



Letter from the President

By Gretchen Coleman (Gretchen Coleman Commissioning Group, LLC)

Hi NCC Chapter members!

If you remember from our May Newsletter, one of the initiatives set forth by the Association this year was to promote the BCA through educational efforts. This newsletter is focused on education – from who provides it to highlights from those who attended some of the education events offered this year.

Of course, the BCA itself provides many opportunities for education. The National Association provides Webinar Series each quarter. If you have not attended one, they are a great and economical way to get your PDUs and CEUs. You can have as many people crowd around your computer as you want for the price of one.

This fall, the BCA will hold three webinars; Integrated Systems Testing, GeoExchange Systems: What CxAs Need to Know, and Drive to Results the RCx Process. Visit the Association website for more information on these opportunities (link below)

<http://www.bcx.org/events/webinars.htm>

The NCC also provides educational events each year. Our Tozour Energy program just a couple of weeks ago focused on existing building commissioning and energy savings. It also earned attendees 3 CEUs.

One of the most important ways to perpetuate our industry is to pass our knowledge onto the next generation. This year, the Architect of the Capitol had two of their summer interns who were involved with a retro-commissioning project. Please read on for an article of their experience. Additionally, Liberty Engineering hired three summer interns. I had the opportunity to interview these folks and all three indicated the experience was very valuable, not only for their school work, but opened their eyes to a possible career path.

Please enjoy the newsletter and consider your own professional development with the BCA as well as passing your knowledge onto someone else.

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Board of Directors - FALL ELECTIONS

It is that time of year again; yes, fall foliage, but also Elections! Elections will be held for both the National Association Board of Directors and the National Capital Chapter Board of Directors. Both the Association Board and the NCC Board have 4 open seats. The NCC has convened a Nominating Committee consisting of board members Gretchen Coleman, Tracey Jumper, Jeff Dukes, and Ray Smith. Please contact one of us for the documents necessary to run for a position or for more information on the duties of the Board. These documents will be (or have been) sent to you via email.

The following is the timeline for the election process.

September 30:	deadline for National Association candidate application
October 15:	deadline for NCC candidate application
October 16-29:	nominating committees meet and forward approved nominations to the Association Coordinator
October 29:	all candidates submitted for balloting
November 4:	Electronic voting begins
November 13:	Elections close
November 15:	New Board members announced
Nov 16-Dec 7:	Existing boards meet and arrange training/orientation for their new Board members; Chapters elect 2011 officers
December 8:	NCC Christmas party and Meet and Greet new board members
January 3:	New term begins
Jan or Feb 2011:	National Board Members and Chapter Officers convene for the Leadership Retreat (Location TBD)

To run for an NCC board position you must be a BCA member in good standing, commit to monthly board meetings via conference call, commit to helping organize two out of four quarterly events, commit to attending the Leadership Retreat should you be elected as an officer, and commit to being enthusiastic about the organization!

We encourage you to run for a seat on one or the other boards; it is a privilege and an honor.

SAVE THE DATE! Christmas Party and End of Year Meeting

When: Wednesday December 8, 2010
Happy Hour 5-7
Program 7-8

Where: RMF Engineering Inc.
5520 Research Park Drive
Baltimore, Maryland 21228



COMMISSIONING.....IT'S NOT JUST FUNCTIONAL TESTING

By Stephen White (Wick Fisher White, Philadelphia, PA)

I recently attended a 3-day seminar at the University of Wisconsin-Madison. The type of the seminar was the "Commissioning Process for Delivering Quality Constructed Projects". I found that the course was extremely detailed and the instructors did a good job of talking us through the entire commissioning process from pre-design through the occupancy period. Although I learned how to develop the Commissioning Plan, the Owners Project Requirements (OPR), and the many other appendices, the biggest education I received did not come from within the large 3-ring binder, or any ASHRAE Guideline.

During the lunch break on the first day, numerous attendees said, "this course is not what I expected" and "when will they discuss equipment testing". The more discussion I heard, the more I realized that nearly everyone in the class had a different definition of commissioning. Most of the attendees assumed that "commissioning" was synonymous with "functional testing". As we learned, functional testing is an important part of the process that occurs during the construction phase of a project, but it is not the only task in the commissioning process. The seminar taught us that the commissioning process really needs to begin prior to the design phase, with the development of the OPR and the many phases and tasks required to adhere to the OPR.

Obviously the attendees of the seminar had an interest in learning more about commissioning. However, if this group had a misconception of commissioning process, then how can we expect building owners to understand the process and the need to get it started earlier than the construction phase?

Definition

ASHRAE Guideline 0, The Commissioning Process, defines commissioning as "a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria".

Commissioning is an all inclusive process for all the planning, delivery, verification, and managing risks to critical functions performed in, or by, facilities. Commissioning ensures building quality using peer review and in-field or on-site verification. Commissioning also accomplishes higher energy efficiency, environmental health, and occupant safety and improves indoor air quality by making sure the building components are working correctly and that the plans are implemented with the greatest efficiency. Commissioning is a quality assurance-based process that delivers preventive and predictive maintenance plans, tailored operating manuals and training procedures for all users to follow. Essentially, the commissioning process formalizes review and integration of all project expectations during planning, design, construction, and occupancy phases by inspection and functional performance testing, and oversight of operator training and record documentation.

Over the next few days, the instructors provided the details and values of each phase and task in the commissioning process. They emphasized the goals of not only having functional systems, but identified the advantages of the comprehensive process, such as reduced contractor call backs, minimal change orders, efficiency and better training. The commissioning process ensures that the Owner's goals and requirements are carried out, from pre-design through turnover and occupancy. As a result, the Owner can be assured that their building is not only functioning properly, but that it also meets their original goals and needs. Sometimes the original goals are lost in translation as the design proceeds from the Owner, to the Architect, to the Engineer, to the General Contractor, and finally to the Subcontractors. The role of the Commissioning Agent is to continually monitor the Owner's project requirements and make sure that, once the design team and contractor has left the site, the Owner is left with a successful building.

The three day course was valuable because of all the details of the commissioning process that we discussed and learned. In addition, I realized that more education is needed for architects, engineers, contractors and, most importantly, building owners to fully understand the commissioning process and the value that it serves to the design and construction industry.

Tozour Energy, King of Prussia Event Update

By Tony DiLeonardo (Wick Fisher White, Philadelphia, PA)

The NCC-BCA Event was held on September 8 at Tozour Energy Systems in King of Prussia, PA. It was attended by approximately 40 people. There was a diverse crowd of building owners, vendors, commissioning providers, architects and contractors that made up the group.



NCC BCA Event at Tozour Energy



Ray Johnson



Tony DiLeonardo



NCC BCA Event at Tozour Energy

The day started out with a presentation on the Existing Building Commissioning and Energy Savings. This presentation reviewed the EBCx process in accordance with the "Best Practice for Existing Building Commissioning", the benefits, and discussed several examples of some of the potential energy savings from an item in the master list of findings of a project.

The second presentation reviewed the Lawrence Berkeley National Laboratory Study on Existing Building Commissioning. The presentation went through a very detailed look at a study completed on 150 facilities, which included facility types, cost benefits, payback periods, prevalent deficiencies, and median cost of the EBCx services. It went through every finding of the study, with the conclusion that existing building commissioning is the single-most cost-effective strategy for reducing energy costs. The third presentation consisted of numerous energy conservation measures and their savings. They ranged from lighting upgrades, high efficiency transformers, steam trap repairs and kitchen exhaust, to name few. The presentation noted rebates given by some of the states for some of these upgrades. The day ended with a tour of the Tozour Energy facility, which is tracking for LEED Silver. The group walked around, and the Tozour Energy Guide pointed out all the LEED aspects of the facility.

Overall, the event was a success that included a delightful lunch of wraps, sandwiches and dessert. Continuing Education Credits of 3.0 will be awarded to the attendees, and a certificate will be mailed to them. Evaluation forms received were very positive. Rachel Yoka, CPSM, LEED AP, of Timothy Haahs Architects, provided some unsolicited feedback in an e-mail to us the next day noting the following, "Thanks so much for inviting us yesterday. Presentations were very professional and worthwhile." She went on to mention that we should consider getting these presentations accredited by the USGBC and present to their group.



Commissioning Professional Development Courses Provided by the University of Wisconsin

By Joy Altweis (University of Wisconsin)

We are presently offering several types of courses for commissioning agents and also for building owners, managers, operating staff, architects, engineers, contractors and construction managers. You will learn from lectures, group lab sessions, case studies, and useful references. Our expert instructors have many years of experience with design, research, and commissioning of control systems.

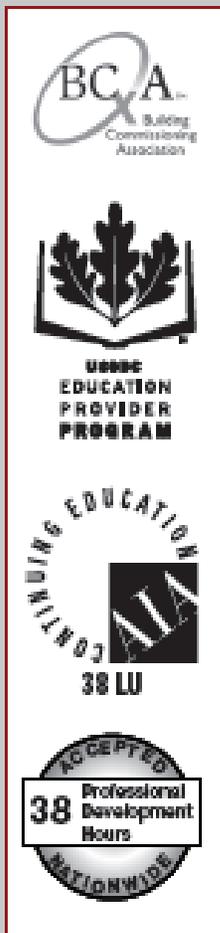
There is a 3-day fundamentals course - The Commissioning Process for Delivering Quality Constructed Projects. This course is aimed at all audiences and gives a thorough overview and practice with using ASHRAE Guideline 0-2005. This may be the best choice for those unfamiliar with the commissioning process. Special topic commissioning courses (typically 2 to 3 days in length) are also available including;

- Commissioning for LEED – This course will guide you through the commissioning requirements of the LEED Green Building Rating System and provide immediately useful tools and examples to make your LEED commissioning effort a success.
- Commissioning for Existing Buildings – Ideal for those looking for bottom-line improvements in productivity, indoor air quality, maintainability, operability and energy efficiency.
- Commissioning for Building Enclosures – Learn about the OPR and functional performance testing for building enclosures.
- Commissioning DDC and Pneumatic Controls for New and Existing Buildings – Learn about the process for commissioning of controls, controls specs, savings and more!
- The 5-day BCA course Leading the Cx Process: Step by Step Strategies for New Construction Projects is the most intensive course and covers every task in the commissioning process. There is less emphasis on “why” and heavy emphasis on “how”. This class is a good choice for someone with a prior understanding of commissioning – but may not be the best option for those who are unfamiliar with commissioning or its benefits.

The Building Commissioning Association (BCA) and the University of Wisconsin-Madison are working together to provide industry-leading continuing education opportunities in building commissioning. With a shared goal of assuring the highest quality training available, these organizations are committed to delivering superior value for building commissioning professionals and their clients.

For information on enrolling in commissioning courses listed above please either call 800-462-0876 or visit the website <http://epd.engr.wisc.edu/>

For detailed information about the BCA and membership opportunities, call 877-666-2292 or visit the BCA Web site, www.bcx.org



Summer Commissioning while Interning at AOC (Architect of the Capitol)

As Reported by Marc Winkler and Carson Hemphill

This summer both interns were involved in retro-commissioning projects during summer internships at the Architect of the Capitol (AOC) Planning and Project Management Division. Initially all they knew was that per the Building Commissioning Association retro-commissioning “is a systematic process for investigating, analyzing, and optimizing the performance of building systems by improving their operation and maintenance to ensure their continued performance over time”¹.

Marc Winkler initiated envelope retro-commissioning activities for the AOC Records Management in the Ford House Office Building. He updated the design intent for the archive from both an architecture and engineering perspective with a goal being to enhance the environmental criteria in order to further ensure the prolonged life of the documents stored in this archive. By collaborating with design engineers and sales reps a complete vapor load analysis of the space helped prioritize issues related to the existing room envelope and mechanical systems. Winkler also conducted onsite investigations, and researched options to resolve issues noted and or to enhance control of temperature and humidity levels. He composed a status report with proposed solutions.

These solutions were either integrated into the design documents being developed for enhancing the HVAC systems or initiated work orders. As a result of Marcs efforts the AOC Records Department will continue to implement measures to further enhance the conditions for this archive of historic documents.

Another intern, Carson Hemphill, worked with project managers, designers, and the building and controls contractors to further commission the newly upgraded DDC controls on air handling units which are also located in the Ford House Office Building. The purpose of the project was to replace the air handling unit’s pneumatics with more energy efficient direct digital logic to control the position and operation of the dampers, variable frequency drives and other components of the air handlers. The upgrades to the air handling units are intended to increase building efficiency and organize HVAC operation by linking the air handling units to occupancy, temperature and humidity sensors.

Through hands-on exposure to the retro-commissioning process both interns were able to gain more insight into the commissioning process, and understand how contractors, clients, project managers, maintenance staff, all interact in order to realize the best possible product. This summer provided a unique experience for both Winkler and Hemphill to understand the importance of commissioning. Marc will graduate from Wentworth Institute of Technology in 2012 with a B.S. in Architecture. Carson will graduate from Duke University in 2012 with a B.S. in Mechanical and Biomedical Engineering.



Marc Winkler reviewing plans with AOC staff.



Marc Winkler surveying the archive enclosure

We Need Volunteers!

Participate · Build Your Resume · Get Published · Enhance Your Commissioning Industry Network

Opportunities for:

- Publication of short and medium length articles in regional and national publications
- Support logistics and marketing for regional events
- Participate in National trade conference booth on behalf of the BCA
- Openings in Membership, Events and Communications Committees
- Business development and fundraising opportunities

Contact an NCC-BCxA Board Member for further information!

Continuous Commissioning®

By Wes Van Rite (Texas A&M Energy Systems Laboratory)

Texas A&M's Energy Systems Laboratory (ESL) developed the Continuous Commissioning® process which has produced an impressive average payback of under two years in over 300 facilities around the world. The Continuous Commissioning process is an ongoing process to resolve operating problems, improve comfort, and optimize energy use for existing commercial and institutional buildings and central plant facilities.

For example, in the last 15 years, one large campus has saved over \$80 million with an investment of only \$13 million. At another site, the Dallas-Fort Worth International Airport saved \$6.5 million in the last 5 years and achieved a positive cash flow in 1.1 years. The CC process has proven to be extremely cost effective because it usually does not require the addition or replacement of expensive equipment. Rapid paybacks, persistent savings and improved comfort are common results with CC projects.

The CC process incorporates and extends existing building commissioning practices. The CC process focuses on optimizing HVAC system operation and control based on current building conditions rather than returning the building to the original design intent. Outstanding savings results have even been achieved in facilities once thought to be energy inefficient by nature including hospitals, airport terminals and lab facilities.

This year the ESL celebrates 25 years of research, education, government program support, and actual implementation of technologies that have helped make our world more energy efficient. The Energy Systems Laboratory is dedicated to providing educational opportunities for those that want to learn more about CC.

(Continued on next page)

BCA National Capital Chapter Sponsors

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C O N T R O L S

**Butler Balancing
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Continuous Commissioning® (Continued from previous page)

The ESL hosts annual conferences such as Clean Air Through Energy Efficiency (CATEE), Hot and Humid, and the International Conference for Enhanced Building Operations (ICEBO). These conferences include a wide variety of presentations and seminars intended to inform on the latest practices in our industry and provide a continuing education service. Additionally, many within the Energy Systems Laboratory's organization are influencing the education of future engineers and architects by teaching courses and directing research projects at Texas A&M University that focus on improving the energy efficiency and sustainability of our buildings. And finally, the experts at ESL often make themselves available to provide presentations to groups and organizations who are interested in energy use reduction.

If you would like more information about how the Energy Systems Laboratory can help you or your clients, please contact us at:

Energy Systems Laboratory
214 Wisenbaker Engineering Research Center
Texas A&M University
College Station, Texas 77843
979/458-3434
wesvanrite@tamu.edu



Continuous Commissioning® and CC® are registered trademarks of the Texas Engineering Experiment Station, a member of the Texas A&M University System, an agency of the State of Texas.



From left are College of Architecture faculty members and Energy Systems Laboratory associate directors Charles Culp and Jeff Haberl, Julie Rosenberg and Art Diem of the Environmental Protection Agency, and Bahman Yazdani, Energy Systems Laboratory associate director.

Center of Excellence

Reported by the Newsletter of the College of Architecture at Texas A&M University
<http://Archone.tamu.edu>

U.S. Environmental Protection Agency officials named the Texas Engineering Experiment Station's Energy Systems Laboratory (ELS) a national Center of Excellence on Displaced Emissions.

The ESL earned the EPA's recognition by developing the first comprehensive engineering toolkit and database for determining the air emission benefits from increased electric sector energy efficiency and renewable energy.

The ESL's pioneering work, conducted with guidance from the EPA and the Texas Commission on Environmental Quality, allows for air quality improvements or emission reductions to be demonstrated.

Your BCA National Capital 2010 Chapter Board Members

The following individuals consider it a pleasure to serve you as board members. Feel free to contact any one of them for information on committee work, events or what it means to be a board member.

Gretchen Coleman
BCA NCC President
Gretchen Coleman Commissioning
Group, LLC
<http://www.gccxg.com>

RMF ENGINEERING, INC.



Emmillee Hogan
BCA NCC Vice President
Liberty Engineering
<http://liberty-eng.com>

**Sponsor an Event or Serve on
the NCC BCA Board and
Have your Logo include in this
newsletter!**

Tracey Jumper
BCA NCC Membership Committee Co-Chair
Cornerstone
<http://www.cornerstoneltd.net/>



Tony DiLeonardo
BCA NCC Membership Committee Co-Chair
and Association Board Liaison
WFW Engineering
<http://www.wfweng.com/>

Ken Hahn
BCA NCC Treasurer
RMF Engineering
<http://www.rmfc.com/>



Jeff Dukes
BCA NCC Board Member
Brinjac
<http://www.brinjac.com/>

Ray Smith
BCA NCC Secretary
GHT Limited
<http://www.ghtltd.com/>



SPONSORSHIP Requests

Our chapter has several sponsors! The GMU Commissioning Seminar and Owners Forum had an Event in 2009 with Sponsors who committed \$1500 (Hess & Dustin) who are also automatically Chapter Sponsors for a year. Chapter Sponsors for the next year also include Butler Balancing and TriState and newly committed Pritchett Controls, and Chapin Enterprises. Brinjac Engineering and Wick Fisher White are Corporate Sponsors as well as event sponsors. Our chapter can use your sponsorship. Send off a check to our treasurer, Ken Hahn, to become a Corporate Sponsor. Please send your checks made out to the National Capital Chapter of the BCA to: Ken Hahn, NCC Treasurer at RMF Engineering Inc.
5520 Research Park Drive
Baltimore, Maryland 21228