



BOC INSTRUCTOR SPOTLIGHT

Q & A WITH BILL BURNS

A lot has changed since MEEA began administering the Building Operator Certification program (BOC) 20 years ago – just think about all the changes in technology in your everyday life, not to mention changes in corporate policies and goals, fuel sources and more. Thanks to our dedicated instructors and coordinators who continually impress us but thanks to our dedicated instructors and coordinators who continually impress us with their knowledge and expertise, BOC has adapted and grown immensely in our region since we started.

To reflect on the program's past two decades, we spoke with one of our instructors who's been here since the beginning, Bill Burns, on his journey with BOC and what he envisions for the future. Bill's dedication to the role and his willingness to try new things has been invaluable. This past year alone, Bill has been involved in two pilots that will evolve the BOC program and bring it to new audiences: BOC Level I Multifamily and the Building Operator Pathway (BOP) program. He also instructed in various Level I & Level II series we held. MEEA spoke with Bill to discuss his career, his involvement with BOC, how he thinks attitudes towards energy efficiency have evolved in our industry and his thoughts on the future of the BOC program.

Bill has more than 30 years of experience in the design, operation and maintenance of HVAC systems as well as the development and management of utility energy efficiency and demand management programs. He began training building operators in 2001, providing presentations to Local 399 operating engineers on electric rates and energy efficiency measures. In 2003 he was one of the instructors for the first BOC class in Illinois and has been an active BOC instructor since then. Mr. Burns received a B.S. in Economics and a B.S. in Mechanical Engineering. He is a registered Professional Engineer in Illinois, a member of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the Association of Energy Engineers (AEE).



How did you become involved with building operations and energy management?

I started my Mechanical Engineering career working on nuclear HVAC system design and system startup including testing, adjusting and balancing. 90% of the work was onsite and provided remarkable field experience. After a couple of years, I moved to the operating side at another nuclear plant as a HVAC system engineer. The system engineer is responsible for the design, operation and maintenance of critical HVAC systems and after several years, I also began training new engineers on these HVAC systems. In 1999, I moved from the nuclear side to the distribution side of the electric utility as an energy efficiency engineer, providing energy efficiency support to commercial and industrial utility customers.

ADMINISTRATORS



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.



The Northwest Energy Efficiency Council (NEEC), a non-profit business association of the energy efficiency industry, developed BOC with support from the Northwest Energy Efficiency Alliance (NEEA) and holds the copyright for the BOC trademark and products.

When and how did you hear about BOC?

In 2002, the State of Illinois and the Midwest Energy Efficiency Alliance (MEEA) teamed up to offer the Building Operator Certification program. My manager asked me if I would be interested in applying to be one of the instructors and I jumped at the chance. I applied and in 2003 was selected as one of the instructors for the first BOC series in the Midwest!

What is your area of expertise in the field?

HVAC systems and all that is required to maintain and operate those systems efficiently. For me this required an understanding of the characteristics of the mechanical components, the ability to troubleshoot mechanical and electrical systems and an understanding of how building control systems ensure that the HVAC systems operate as designed. Interestingly, as buildings have become tighter and better insulated, I have become more aware of the operation of HVAC systems and their interface with the building envelope.

What is your favorite BOC class and curriculum to teach?

My favorite class is 1001A&B because it focuses on the different building HVAC systems, but I also enjoy 1002 (Benchmarking), 1003 (Lighting) and 1004 (Controls). From a curriculum standpoint, the recently updated BOC Level II series has been very rewarding because you see the students go through the process of developing a building scoping report and in the 2005 class they give a presentation based on their report. That said, the best classes to teach are the ones which there are lots of good discussions and questions.

You have taught several pilots for BOC in the past couple of years (BOP & Multifamily). Please describe your experience teaching BOC for new audiences. What have you liked about it and what were the biggest challenges?

The Multifamily BOC Series is a variation of the standard BOC series with more focus in each class on Multifamily specific applications/challenges. The two Multifamily audiences I taught were generally similar to other BOC classes. The biggest difference is they rarely have much if any control or responsibility for the energy usage within the residential units which creates a challenge when trying to improve overall building energy performance.

The Building Operator Pathway (BOP) is a two-year program for High School students that begins in their junior year. The students earn college credit for the classes and in addition to the class work they are actually working on the equipment that we discuss in class with their school's facility managers. It was a joy to be teaching in a class setting, albeit online, where students were seeing the building HVAC for the first time and to see the remarkable mentoring that the facility managers were providing both during the classes and hearing about what they had done on their HVAC systems each week. This program has remarkable potential to start the training of a new generation of building operators/managers.



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How do you wish to see the BOC program expand? (For example, any new curricula to add? Or new audience members to market to?)

The BOP program would be a remarkable offering but it is one that has a lot of complexity because you would be working with one or more High School districts as well as a community college. This program or some variation that is reaching HS students is perhaps the most impactful program BOC could offer.

Is there any new class you think should be added to the Level I curriculum?

I believe there are now 5 optional classes in level 1 and it would seem to make more sense to have 2 optional classes instead of one. BOC-1006 could certainly be swapped out for one of the existing optional classes if the goal is to provide more flexibility in the offering. That said, it would be interesting to see how significant the optional class/classes are in students taking BOC level-1. BOC-1001 could certainly use some updating and pruning but please don't increase the number of slides.

Do you think attitudes towards energy efficiency have evolved in your industry If so, how?

I think the most significant changes in the approach to energy efficiency in the commercial building market is the recognition that efficiency and its relationship to demonstrating environmental stewardship can directly impact the attractiveness of one building over another when customers are evaluating expanding or relocation. New government tax credits will also begin to increase the speed at which energy efficiency measure are implemented.

As we transition back to in-person classes, how do you compare virtual and in-person trainings? Which do you prefer?

I prefer in-person training because of the dynamic interaction that occurs when people are together. I can also tell much more quickly if one or more people in the class are confused/disagree with a given topic. Some of the best class discussion I have seen are ones that started as clarifying a topic or walking through a difference in understanding, and those happen more often in person.

While there are many benefits to in-person classes, there are benefits to virtual classes that in-person classes cannot offer including eliminating travel to a central location. The downside of virtual classes is that if you are at work, you are more likely to be pulled away from the class. Perhaps the biggest benefit to virtual is that it can reach people who might not otherwise take the class because traveling constraints or the inability to dedicate a whole day to a class.

Do you have any best practices or tips you'd like to share?

The best tip I have is to be curious. Those who are curious are always seeking to understand how things work. We should always keep our two-year-old-self present to ask why. This to me is one of the most critical characteristics of a life-long learner.

How do you like to spend free time?

A significant amount of my free time is spent on renovations but with the world getting back to a semblance of normalcy, I am looking forward to some travel outside the US.

Thank you Bill!

We are always looking for additional instructors and time commitment is limited to a few days a year. If you are interested, please email us at boc@mwalliance.org

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