Operational Improvement
  - BOC 1007 – Facility Electrical Systems

● **QUESTIONS?**

- **For questions about BOC training in Austin contact:**  
Kelly Lady, Marketing and Energy Services Manager  
Austin Utilities  
507.437.0855  
[KellyL@austinutilities.com](mailto:KellyL@austinutilities.com)
- **For general questions about the BOC program contact:**  
Haley Keegan  
Midwest Energy Efficiency Alliance  
312.374.0928  
[HKeegan@mwalliance.org](mailto:HKeegan@mwalliance.org)



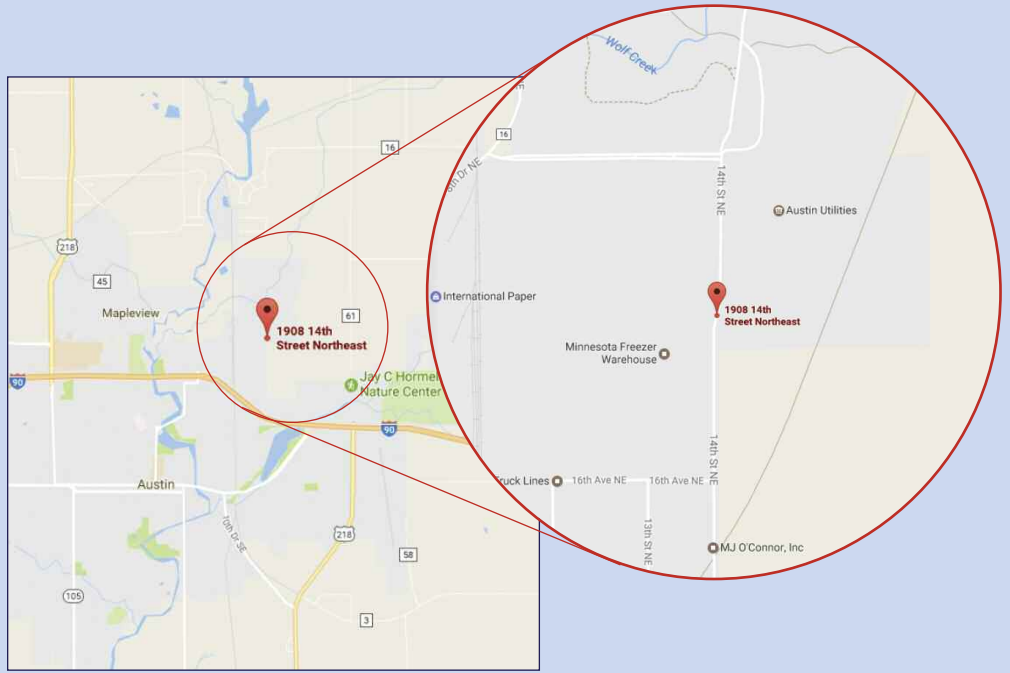
**FALL 2017 – SPRING 2018**





**LEVEL I TRAINING**  
**Fall 2017 – Spring 2018**

**Austin Utilities**  
1908 14th ST NE  
Austin MN 55912  
507.433.8886



### SOUTHERN MINNESOTA MUNICIPAL POWER AGENCY

SMMPA generates and sells electricity wholesale. SMMPA's customers are its members, eighteen municipally owned utilities located mostly in southcentral and southeastern Minnesota. SMMPA also provides its members related services and products that help them serve the energy needs of their 92,000 retail customers reliably and at a fair price.



Minnesota Energy Resources is a natural gas utility serving over 206,000 customers throughout Minnesota, providing safe, reliable natural-gas distribution to Minnesota residents for more than 70 years. It is their goal to provide customers with the best value in energy and related services.



### MEEA MIDWEST ENERGY EFFICIENCY ALLIANCE

The Midwest Energy Efficiency Alliance (MEEA) is a collaborative network focused on advancing energy efficiency in the Midwest for sustainable economic development and environmental stewardship. Visit [www.mwalliance.org](http://www.mwalliance.org).