

Education That Changes Behavior: The Impacts of the BOC Program

Marjorie R. McRae, Research Into Action, Inc., Portland, OR

Jane S. Peters, Research Into Action, Inc., Portland, OR

Elizabeth Titus, Northeast Energy Efficiency Partnership, Lexington, MA

Tom Rooney, GDS Associates, Manchester, NH

ABSTRACT

The Building Operators Training and Certification (BOC) Program is an educational course for commercial and industrial building operators and facility managers that is now offered in sixteen states. This paper discusses a methodology used to estimate energy impacts from the training program. A key component of the method—surveys of students and nonparticipating building operators about their operational activities—was used twice for BOC programs in two disparate locations and obtained similar impacts. Because of this congruence of findings, supported by results from other aspects of the methodology, the paper proposes that other entities in northerly climates that implement the program as designed can use these estimated savings as likely, providing a good approximation of the actual program savings. Electricity savings are estimated to be 0.5 kWh per square foot of facility affected; gas savings are 1.95 MBtu per square foot. Further research is underway to identify an upper limit to the square footage affected by a single student, under the assumption that there is a limit to the building systems that one operator can influence.

Introduction

The Building Operators Training and Certification (BOC) Program is an educational course for commercial and industrial building operators and facility managers. It teaches building personnel how to operate and maintain building systems for optimal performance, energy-efficiency, and occupant comfort. This paper discusses a methodology used to estimate energy impacts from the educational program. A key component of the method—surveys of students and nonparticipating building operators about their operational activities—was used twice for BOC programs in two disparate locations and obtained similar impacts. Because of this congruence of findings, supported by findings from other aspects of the methodology, we argue that savings from the program can be “deemed,” that is, taken as given for the BOC program when it is implemented as designed.

Description of the BOC Program

The Building Operators Training and Certification program educates building operators and facility managers of nonresidential facilities. Building operations and maintenance activities have long been identified as critical components for the efficient operation of commercial and industrial buildings. Yet, building operations and maintenance staff are often among the least educated about energy issues and among the least valued of staff in a company. These conditions led professionals interested in increasing energy efficiency to wonder how operations and maintenance staff could receive training and education that would increase their capabilities, their estimation of the importance of their work and their valuation by the market.

The Northwest Energy Efficiency Council (NEEC), extending efforts initiated by the Washington State Energy Office and the Idaho Building Operators Association, developed a training and