The Checklist

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In This Issue

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LETTER FROM THE PRESIDENT

Dear Members,

There are a lot of issues in the building community that directly affect the commissioning profession, and this year we're bringing the discussion to the National Conference on Building Commissioning in May. Will building technology replace commissioning, OR will it pave the road to more detailed commissioning? Will you lose market share to manufacturers who use commissioning as a market channel to introduce their own products, OR create alliances with manufacturers to train and procure the best-in-class commissioning authorities? Will new building codes commoditize commissioning, OR will they help drive better business practices?

Code changes, competing standards, and market pressures are making the role of the commissioning authority more challenging. It is clearly more difficult to deliver the high quality process under these conditions. Likewise, technology can be leveraged to increase to building performance; it can be used to track and measure, and even predict and recommend building system changes. We are now seeing the shift from passive systems to "smart" buildings that actively improve building operation. What technology cannot do is analyze unpredicted conditions, sit down with owners and their staff to talk about why things are happening, the comparative value and trade-offs of integrated system changes, or discuss how we as humans must interact to meet performance requirements during operation.

At the conference you'll see why there's no substitute for human observation, communication, and building-specific decision making. Future building performance is about data-driven analytics and automated fault detection and diagnostics. It's also about cooperation with people – designers, builders, owners, facility managers, building operators – to understand and work together to deliver their goals.

The annual National Conference on Building Commissioning offers the only professional venue to explore these kinds of issues and share answers. Conference participants seek ways to optimize their knowledge, their career, their business model, and their buildings. Speakers "show and tell" how it can be done. NCBC features the best practices and the brightest champions of the building commissioning industry, staying a step ahead of standard practices (or more) to meet owners' high expectations.

This year, NCBC is about powering up for the future of commissioning. It's about how commissioning authorities and teams will deliver services in an environment of rigorous building codes and standards, new technology applications and more complex buildings. It's about how to qualify and get hired based on skills, knowledge and experience. "Spotlight on NCBC: Gateway to the Future of Commissioning" on page 16 reveals more details about NCBC 2015 and the exciting agenda we've put together for you.

I'm looking forward to meeting you all personally at NCBC 2015 – I hope you'll find a moment to say hello. In the meantime, feel free to get in touch with commissioning thoughts or ideas at my email address below.

Sincerely,

Bill McMullen
President

wmcmullen@bcxa.org

BCA'S GUIDING DOCUMENTS – IT'S TIME TO REVIEW

By Liz Fischer, Executive Director

As I was reviewing the impressive list of new and renewing BCA members from our annual membership drive, I was thinking about what a difference we are making in the built environment. It also reminded me of one of our foundation documents, the Essential Attributes. By joining the BCA members agree to adhere to the qualities and practices described in this document.

On a yearly basis you, as a member, should pull this document out to review your practices and those of your firm to ensure you continue to adhere to the Essential Attributes. Remember, the Essential Attributes (www.bcxa.org/membership/essential-attributes/) are considered to be so fundamental to effective building commissioning that all members must follow them.
The 11 attributes were developed 16 years ago by the founding members and still hold true to the practice of commissioning today.

The BCA has other documents to help guide CxAs and commissioning firms, such as our Best Practices documents and Checklist Templates. We also endorse ASHRAE Standard 202 and Guideline 0, and we encourage all BCA members to follow these documents. Right now, the Best Practices documents are in review by the committee; the New Construction Best Practices, with new and revised Checklist Templates and resources, should be available by May. The committee will then start on updating our Existing Building Best Practices.

The Essential Attributes and the BCA Best Practices stand side by side with a new position paper titled *"QBS for the Commissioning Profession."* This paper, from the International Board of Directors on the procurement process known as Qualifications-Based Selection, is also very important to the future of the Cx profession. There are some current market initiatives that would move commissioning to be procured as a commodity rather than as a professional service. Our position is one of advocacy for commissioning as a professional service, which should be hired like other professional services based on relevant knowledge, skill, abilities and experience.

These three documents provide the underpinning for BCA's mission and dedication to excellence. They are a superior model for quality in the hiring and delivery of commissioning services. I would like to encourage you to review these documents and follow their guidance within your practices.

I'm eager to hear from you about how the Essential Attributes, Best Practices and QBS for the Commissioning Profession affect your work. Please feel free to send me your thoughts and ideas at lfischer@bcxa.org.

COMMISSIONING AND EMORY'S SUSTAINABLE PERFORMANCE PROGRAM

By Eric Gregory

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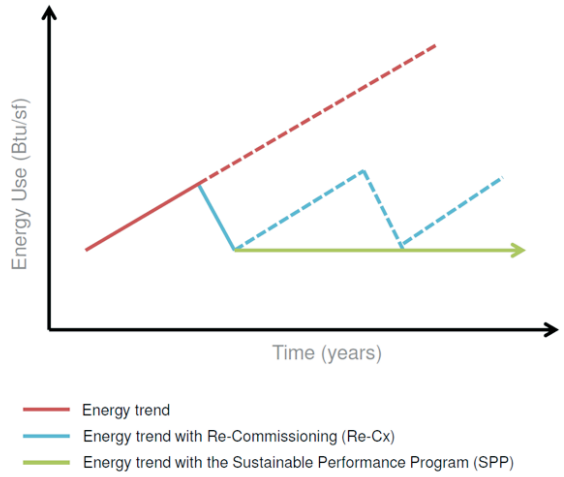
www.appa.org/facilitiesManager/index.cfm

In August 2011, I submitted a business case for a new, proactive, energy-based operations program at Emory University in Atlanta, Georgia, for approval and buy-in from Emory's Campus Services administration. The proposed program was entitled the Sustainable Performance Program (SPP), and I've modified the original business case for this article.

The program was approved with an initial funding commitment of $75,000. In fiscal year 2012, using only $40,000, we uncovered 78 operating inefficiencies, previously unknown to our operations staff, within seven of our newer facilities on campus. The estimated cost avoidance on those issues was $250,000. Using these results, we were approved to create a full-time, dedicated position, which became effective in February 2013.

To date, we have eight facilities fully implemented within the SPP. These same facilities had recently been recommissioned (Re-Cx) in FY12/13. Emory's investment cost for the Re-Cx projects was $1.27 million. When the SPP was implemented in these buildings, an additional 640 issues were identified and corrected. Annual utility cost savings in these facilities is tracking $800,000. Now, with the SPP, the goal is to keep the performance optimized and avoid degradation. The graphic below is the essence of the SPP.



PURPOSE

A Sustainable Performance Program, also known as Ongoing Commissioning or "Continuous Commissioning®," is a process intended to sustain and even continuously improve the system performance of a facility over time. The purpose of this report is to demonstrate the benefits of implementing a Sustainable Performance Program at Emory University. The goal of such a program is to achieve the following benefits:

- *Ensure that a facility's utility consumption is in alignment with its baseline design, and avoid performance degradation over the life cycle of the system.*
- *Strive to improve building baseline performance by implementing engineer-led monitoring and optimization.*
- *Maintain the current functional requirements throughout the life of the facility. Ensure systems will effectively and optimally serve repurposed spaces.*

STATE OF COMMISSIONING AT EMORY UNIVERSITY

New Construction Commissioning

Emory University was ahead of the curve as a university when it began implementing commissioning in its new construction projects beginning in the latter part of the 1990s. It was approximately the year 2000 when a full-time position was dedicated to the process of managing Emory's commissioning activities. With the requirement of all new large capital projects obtaining the USGBC's LEED™ Silver certification, in which commissioning is not only a credit but a prerequisite, it is evident that both Emory and the USGBC hold commissioning in high regard as a beneficial and sustainable process.

The process of commissioning is now being applied to not only the large capital projects seeking LEED certification, but also to a greater proportion of the maintenance rehabilitation and repair projects that entail significant mechanical, electrical and plumbing components.

Existing Building Commissioning

Existing building commissioning had not been extensively applied at Emory. The Goizueta Business School (GBS), which was originally built and commissioned in 1997, was

recommissioned in 2003, then underwent a second round of Re-Cx due to continued low performance operations and high annual energy consumption.

The Re-Cx project for the GBS was being performed in-house by Engineering Services. The building was selected for Re-Cx given its energy consumption was about 165 MBtu/sq ft versus the newer GBS Foundation building operating at 70 MBtu/sq ft, which was built and commissioned in 2005. A number of findings have been made during the investigation of GBS that support a new Sustainable Performance Program (SPP):

- *During the 2003 Re-Cx effort, terminal unit minimum airflows were reduced from around 50 percent of maximum to 30 percent of maximum. In general, 50 percent minimum airflow is too high and results in excessive reheat energy. However, these changes made in the terminal unit controllers were lost for an unknown reason and for an undetermined period of time. This may have occurred due to a database corruption issue in which the controllers were reloaded with an original program. A Sustainable Performance Program would likely have discovered and corrected this condition shortly after the occurrence.*
- *During the 2003 Re-Cx effort, the outside air brought into the facility for ventilation was reduced by 50 percent of original design to match actual occupancy. However, the current Re-Cx investigation found that the outside airflow was 200 percent of the original design, or 400 percent of the actual required outside air. A Sustainable Performance Program likely would have caught this degradation of control also.*
- *AHU-4, in particular, was found inducing 400 percent of outside air versus the original design. A damper position override was installed to maintain the return air damper at 80 percent open and the outside air damper open at 20 percent, which was more in line with the original design.*

Sustainable Performance

Some degree of sustainable performance is currently being utilized within Engineering Services, but it is confined to the efforts directly associated with our energy reduction efforts. When the utility engineer recognizes an abnormal increase in the utility consumption data recorded, he and the utility technician try to determine the root cause. Once the root cause is determined, an energy-related work order is generated and assigned to the operations group for them to address.

Although their efforts are finding and resolving issues, the process is currently reactive to the monthly trend data, and an energy waste issue can go undetected for months. Follow-up and verification of the work order closure is also proving to be an intense effort that the department is not positioned to deal with.

While these current efforts are a great benefit to the university, the SPP will provide more timely identification of waste issues, ensure that the ongoing facility performance requirements are met and optimized, and ensure a repurposed space does not negatively impact the building systems.

WHAT BUILDINGS MAKE THE PROGRAM?

All newly constructed facilities and major building renovations that have undergone a commissioning process would automatically roll into the SPP. Once a building has

been commissioned, the facility performance will have been verified as to whether or not it meets the functional requirements and intent, and a baseline established.

Existing buildings should be either recommissioned or retro-commissioned to bring the facility back to its original or current functional performance requirements, followed by the establishment of a baseline.

Chilled water plants provide some of the greatest opportunities to capture energy savings with an SPP. Given the complexity and continual changes in load and ambient conditions, a SPP would likely be augmented by an automated plant optimization program. Together with an established optimization program, the SPP would ensure that the optimization program remained enabled as the primary control, as well as provide a platform for the review of continuous trending data and provide a tracking mechanism to verify optimum performance.

THE SUSTAINABLE PERFORMANCE PROCESS

The following is a general summary of the major tasks and duties of a Sustainable Performance Program.

The initial implementation of the SPP comes at the conclusion of the new or existing building commissioning process. At this time, performance will have been verified and a baseline established.

Implementation

- *Implement the building-specific SPP, developed and provided by the commissioning authority as a deliverable of the project Cx process.*
- *Implement trending on utility meters and controlling set points and outputs.*
- *Utilize the building automation system (BAS) to route alarms to the SPP engineer for any equipment issues that will impact energy consumption.*
- *Utilize facility dashboard information.*
- *Benchmark energy use.*
- *In time, the SPP engineer shall develop and implement automated fault detection and diagnostic program code to be integrated within the BAS. This will result in less hands-on oversight of system operation and enable the SPP engineer to manage more facilities within the SPP. Automated fault detection sequences would eventually be included in the appropriate sections of the Emory Design and Construction Standards maintained by PD&C of Campus Services.*

Monitoring

- *Monitor and track energy use to gain understanding of the facilities consumption patterns. Frequency shall initially be set for hourly optimization of controlling set points. Over time and upon gained familiarity, frequency can be extended, given the functional requirements of the facility and spaces within remain the same.*
- *Review key system parameter trends for observing performance under varying loads and seasons to ensure stable and optimal performance.*
- *Establish system level performance targets to improve energy performance continuously. Typical energy systems at Emory include chilled water, steam, electricity, and water.*
- *Right-size performance at the zone level. This requires a determination of optimal maximum and minimum HVAC airflows on the terminal unit level, as well as tuning of temperature set points to optimize occupant comfort with performance. Designed airflow minimums are often incorrect and include so many engineered safety factors that result in the minimums being too high. This results in reheating energy waste to prevent a space from over-cooling. This can often be a moving target, given the use of the zone and the amount of heat generating load within. This was illustrated quite dramatically when we implemented the new temperature set point policy last summer.*
- *Monitor and track non-energy performance metrics such as comfort calls, occupant satisfaction, indoor air quality parameters, etc.*
- *Coordinate building occupancy schedules to optimize the durations of time that the building systems can be turned off.*
- *Follow-up to ensure that all energy related work orders to the facility maintenance shops are appropriately completed.*
- *Operating Log & As-Built/Record Document Maintenance.*
- *Maintain an operating log documenting significant events such as equipment replacement, maintenance, testing, and any issues and their resolution.*
- *Ensure the as-built and record documents are up to date.*
- *Ongoing Operator Training.*
- *Provide training to building operators and mechanics of all changes or modifications implemented.*
- *Maintain a routine training program that focuses on proper operating and maintenance procedures that sustain performance.*

COST AND RETURN

Cost

In order to devote full attention to implementing, executing, and guiding a Sustainable Performance Program at Emory, we recommended the addition of a full-time equivalent employee (FTE), titled Sustainable Performance Engineer (SPE), within Engineering Services, who would work closely with the current ES positions of commissioning engineer, utility engineer, and utility technician, as well as with personnel of the FM zones and shops.

As an option, an engineer contract employee could be obtained from one of Emory's preferred commissioning consultants—either a scope of work could be written around the responsibilities listed above and a fee proposal developed by the CxA, or an hourly rate and quantity could be negotiated. This would be a 50 to 75 percent cost premium over an in-house FTE. The downside of this option is that the knowledge and familiarity of the facilities within the program will be primarily with the contract employee and not with Emory.

Return

Most new facilities, constructed within the last three years, should be implemented in the SPP as soon as it is practical. Using the energy consumption data from FY2010, these buildings comprise a total annual cost of $1.2 million. Using the estimate of typical performance degradation at 5 percent, these buildings could require $60,000/year additional funding to operate going forward.

Facilities constructed within the last five to eight years would require some level of confirmation of the baseline, entailing some level of Re-Cx implementation, then roll into the SPP. Using the energy consumption data from FY2010, these buildings comprise a total annual cost of $3.9 million. Assuming a 20 percent annual usage savings were to result from a Re-Cx process, cost savings would be around $780,000/year. An SPP would protect the investment of Re-Cx and sustain this savings.

The total estimated annual cost savings of the facilities under consideration would be in the neighborhood of $1 million, and provide a revised total annual utility cost of$4.58 million. A 5 percent annual degradation of this cost is $229,000 in the first year. This would result in the cost of the FTE having an annual payback of approximately six months.

ABOUT THE AUTHOR:

Eric Gregory is commissioning manager and the Sustainable Performance Program manager at Emory University in Atlanta, GA; he can be reached at eric.gregory.edu. This is his first article for Facilities Manager. In Addition, he is a member of the advisory committee on the third edition of The Building Commissioning Handbook, to be published by APPA and the Building Commissioning Association (BCA).

ENDNOTES

"The Cost-Effectiveness of Commercial-Buildings Commissioning – A Meta-Analysis of Energy and Non-Energy Impacts in Existing Buildings and New Construction in the United States." Lawrence Berkeley National Laboratory Report 56637 (Rev.). Mills, Friedman, Powell, Bourassa, Claridge, Haasl, Piette. 2004.

"Evaluation of Retrocommissioning Persistence in Large Commercial Buildings." N.J. Bourassa, M.A. Piette, N. Motegi. 2004.

"Examining Energy Performance Technology concurrently for Retroactive and Ongoing Commissioning." Steven P. Driver. 2009.

"Monitoring-Based Commissioning: Benchmarking Analysis of 24 UC/ CSU/IOU Projects." Lawrence Berkeley National Laboratory Report 1972E. Mills, E. and P. Mathew. 2009.

"Building Commissioning: A Golden Opportunity for Reducing Energy Costs and Greenhouse Gas Emissions." Evan Mills, Ph.D. 2009. "Continuous Commissioning Facts: Implemented in over 300 buildings, with an average project simple payback of under 2 years, producing over $90 million in savings with a $13 million total investment." www-esl.tamu.edu/continuous-commissioning. Energy Systems Laboratory, Texas A&M University

BCA POSITION ON QUALIFICATIONS-BASED SELECTION

In December 2014, the BCA International Board of Directors voted to approve a position paper that states the BCA's position and advocacy for the qualifications-based selection (QBS) process for commissioning authorities. The 2014 fourth quarter Checklist carried an article describing QBS (www.bcxa.org/wp-content/uploads/2014/12/BCA.TheChecklist_Fourth.Quarter.pdf). Below is the full text of the BCA's official position on this important process for ensuring quality in the hiring and practice of commissioning services. The document is also separately available for download on the BCA website.

The BCA advocates that the qualifications-based selection (QBS) process, defined in the Congressional Brooks Act of 1972 and more recent state, provincial and local policies, be adopted by commissioning professionals (CxPs) and all building owners, managers and project teams that hire CxPs.

INTRODUCTION

Qualifications-Based Selection (QBS) is an evaluation, scoring and selection process for owners to use when hiring building project professionals. It encourages owners to solicit, and project consultants to submit, proposals for specific scopes of work that are evaluated based on qualifications. Consultants are shortlisted and selected for budget negotiations after preliminary selection, and before contracts are signed.

QBS for architectural and engineering design services on U.S. federal construction projects was formalized by Congress in 1972 through the Brooks Act for public owners "to negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at fair and reasonable prices."

BACKGROUND

The original purpose of this law was to reverse the tendency of federal property owners and managers to select A/E design firms according to the lowest bid, by creating a policy that requires them to review competencies and accept qualifications of A/E design firms before viewing or negotiating price.

Following the Brooks Act, many states and other government entities in the U.S. and Canada have developed their own interpretations of QBS. Nearly all states have either adopted the policy outright or created QBS-like administrative codes. Several states, such as Georgia, Washington and Massachusetts have gone so far as to identify commissioning within their QBS process, and some also strongly encourage QBS in the private sector.

Under the Brooks Act, QBS is required only in the federally-funded public project sector; it is not universally applied – or always recognized – as a tool for private sector projects. The policy was not, and is not, a mandate for the private sector, but it is slowly gaining ground among building-related professionals like CxPs, well beyond architectural and engineering designers.

HOW COMMISSIONING FITS INTO TODAY'S QBS CONTEXT

The global drive toward continuous improvement of building materials, systems and practices demands a quality approach – not only in the context of architecture and engineering, but in terms of all services that contribute to better building performance. Commissioning is high on that list of services.

QBS AND THE CX PROFESSION

The DOE/NIBS Commercial Workforce Credentialing Council and subject matter experts recently conducted a Job Task Analysis (JTA) for the commissioning profession. The JTA is the most widely accepted and nationally used process for determining valid job content such as knowledge, skills and abilities (KSAs), employment requirements, training and testing. The resulting document provides a model for defining, requesting and measuring CxP qualifications.

The JTA includes lists and detailed charts summarizing commissioning KSAs for generalized and specialized building systems, tools, equipment, resources, and professional characteristics. The document includes seven sections focused on Cx project management for new and existing buildings; Cx process activities; documentation; training; and post-occupancy. The JTA can act not only as a tool for CxPs to measure their own qualifications, but also as a tool for owners to understand the scope of services and capabilities they can expect from CxPs.

QBS goes beyond the JTA. Owners should expect (and confidently request) CxPs to provide:

- Cx team with KSAs required to deliver projects that perform in accordance with owner's requirements and expectations
- Experience with specified building sector/type, e.g., hospitals, data centers, office buildings, labs, gymnasiums, classrooms, etc.
- Validating performance of building systems that prevail for proposed building types
- Knowledge of codes and standards that apply to the proposed building type and location
- Understanding of (brand-agnostic) technologies required for testing and performance measurement

Furthermore, if evaluation takes into account the value of certification, a rigorously-developed and earned certification must be the measure of quality. Certification does not eliminate or minimize the value of good QBS. Owners should be able to qualify commissioning professionals based on QBS procedures, certification credentials such as the Certified Commissioning Professional (CCP) awarded by the Building Commissioning Certification Board, along with specialized capabilities necessary to accomplish project delivery.

QBS PROCESS

The QBS ruling and process were originally written for owners. The steps broadly include **(1)** establishing evaluation criteria; **(2)** soliciting qualifications; **(3)** rating qualifications and developing a short list; **(4)** interviewing and ranking three providers; **(5)** owner and provider jointly refining scope and contract terms; and **(6)** negotiating a contract (or moving on to the next- ranked provider). In the public sector, a published announcement requesting qualifications is also required. Most entities espousing the use of QBS have developed prescriptive guidelines, manuals or sample documents.

Here are some excellent examples:

- *ACEC www.acec.org/advocacy/qbs ; (also see New Mexico's "Owner's Manual for Qualifications-Based-Selection" www.acecnm.org/docs/Owners%20Manual%20for%20QBS%2001-13.pdf*
- *American Institute of Architects www.aia.org/advocacy/federal/AIAS078527#P10_1365*
- *New York State QBS sample forms and guides www.nysqbs.org/resources.html*
- *RAIC Architecture Canada www.raic.org/architecture_architects/choosing_an_architect/qbs_e.htm*
- *Canadian National Guide to Sustainable Municipal Infrastructure www.researchgate.net/publication/44061451_National_guide_to_sustainable_municipal_infrastructure*

WHY IS QBS IMPORTANT NOW?

Building quality is increasingly under the microscope in government agencies, energy efficiency circles and building performance research. Advances in building technology and complexity, along with more stringent codes and standards, are changing the rules. Performance benchmarking and metrics are being documented across the U.S. in the commercial building sector.

The QBS process is a tool for hiring project team members who ensure that service providers meet building quality and performance criteria. CxPs in particular, whether contracting directly with Owners (preferred), or by design firms (for design/bid/build projects), or design/build firms, should be qualified to maximize value to Owners. Owners should evaluate CxPs based on KSAs specific to their project, thus increasing the overall value to the project, the team, and a quality outcome.

WHY SHOULD THE BCA TAKE A POSITION ON QBS?

QBS is not controversial as a concept, but it is not embraced by all in the building community. The April 2011 issue of Architect magazine included an article by Zach Mortice, "Reevaluating Qualifications-Based Selection systems in an Age of Cost Cutting." The author indicates that the current patchwork of laws "lose uniformity the further they get from federal laws" even though their purpose is to safeguard quality. He says, "QBS is under threat from state legislators and institutional procurement officers who don't understand the process, or question it, creating a need to reeducate clients and civic leaders about QBS's value—all this coming at a time when many states and municipalities are looking to cut costs and see QBS as an added expense."

Cost-cutting, and leveraging competition through pricing rather than QBS, have taken a toll on project costs as well as building systems functionality in recent recession years.

Here are two examples :

- **Cost.** A Penn State research survey of 79 design/build project owners, by Marwa A. El Wardani, concludes, "the owner's decision towards which procurement process to implement for selecting the design-build team significantly affects the project cost growth. As previously mentioned, the qualifications-based selection had the lowest cost growth. The low bid selection resulted in the highest cost growth value that is on average 9% higher than the growth observed for the qualifications-based selection."
- **Building Systems.** Anecdotal and statistical evidence shows that a philosophy of quality first results in better buildings, and also in better health and safety for building occupants. A 2012 research paper by Cynthia Jean Reese, Analysis of Qualifications-Based Selection in Washington State, illustrates the potentially dire implications of QBS versus low bid: "One of the highlighted projects [published by ACEC in a QBS case study] describes how two elevated walkways at a Kansas City hotel collapsed during an event, resulting in the death of 111 people while injuring over 100 more. The design engineer had been chosen via a bid system, and subsequently, the walkway "rod assemblies" were not actually designed by the engineer, but by the fabricator, as a method of keeping the bid low."

CONCLUSION

When the QBS process is not used to verify CxP capabilities and experience, pricing usually becomes the default. Unfortunately, owners do need to struggle with trade-offs when allocating project costs, especially in the public sector where the "public good" (i.e., your tax dollars) is a decision element. When that results in a lower investment in delivering quality services – especially if those services are not clearly defined – costs of project-wide services and products often rise as the project progresses due to change orders and errors or omissions in planning, design, construction and/or delivery. To begin building projects with more accurate and predictable budgets, The BCA believes that owners need to understand and use the QBS process as their tools for managing the triad of cost, schedule and quality.

Properly performed, commissioning is the continuous quality assurance link across disciplines and schedule in a building project. It should be regarded by owners as one of the most important services to be hired based on qualifications. The BCA strongly advocates for CCP certification and the use of QBS by owners and CxPs as significant tools that will continue to elevate the role of commissioning and the delivery of high performance projects in the built environment.

HAVE YOU HEARD?

SPRING TRAINING WORKSHOPS 2015

BCA's initial two 2-day workshops, one on New Construction Commissioning and the other on Existing Building Commissioning, took place at ASHRAE Headquarters in Atlanta in February. The next workshops are scheduled at the Best Western Plus, Toronto Airport, 5825 Dixie Road, Mississauga, Ontario, on April 27-28 (NCCx) and April 29-30 (EBCx). Learn more and register here www.bcxa.org/training/classes/.

SPRING WEBINARS

Four technical webinars round out Spring Training from the BCA. Learn more and register www.bcxa.org/training/webinars/.

April 8, 2015
Commissioning UFAD Systems: Lessons Learned

James Anderton, CPMP, CxA, LEED GA
Independent Commissioning Consulting

April 22, 2015
Preparing Facility Systems Manuals (ASHRAE Guideline 1.4)

Bradley Brooks, Ed.D, CCP, LEED AP BD+C
Cx Solutions

May 6, 2015
Air Barrier Testing and Commissioning

Ed Simpson, CCP, CPMM, LEED AP
TESTCOMM

June 3, 2015
BACNET/Lon Integration:
What Commissioning Authorities Need to Know

Tony DiLeonardo, CxA, LEED AP and
Bruce Engelbrecht, PE
Wick Fisher White

BCA IN THE NEWS

The NIBS Journal article, "Laying a Pathway for the Next-Generation Commissioning Provider" by Liz Fischer and Bill McMullen, looks at the challenges and solutions for the commissioning profession.
digital.journalofthenationalinstituteofbuildingsciences.com/nibs/february_2015#pg34

The APPA Facilities Manager article, "What Owners and Providers Should Know About Building Commissioning (And Each Other)" by Diana Bjornskov, compares the results of two different surveys of owners and the building community, conducted by BCA in 2014. www.appa.org/files/FMArticles/32-371.pdf

AWARD NOMINATIONS NOW BEING ACCEPTED

DEADLINE: MARCH 31, 2015. SEND YOUR NOMINATIONS TO INFO@BCXA.ORG

Benner Award – Industry Award

On Tuesday, May 19, 2015, National Conference on Building Commissioning in St. Louis this year we will be presenting the Benner Award. This Award was originally produced/hosted by PECI in memory of Nancy Benner, a long time employee and advocate of energy efficiency and commissioning. The Benner Award recognizes outstanding achievement in making building commissioning "business as usual." This was Nancy's mission, her personal dream, and her challenge to each of us working in the commercial building industry.

The Benner Award Committee is accepting nominations for the Benner Award, a prize for excellence in efforts to make commissioning business as usual. The committee seeks nominations of individuals and programs/organizations that have engaged in educational, demonstration, policy, or actual commissioning activities that successfully promote excellence in building commissioning. Nominations in each of the two categories will be accepted and will be judged separately. Resubmission of previous nominees is encouraged.

Award recipients are selected by a committee of national experts on commissioning representing the public and private sectors. The committee may award multiple or no awards in each category.

President's Award – BCA Members Only

This award is given at the BCA's Annual Meeting and Dinner held the night before the National Conference on Building Commissioning on Monday, May 18, 2015. The BCA President's Award is given to one BCA Member who has made a significant contribution to the Building Commissioning Association through participation on committees or other activities. The President's Award is presented at the Association's Dinner held annually at the National Conference on Building Commissioning.

The recipient must be a member in good standing with the Building Commissioning Association and shall have demonstrated outstanding service to the Association which contributes toward the goals, vision, and mission of the Building Commissioning Association.

DID YOU KNOW?
RESOURCES FOR CODES AND STANDARDS

- *On September 26, 2014, DOE issued a determination that Standard 90.1-2013 would achieve greater energy efficiency in buildings subject to the code. DOE estimates national savings in commercial buildings of approximately: 8.7% energy cost savings; 8.5% source energy savings; and 7.6% site energy savings. www.energycodes.gov/determinations. As a result, states are required to certify that they have reviewed the provisions of their commercial building code regarding energy efficiency, and, as necessary, updated their codes to meet or exceed the updated edition of Standard 90.1.* **State certifications for Standard 90.1-2013 must be submitted by September 26, 2016.**
- *Check out this free resource/reference library of U.S. state and local building codes and amendments for all 50 states, major cities, and some counties. In addition to information on codes and amendments, the site provides contact information for up to 17 authorities having jurisdiction (AHJs) in each market as well as contact information for local utilities. www.cmdgroup.com/building-codes/*
- *ACEEE's state building codes web page www.aceee.org/sector/state-policy/building-codes*
- *Summary table with links to rules, regulations and policies for federal, state and local energy efficiency, state by state: www.dsireusa.org/summarytables/rrpee.cfm*

HOW TO BECOME A BCA SPEAKER

Every year the BCA finds opportunities to present at local, regional and national events about commissioning. Our Board of Directors and other members often represent us at conferences or lecture about the importance of commissioning practice at colleges and universities. We're expanding the BCA Speakers Bureau to take advantage of those opportunities as they arise. If you have a desire to share your commissioning knowledge as a public speaker for the BCA, please complete the application form on our website at www.bcxa.org/wp-content/uploads/2014/12/SPEAKERS-BUREAU-APP.pdf, or contact Sheri Adams at sadams@bcxa.org.

BCA KNOWLEDGE CENTER: CALL FOR CONTRIBUTIONS

The BCA Knowledge Center website is under reconstruction and we want to share your knowledge. Do you have a paper, article, Cx resource or presentation that your building community should know about? We'd love to hear about it! Please contact Diana Bjornskov at dbjornskov@bcxa.org for more details.

SEND US YOUR TECHNICAL ARTICLES

The Checklist is your quarterly journal to keep up on news, features and people who contribute to the advancement of the BCA, the commissioning profession and the building industry. We're always on the lookout for thoughtful, well written technical articles and case studies that solve problems or illuminate innovative aspects of commissioning. If you have written or published an article that may interest Checklist readers, please contact Diana Bjornskov at dbjornskov@bcxa.org.

CCP/ ACP/ CCF CONGRATULATIONS

The BCA congratulates the following individuals on achieving the Certified Commissioning Professional (CCP), Associate Commissioning Professional (ACP) and Certified Commissioning Firm (CCF) designation.

CCF Certified Commissioning Firm

NEW CFFs

- **Brinjac Engineering, Inc. a Nelson Company,** www.nelsonline.com, Philadelphia, PA

RENEWING CFFs

- **CFMS-West Consulting, Inc.,** www.cfmswest.ca, Ancaster, Ontario, Canada
- **Questions and Solutions Engineering, Inc.,** www.QSEng.com, Chaska, MN
- **sys-tek,** www.sys-tek.com, Blue Springs, MO 64014
- **Alta Consulting Services, Inc. (ACSI),** www.altaconsulting.com, San Jose, CA
- **RMF Engineering, Inc.,** www.rmf.com, Baltimore, MD
- **Wood Harbinger Inc.,** www.woodharbinger.com, Bellevue, WA 98004

CCP Certified Commissioning Professional

NEW CCPs

- **David Cantrill, CCP, PE MS, CxA,** Commissioning & Green Building Solutions, Inc.
- **Michael Snyder, CCP, PE, LEED AP BD+C**, CFMS West Consulting, Inc., Ancaster, Ontario, Canada
- **Mark Firestone, CCP, PE OR, CEM,** PAE Consulting Engineers, Inc., Portland, OR
- **Jeremiah D. Point, CCP, P. Eng., LEED AP,** Nova Commissioning Services Ltd., Ottawa, Ontario, Canada

RENEWING CCPs

- **Kevin David, CCP, EIT,** MENG Analysis, Seattle, WA
- **Douglas Ewers, CCP,** Chesapeake, Virginia
- **Jeanine M. Grochowski, CCP,** Consulting Engineering Services, Inc., Middletown, CT
- **Kenneth Hagan, CCP,** O'fallon, MO
- **Luis R. Hernandez, CCP, EBCxG,** Montebello, CA
- **Brad Jones, CCP, PE, LEED AP BD+C,** Cadmus, Waltham, MA
- **A. J. Kinya, CCP, PE, LEED AP,** Strategic Building Solutions, Johnstown, PA
- **Manus McDevitt, CCP,** Sustainable Engineering Group, Madison, WI
- **Todd McGuire, PE, CCP, CEM, LEED AP O&M,** Glumac, Seattle, WA
- **Svein O. Morner, CCP,** Sustainable Engineering Group, Middleton, WI
- **Edward (Sandy) Renshaw, CCP, PE, LEED AP BD+C,** William Tao & Associates, St. Louis, MO
- **Matthew Malinosky, CCP, PE, LEED AP BD+C,** Questions and Solutions Engineering, Chaska, MN
- **Michael B. Walsh, CCP, PE, LEED AP,** Consulting Engineering Services, Inc., Middletown, CT

ACP Associate Commissioning Professional

NEW ACPs

- **ACPS, Tyler Alsen, ACP, EIT GA,** Commissioning and Green Building Solutions, Ridgeland, MS
- **Adam Spatz, ACP, PE MD, LEED AP,** Greenman-Pedersen, Inc., Rockville, MD
- **Dylan Turner, ACP, EIT, LEED AP BD+C,** Greenbusch Group, Inc., Seattle, WA

RENEWING ACPs

- **Byron Holmstead, ACP, PE, LEED AP,** Welsh Commissioning Group, Inc., Auburn, WA

These individuals join the ranks of the most qualified commissioning providers in the industry. Way to Go!
The CCP exam is online and available at more than 200 testing sites. To apply, review the Candidate Bulletin and download the application at www.bcxa.org/certification.

Not sure if you are qualified? Send us your questions at rdicandilo@bcxa.org or call the BCA Hotline at 877.666.2292.

SPOTLIGHT ON NCBC 2015:

GATEWAY TO THE FUTURE OF COMMISSIONING

Are you ready to discover the future of commissioning? In the coming days, the NCBC 2015 conference agenda will be ready for your review.

Prepare to enter the future starting on Tuesday, May 19th in St. Louis, where you'll discover how the innovation potential ahead, and building blocks that are driving emerging Cx methods, technologies and services, will pay off for industry professionals in the know.

POWER Sessions, a new feature at NCBC, will deliver fast-paced 30-minute intelligence that impacts your business success and provides resources for you and your clients.

Power up with sessions like these:

- Today's Investment Planning for Tomorrow's Technologies - Cx for Asset Management
- Energy (BTU) Flow Survey with Clamp-On Flow and Temperature
- Using EMIS Systems to Streamline EBCx Projects

Be part of the conversation at these panel discussions with leading authorities:

- Hear from a Lawyer, Insurance Broker, and CxA on Commissioning Contracts: Liability, Indemnity, and Insurance.
- Learn from an owner's panel how to put your best foot forward by using the Qualifications Based Selection process.
- Listen to a CxA, controls contractor, and a general contractor on the topic of Whose Role is it Any Way

It wouldn't be NCBC without strong technical sessions. Here are just a few:

- Commissioning Mission Critical Facilities for Safety and Resiliency
- Leveraging Filter Technology and Life Cycle Cost-Based Operation to Save Energy and Resources
- Commissioning for the Forgotten Resource: Water
- Net-Zero Commissioning
- Commissioning with Smart Meter Data: A Data Analysis Demonstration (you'll want to bring your laptop for this one!)
- The Future of Fire Protection and Life Safety

Explore the Exhibit Hall to get inspired by new products and services while you network with colleagues.

We'll dive into the biggest questions facing commissioning professionals and get your help to develop answers and an advocacy response to the building industry. In separate breakout sessions you'll have the opportunity to collaborate with colleagues, and we'll summarize findings in our closing session:

- **Virtual Commissioning vs. Boots on the Ground.** How software can help (or hinder) the ongoing commissioning process.
- **The Commissioning Team of the Future.** Who is leading the team, roles and responsibilities and what specialty skills are really needed?
- **Is commissioning becoming a commodity?** How do codes, certifications, and procurement practices affect commissioning as a professional practice?

The building industry's greatest potential lies ahead—get ready to enter the Gateway to the Future of Commissioning.

SEE YOU IN ST. LOUIS!

CONGRATULATIONS

NEW MEMBER AWARD WINNER!

As part of the Fall Membership Drive, names of all BCA members who joined BCA for the first time between October 1 and December 31 were entered into a random drawing for a $100 Visa gift card. Brian Green of Capitol Commissioning, Inc., National Capital Chapter was drawn from the "hat" below. Congratulations, and welcome to the BCA, Brian!

BCA™ Building Commissioning Association

CORPORATE MEMBER

NEW CORPORATE BCA MEMBERS

- Alliance MEP Engineers
- Bluestone Engineering
- Bright Power
- Vital Engineering Corporation

BCXA™ Building Commissioning Association

ABOUT **BCA**

The Building Commissioning Association is dedicated to professional development and industry advocacy for best practices in learning, doing, teaching and maintaining the highest standards for the building commissioning process to achieve persistent, efficient building performance. Learn more at www.bcxa.org.


Portland, Oregon

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