Hello BCA members, and welcome 2013!

What a remarkable year the BCA has had in 2012. From organizational change to outreach, development and best practices, the BCA made great progress helping to lead the evolution of the commissioning industry. Take a look at what you, as an organization, achieved last year:

Starting with the biggest accomplishment to support the ongoing work of the BCA, we now have in place full time professional staff, led by our Executive Director Liz Fischer, and an international headquarters office in Beaverton, Oregon. We have already seen the benefits to our members and will continue to look at needs to strategically and cost-effectively build resources that support the mission of the BCA and the needs of our members.

NCBC in Nashville, Tennessee brought hundreds of commissioning professionals and advocates together – not only from North America but also across the world.

Also in 2012 the BCA published its Commissioning Qualification and Certification position paper, in which we laid out the background and challenges of the industry and why minimum qualifications and standards for those who direct and manage the total building commissioning process are necessary. The paper describes a vision of how high standards and certification can help advance the industry and raise quality in our industry.

Participating BCA members and others laid down their pens on the International Code Council 2012 Guideline for Commissioning, which was published in July. This was developed to provide regulators and third parties with a guide on how to apply building commissioning to satisfy regulatory requirements and outline the skills and experience necessary for the Commissioning Authority.

Representatives of the BCA and the Building Commissioning Certification Board are working with the International Accreditation Service (IAS, a wholly owned subsidiary of the ICC) to create an Accreditation Program for organizations that provide commissioning certification – another step in the progress of raising the standards that Commissioning Certifications must meet. BCA members have also been active in the guideline/standard development process including - with ASHRAE’s standard SPC 202P Commissioning Process for Buildings and Systems, plus the forthcoming ASHRAE guideline GPC 0.2P The Commissioning Process for Existing Systems and Assemblies, and the USGBC’s updates to LEED (version 4.0) – signals “full-court press” attention to commissioning as a requirement for achieving environmental, safety and economic goals through the built environment.
Industry outreach in 2012 included active dialog and joint initiatives with other associations such as ASHE, ASHRAE, ASTM and USGBC to support the progress of commissioning best practices.

Of course, we continued to offer deeper knowledge and skills through training. BCA partnered with the New York State Research and Development Authority (NYSERDA) and the NYC Mayor’s Office to provide training classes on the BCA’s Existing Building Commissioning “Best Practices,” supporting New York City’s new Local law 87 which requires commissioning of existing commercial buildings.

That’s a lot for just one year – kudos to all at the international, national, regional and local levels who worked so hard to promote their industry and the BCA!

2013 promises to build on those achievements. The year began with a January industry meeting in Washington, D.C. where BCA joined industry stakeholders such as NEBB, AABC, TABB, USGBC, BOMA, CAMEE, ICC, AIA, ASHRAE, and others to discuss the role commissioning has in building performance.

Also in January, a BCA member expert panel discussion took place at The Navy Yard in Philadelphia by the New Jersey Institute of Technology (NJIT) to discuss commissioning training from the perspective of someone new to the industry. This interactive session, part of a “Rookie Boot Camp” associated with the release of a Beta Test version of the Commissioning Authority distance learning training course developed by PECI, BCA and the Center for Building Knowledge at NJIT, was filmed and will be available on BCA’s website.

The annual Leadership Conference in February will be establishing BCA priorities for the year, including specific strategies and goals we will support to continue our efforts in education, outreach and certification.

NCBC 2013, the 21st annual National Conference on Building Commissioning, will be hosted by the Southwest BCA Chapter in Denver, Colorado in May at the Omni Interlocken Resort. Be sure to check out the NCBC website and register early!

The BCA remains at the forefront of progress in realizing commissioning industry goals. As our organization continues to grow and help the industry mature, we will count on your help and commitment to create a better commissioning industry. Please get yourself and others involved, stay in touch, and help to make 2013 a year of progress for us all.

Wishing you a healthy and prosperous 2013!

Sincerely,

Mark Miller, PE, CCP
BCA President

At NJIT Rookie Book Camp…
recognized commissioning experts used “war stories” to discuss what every rookie commissioning authority should know as they enter the field.
Meet Your New Representatives

Let’s extend hearty congratulations to the 2013 Building Commissioning Association’s newly elected International Board and Chapter Board of Directors.

International Board Members

DIRECTORS-AT-LARGE
• Craig Hawkins CxA | McKinstry
• Kent Barber PE, LEED AP | Keithly Barber Associates, Inc.
• William McMullen | Eaton Corporation

REGIONAL REPRESENTATIVE – Central Region
• Jeff Conner PE LEED AP | Grumman/Butkus Associates

REGIONAL REPRESENTATIVE – Southeast Region
• John Whitfield | Primary Integration Solutions

Chapter Board Members (cont.)

NORTHEAST
• Michael Dooley | AKF Group, LLC
• Brad Jones, CCP | Sebesta Blomberg & Associates, Inc.

WESTERN CANADA
• S K Lai PEng, LEED AP | Integral Group
• Gerry Cook | Independent Commissioning Solutions

NORTHWEST
• Bryan Welsh PE CCP | Welsch Commissioning Group, Inc.
• Brendon Mattis | Engineering Economics, Inc.
• Damon Rutherford | McKinstry
• Matt Beckingham | HDR, Inc.

SOUTHEAST
• John Whitfield | Primary Integration Solutions
• Mark Nunnelly | Nunnelly & Associates, Inc.
• Jim Magee CxA, TBE | Facility Commissioning Group, Inc.

SOUTHWEST
• Loren Morris | TestMarcx Commissioning Solutions
• Jeffrey Bowick | MKK Consulting Engineers, Inc.
• Shane Larsen | Eaton Corporation

TEXAS
• Mike Lackey PE | Lackey Carvajal Cx
• Steve Bennett | PageSoutherlandPage, LLP
• Gerald Kettler PE CCP, CxA, CIAQM | Facility Performance Associates
• Steven Chandler | Command Commissioning

Chapter Board Members

CENTRAL
• John Villani | Grumman/Butkus Associates
• Tom Cappellin PE LEED AP | HDR Engineering, Inc.
• David Lewis | Clayco Construction
• Brian Hire CxA LEED AP | Fishbeck, Thompson, Carr, & Huber, Inc.

EASTERN CANADA
• Aboubakeur Bensikhelkfa | Dessau Inc.
• Tony Rocco P.Eng., CCP | ALR Engineering Services, Inc.
• Derek Cheung | Isotherm Engineering, Inc.
• Mike Loughry | H.H. Angus & Associates Ltd.

NATIONAL CAPITAL
• Wayne Williams | Architect of the Capitol
• A. J. Speicher | Borton-Lawson
• James Givens | RMF Engineering, Inc.
• Rob Menuet | GHT Limited
COMING SOON...

a NEW Firm Certification!

In our continued efforts to serve members and the industry as a whole, the Building Commissioning Association (BCA) and Building Commissioning Certification Board (BCCB) have responded to your requests. There has been an increased impetus in the building commissioning industry for practitioners to hold a commissioning certification on the firm level in addition to the individual level. We at the BCA have received many inquiries over the past 2 years about firm certification and as a result we will soon be releasing the “Certified Commissioning Firm (CCF).”

Qualified candidate firms for the CCF shall:

- Employ at least one Certified Commissioning Professional (CCP)
- Have been providing commissioning services for at least 2 years
- Submit 3 qualified commissioning projects and references

This new firm certification demonstrates the highest standards for professional commissioning firms. Organizations that hold the CCF designation will stand out among their competitors for the desire and ability to provide the highest quality product to potential clients and the commitment to the advancement of the commissioning industry.

We anticipate the launch of this certification is in the 1st quarter of 2013. CCF certification will include a one-time application cost of $1,000 and an annual renewal application cost of only $150.

Details will be coming soon to the BCA website, www.bcxa.org. Questions regarding any of the BCA certifications should be directed to Katie Spencer at certification@bcxa.org.

Congratulations TO OUR NEWEST CCPs & ACPs

CCPs:

Farid Ahmed  P.Eng, CCP
Enermodal Engineering MMM Group Waterloo, ON, CAN

Joseph Brown  CCP, P.Eng., LEED AP
Cret Management, L.P, Mississauga, ON, Can

Kenneth J. Chermak  CCP
GSH Group, Inc., Pine Brook, NJ

David Ericson  LEED AP, CEM, CCP
Data Center Energy Professionals, St. Paul, MN

Trey Headrick  LEED AP, CCP
RMF Engineering, Inc., Kennesaw, GA

William Luoma  CCP, LEED AP BD+C
AECOM, Los Gatos, CA

Adam Mangrich  CCP, PE, CPMP
Ametricx Group, Madison, WI

William McCartney  CoQ, CPMP, CCP
Isotherm Engineering Ltd., Mississauga, ON, CAN

Jonathan Vaughan  CEM, CCP, LEED AP
Page Southerland Page, LLP, Houston, TX

ACPs:

Colin Dunbar  ACP, LEED AP
BVH Integrated Services, Inc, Bloomfield, CT

Jeffrey Fong  CEM, LEED AP, EIT, ACP
Genzyme Corp., Framingham, MA

Dwight Gray  ACP
Cooper Zietz Engineers, Battle Ground, WA

Robert Hayes  EIT, ACP
Paladino and Company, Silver Spring, MD

L. Scott Henderson  PE, LEED AP BD+C, ACP
Cooper Zietz Engineers, Seattle, WA

Steve Jankus  ACP, PMP, C.E.T, LEED AP BD+C
CFMS-West Consulting, Inc., Ancaster, ON, CAN

Nicole Valles  ACP
Welsh Commissioning Group, Bellevue, WA

David Williamson  ACP, LEED AP
Primary Integration Solutions, Inc., Charlotte, NC
Commissioning Authority Training
Offers Certification Edge

It was recently reported in The Checklist that, after three years of development, PECI is preparing to launch an innovative training program for commissioning professionals. We are now pleased to announce that PECI’s Commissioning Authority Training will count toward eligibility requirements for the Certified Commissioning Professional (CCP) and Associate Commissioning Professional (ACP) credentials.

The BCA offers these two certifications as a way to raise professional standards and provide a vehicle for certification in the commissioning industry. After careful consideration by the Certification Board of both the depth and breadth of this new training, the completion of the training program was approved to count toward the building-related experience for certification applicants. This acknowledges the high quality of learning achieved through the Commissioning Authority Training and makes the certifications more accessible to qualified applicants looking to advance their careers and increase their professional capabilities.

The Commissioning Authority Training curriculum is comprised of self-directed online learning modules and an optional additional in-person laboratory training. Completion of parts of the training will reduce the CCP requirements as follows:

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>Without Training</th>
<th>PECI Online Training Completed</th>
<th>PECI Online Training + Lab Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum # of Qualifying Projects</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total Minimum Square Footage</td>
<td>150,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Total Minimum Construction Value</td>
<td>$30 million</td>
<td>$30 million</td>
<td>$30 million</td>
</tr>
<tr>
<td>Years as lead Cx Authority</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Those working toward ACP certification who complete both the online and laboratory components of Commissioning Authority Training will reduce the ACP requirement for years of building-related experience by half. This requirement is related to the applicant’s highest level of education achieved.

<table>
<thead>
<tr>
<th>LEVEL OF EDUCATION ACHIEVED</th>
<th>Years of Experience Building Related Without Training</th>
<th>Years of Experience Building Related With PECI Online + Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>With 4 Year Building Science Degree</td>
<td>1</td>
<td>6 months</td>
</tr>
<tr>
<td>With 4 Year Non-Building Science Degree, 2 Year Building Degree, Tech School Degree, or Building Apprenticeship Program</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>With 2 Year Non-Building Science Degree</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>High School Diploma or GED</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

Commissioning Authority Training classes may also be purchased individually to earn professional development credits from the American Institute of Architects (AIA). Such credits are valuable for those seeking to maintain and renew professional licenses.

About PECI Commissioning Authority Training
A unique blend of self-directed online learning and in-person lab training, Commissioning Authority Training aims to provide participants with rock-solid understanding of the commissioning process and far-reaching technical knowledge of building systems and equipment. The curriculum was developed in partnership with BCA, and will officially launch in Q1 if 2013. To learn more, visit: learn.peci.org.
The International Accreditation Service (IAS), a subsidiary of the International Code Council, is working toward setting the gold standard for accreditation of agencies that certify commissioning professionals. The Technical Advisory Council’s Sustainability Steering Committee is working on “AC476 – Accreditation Criteria for Organizations Providing Training and/or Certification of Commissioning Providers,” a guideline for offering building commissioning certification. They are taking a broad look at global commissioning industry growth and working to standardize definitions of competency for organizations that administer certification to individuals. To be clear, their objective is not to develop a commissioning code or standard, but to design a framework and protocols for associations that certify commissioning providers.

BCA members Michael Chelednik and Mike Eardley are representing the association on the IAS Technical Advisory Committee; Jim MaGee and Gerald Kettler, also BCA members, are representing other organizations on this committee. Along with others, they have taken up the challenge of laying out commissioning team definitions, and defining the knowledge, skills, abilities, process and deliverable requirements for commissioning providers and users around the world. The Committee is voluntary, made up of global representatives in 13 subcommittees. Members from North America include representatives of the California Building Standards Committee and other building officials; the US DOE; AIA; ASHRAE, ASTM, ACG, contractors, NEBB, and code consultants.

One of the drivers for this effort is recognition that Authorities Having Jurisdiction (AHJs) too often lack the training or experience to know whether candidates have obtained the required skills and qualifications to properly execute the commissioning process. Although code specialists and inspectors earn credentials for their specific trades because their qualifications are mandated, commissioning authorities and associated specialists are not validated by consistently applied certification. The IAS is taking on the accreditation guideline as a path toward creating a level of uniformity that is not [yet] available in commissioning.

The Committee is considering two levels for providing commissioning; the overall commissioning process manager and the building system specialist. Titles for these respective individuals or entities include “authority” and “specialist” because, in developing a relatively borderless guideline, clear definitions and naming conventions are important. AC476 will define the responsibilities of commissioning professionals by their titles: the Commissioning Authority leads the team and manages the commissioning process; Commissioning Specialists will include numerous trades and inspectors who already are certified through their technical professions, such as Building Enclosure, HVAC or fire and life safety experts.

When completed, AC476 will provide comprehensive documentation supporting each of these specialty areas, including quality management technical knowledge and qualification requirements for Commissioning Authorities and Commissioning Specialists in each area of site and building performance expertise. In addition, AC476 will provide guidance on certification renewal and continued education, as well as references to ASHRAE, ISO, IAS and other fundamental resources to ensure uniformity with accepted industry documentation.

The initial drafts of AC476 are being reviewed by the IAS committee. It will be released for public comment after internal review, which is expected to occur later this Spring. Stay tuned!
Strength?

For the last few years, I have stood at our Exhibit Booth and talked with people who are curious about becoming members of the BCA. Almost always, they ask me, “What do I get when I join the BCA?” At first I answered with what seemed to be the obvious answer – networking with peers, industry resources, commissioning templates, education and training opportunities, etc.

Here is what I have come to understand about belonging to the BCA, or in fact to any group or association: you get what you put into it. In other words, the benefits you receive from the association are likely to be in direct proportion to what you put into it. So now I when the question comes up, I ask, “What is your strength?” That way, I can then help prospective members see where they can fit into the BCA, and therefore what they will get.

We all need to help improve and promote our industry – that is a primary goal of The Building Commissioning Association. As a member, you are a necessary part of meeting this goal. Of course, membership dues help us to promote our programs and the industry, but we also need your voice and your volunteer time. Action committees and regional chapters need your expertise to keep building our industry and our organization.

In my office I have a quote from Teddy Roosevelt hanging on my bulletin board: “Every man owes a part of his time and money to the business or industry in which he is engaged. No man has a moral right to withhold his support from an organization that is striving to improve conditions within his sphere.” Strong words; he makes a clear point.

This is membership renewal month. I encourage you to renew your membership and encourage your peers to join the BCA. Talk with your chapter leaders and committee chairs. Find out how you can help to move the industry forward. And think about this -- what is your strength, what can you give, and how can we help you get what you want from the BCA?

Best wishes for 2013!

Liz Fischer
Executive Director
Superior building performance starts with superior commissioning

Whether your facility is new or existing, McKinstry’s commissioning services are your guarantee of exceptional building performance from the beginning and over the long haul.

For nearly two decades, we have provided commissioning services as a vital component of our integrated project delivery process. This expertise enables us to support clients in the design, construction, operation and maintenance of superior facilities that keep tenants comfortable and bottom lines strong.

mckinstry.com
LEED 4.0 - From Problematic to Promising
By Diana Bjornskov

The US Green Building Council and its LEED rating system have been plagued with controversy over the past couple of years. A class action lawsuit filed in New York in 2010 led the way, charging the USGBC of being a monopoly, based on a string of accusations of fraudulence and unverified savings. USGBC ultimately won in federal court – the case was dismissed.

USGBC was, at the time, in process with development of a scheduled three-year update to LEED 2009, anticipated to go live in 2012. But diverse stakeholders, from LEED practitioners to product manufacturers, expressed reservations about some of the changes and new credits, and the complexity of the most recent version. At the same time, the US General Service Administration was evaluating whether to continue using LEED or a competing rating system in standard practice for energy efficiency measurement in federal buildings (it will use LEED).

Because of its commitment to continuously – and collaboratively – raising the bar, the USGBC has taken the new version (to be published as LEED 4.0) to the public for comment five times. The ballot will likely be held in June 2013. The resulting changes will represent new or strengthened prerequisites plus important site, energy and environmental criteria, and tracking and measurement credits.

What are the major changes affecting Commissioning Authorities (CxA)?

A primary goal of LEED 4.0 is to achieve integrated design, which requires an integrated team from the outset and improving building performance. Using standard commissioning tools, it will be easier for the project team to document the integrated delivery process and associated analyses of key issues, to assist team decision making and to meet the Owner’s Project Requirements. Commissioning documentation will require recording both issues and benefits, increasing recognition of the value of the commissioning process throughout the design, construction and operations phases.

The new changes will help our industry by discouraging introduction of commissioning late into the project, requiring commissioning activities at the right time in the delivery of a project to attain LEED Certification. The built environment will benefit by addressing facilities from a whole perspective, providing clearer requirements for project teams to follow.

New changes also require more detail of commissioning scope related to the project as a whole and the specific LEED credits the project is pursuing. Current LEED commissioning scope, until version 4.0, did not include a key building system to be commissioned. The building enclosure, which has a major impact on the facility’s performance, was not included in the LEED commissioning scope. The building enclosure has significant impact on occupant satisfaction/productivity, indoor environmental quality, energy consumption and greenhouse gas emissions, and the total cost of ownership. LEED 4.0, along with current ICC building codes, is ratcheting up the focus on building enclosures. In addition, LEED 4.0 more clearly defines deliverables for the Fundamental Commissioning prerequisite and will include:

- Owner’s Project Requirements and Basis of Design updates to documentation throughout the project, from SD, DD, CD, Construction, and Occupancy Phases
- CxA qualifications
- Commissioning specifications
- Commissioning plan
- Construction checklists
- Issues and benefits log
- System test procedures
- Verification test reports
- Commissioning report
- Ongoing commissioning process program

CxAs are already providing most or all of the above in their projects, but the expanded definition of commissioning activities in LEED and the associated requirements will be a benefit to the
commissioning industry and to owners, helping to ensure a comprehensive process of delivering the performance the buildings are capable of achieving. Enhanced commissioning scope is also expanded to include the same systems as fundamental commissioning and new commissioning credits. New credits focus on the long term performance of the building with additional credits for ongoing commissioning implemented to improve the building’s performance for its life. This new subset is also standard practice for us, but will only now be described in better detail for LEED credit. Version 4.0 defines and expands the commissioning scope to include a systems manual, training, manual updates, training verification, and an ongoing operations plan. Additional expertise will be required on project teams due to new and changed prerequisites and credits. Those likely to affect CxA include:

New Prerequisites Affecting Commissioning:
Water Efficiency
• Process Water Use Reduction
Performance Water
• Metering and Building-Level Energy Metering

New Credits Affecting Commissioning:
IEQ
• Acoustic Performance (only schools)
• Enhanced indoor air quality (will require understanding the interactions between building envelope and HVAC system, and correct pressurization).
Performance
• Monitoring Based Commissioning
• Advanced Water Metering
• Advanced Energy Metering

There will be a new Performance Credit to “Reconcile Projected and Actual Energy Performance.” While this is not necessarily a commissioning function, the expertise necessary for building modeling and performance reconciliation at the end of a specified period of time would be required on the project team. Monitoring based commissioning can be an aspect of earning these credits.

LEED 4.0 places a strong emphasis on water efficiency. As a result, there are new opportunities for expertise to be included in commissioning – understanding cooling tower cycle optimization, recognizing operational issues, and developing a more granular approach to measuring and metering water. For example, if water systems – landscape or building – are metered

Owners who adopt the process as a whole don’t really divide it between fundamental and enhanced – it makes good business sense because it adds value and reduces project risk and long term cost.

- H. Jay Enck CxAP, HBDP, BEAP, LEED

The Checklist 2013 - First Quarter
through the building automation system, it will be important to apply correct scaling factors and verification accuracy of the metered information. The commissioning team is best suited to assess the accuracy of systems.

Changes to existing credits are numerous and will affect CxA. Categories such as indoor air quality assessment, thermal comfort, interior lighting and daylighting are refined to meet new requirements or conditions.

In its next steps, LEED is moving on to include the building envelope. Certifications and tests are being developed, along with definitions of who’s qualified. The Building Envelope Commissioning Collaborative (BECx) has developed a 5-day course to provide information on process, body of knowledge, and skills to perform building enclosure commissioning from OPR to design review, construction, and acceptance testing for new and existing buildings. The course is offered through the University of Wisconsin. Owners recognize the value of whole building commissioning and are requesting building enclosure commissioning. Commissioning teams are beginning to add the required expertise to meet this demand and future versions of LEED.

The commissioning scope has always been a team effort. LEED 4.0 will require many existing firms to engage the type of talent – part or full time – with special knowledge required in each of the disciplines. This bodes well for the commissioning profession and for our continued integration with the full design through operation process. It also means we need to be recruiting and preparing people for our increasingly recognized and indispensable industry!

USGBC plans to keep LEED 2009 project registration open for a period that will probably stretch to the 2nd quarter of 2014 to accommodate existing plans and projects considering LEED Certification, before moving to LEED 4.0, anticipated to occur in 2014.
Thirty-five years ago, in 1977, a Building Commissioning Section was established in a branch of the former Public Works Canada. Ten years later, a Buildings Commissioning Working Group was formed in Canada’s Architectural and Engineering Services Branch to establish a clear understanding of commissioning, and define objectives, establish technical requirements, and provide a “seamless” approach to commissioning.

Sound straightforward? As we all know, it wasn’t. And isn’t. However, despite complexities and refinements of process and approach, building commissioning has grown into an internationally recognized, necessary professional pathway toward buildings that work all the time.

The Pacific Northwest was among the first in the U.S. to formalize commissioning into practical application in the commercial market. The Bonneville Power Administration (BPA) took on preparation of the first Building Commissioning Guidelines, published in 1989, correlating rigorous testing of specifications for new buildings with the BPA-sponsored “Energy Edge” program – 28 large and small office, retail, schools and other commercial buildings in the Northwest. The ensuing BPA/PECI Roundtables anchored commissioning as a feature of building design and construction activities.

Although Energy Edge achieved somewhat less energy savings than expected, it resulted in a revised update of the Commissioning Guidelines based on real experience in new buildings. In 1991, Seattle City Light implemented a short pilot commissioning program for energy measures in commercial buildings; the pilot was followed later by Energy Smart Design, including commissioning, and subsequently by the Energy Smart Services program for large commercial “tailored agreements.”

By 1995 the Northwest Commissioning Collaborative – predecessor of today’s Building Commissioning Association – sponsored its first regional conference of stakeholders. Commissioning as a practice was being discussed, studied, demonstrated or required by government institutions and utilities across the Northwest. The City of Seattle even created its own commissioning code requirements, adopted in 1999 by the State of Washington.

Most utilities in the Pacific Northwest have evolved new or existing building commissioning programs. In 1998, Portland General Electric became the first Northwest utility to offer a stand-alone retrofit commissioning program for existing buildings.

Because of the utility requirement to capture energy savings, many commercial programs feature only incentives or rebates for measures that affect energy efficiency, and do not include commissioning non-energy-related building features or do not ensure comprehensive building performance as designed.

For example, Avista’s Retrocommissioning Program is intended to implement low cost/no cost, quick fix, cost effective energy efficiency measures in qualifying customers’ buildings. Incentives for Retro-Commissioning services in natural gas heated Commercial buildings (in Washington) were discontinued in November 2012. To qualify for Retro-Commissioning, Avista’s Idaho commercial customers must have Avista electric service for their main heating source. Northwestern Energy pays a $500 rebate for energy management system optimization, requiring a commissioning report for eligibility.

Seattle City Light’s Energy Smart Services program does not pay the cost of actually performing commissioning work, but funds a scoping report and an initial commissioning plan and then pays incentives based on the actual electric savings achieved. City Light estimates its incentive expenditure on third party commissioning alone at half a million dollars (1.2% of total program budget), achieving 2,400 MWh in energy savings for 2012. The owner is required to hire an independent commissioning agent who is a member of the Building Commissioning Association.

Puget Sound Energy took up commissioning as a comprehensive, “persistent” energy efficiency enterprise starting with an existing building commissioning pilot in 2000. PSE offered a small program, basing its incentive on ten cents per square
foot for commissioning for a few buildings in the Puget Sound region of Washington State. While the pilot achieved its goals in terms of ensuring that the buildings worked “as intended,” there were no existing guidelines for program design and it wasn’t easy to determine energy savings. PSE found that providers needed further energy education to maximize and document the efficiency aspects of savings that the utility sought.

In 2007, PSE hired a manager with direct commissioning experience to develop commissioning as a program portfolio component. Holly Townes, who had managed real-world projects for a regional commissioning firm for 7 years, brought the necessary expertise. The first broad-based commercial new construction commissioning program that Holly began – a “custom grant” program – continues to this day. It allows owners and their third party providers to commission with an emphasis on energy efficiency based on a minimum set of commissioning requirements. PSE does not restrict providers for this program. PSE funds the commissioning project on a cost per square foot basis. As early as 2008, commissioning incentives for third-party providers during both the design and construction phases were in place.

Persistence of savings – a common phrase in energy efficiency programs – was identified as a necessary goal to make sure that all possible performance and savings are achieved as a result of utility-funded commissioning. In 2010 PSE added post-occupancy incentives to the new construction program, aimed to pay 100% of design and post-occupancy phases, and somewhat less for construction phase commissioning. The maximum commissioning incentive is currently paid at 10 cents per square foot, construction at 15 cents, and post-occupancy at 25 cents.

As the economy began to tumble and new construction opportunities diminished, PSE kicked off an updated commissioning program for existing buildings, also addressing PSE’s needs and CxA’s requests for a clearer definition of requirements and documentation of savings. In 2009 the utility published an RFP for individuals (not companies) to qualify as providers for PSE existing building programs. Of the fifty proposals submitted, fifteen commissioning professionals qualified. The first project under this program, in which PSE pays up to 100% of commissioning provider’s costs, was conducted in 2010 and the program continues today with 45 projects completed or in progress and 8.8 million kWh claimed to date and another 7.8 forecasted for 2013. Maximum incentives are $8,000 plus 35 cents per square foot with the owner paying up to 15 cents per square foot to implement operational improvements. It is proving to be a highly cost-effective “custom grant” program with an average 1.2 year simple payback for customers. The primary challenges for PSE are simplifying the complex process. PSE sees its key roles as providing cost-effective savings, helping grow this new market and providing oversight so their customers get a solid process that truly saves energy over time. Commissioning providers continue to apply for PSE qualification and, currently, twenty-one have passed the rigorous qualification requirements. PSE’s hope is that as the market grows the need for them to pre-qualify existing building commissioning providers will disappear and it has in the new commissioning market. Commissioning firms are encouraged to bring projects to PSE; those with existing building market connections are bringing in most of the projects but if a customer does not have a commissioning provider they may pick anyone from the published qualified list.

The Comprehensive Building Tune-Up program helps to partner facilities staff with commissioning professionals who, together, tune up the existing building. The provider supplies formal and informal commissioning training and an operations manual. After tune-up and training are completed, tasks are set up to make sure energy use is tracking well over the first year. Calculated savings are the basis for savings expectations, validated through bills. The program only counts 75% of savings at the outset, then verifies at the end of one year through actual performance.

1) Holly Townes is a strong proponent of building commissioning and the BCA. She is a member of the ASHRAE committee working to bring a draft of Guideline 0.2 – The Commissioning Process for Existing Buildings – into the public arena for comment, targeted for 2013.
If measures are still in place and 10% savings are achieved, a bonus is paid to the customer – 25% of the commissioning provider’s fee and utility claims the remaining savings.

PSE also has a related program, the Resource Conservation Manager (RCM) program, which is essentially a behavior focused continuous commissioning program for large, multi-building customers. This is another program focusing on operational and maintenance improvements. PSE trains a customer’s selected employee as an RCM (e.g., an energy manager, facility manager, or building engineer), and provides training, software and oversight so that the portfolio is managed for optimum technical and behavioral efficiency. Energy savings goals are established at the outset, and PSE provides a training stipend for the RCM plus a performance bonus when goals are achieved or exceeded. RCM program customers include private businesses, real estate owners, schools, hospitals, municipalities (the program can partner organizations together), large retailers, grocers, etc. The program currently serves about 100 portfolio owners.

This year, PSE added the Simplified Building Tune-Up to its savings portfolio to bring in more of the cost-effective operational and maintenance improvement savings. Persistence and actual performance are essential parts of this program. Now in an experimental phase, the program utilizes 15-minute electrical interval data acquired through PSE-provided hardware/software, which already exists in customer buildings. Since PSE never needs to visit the customer sites, this is an extremely cost- and time-efficient program for both utility and customer. This is not a conventional commissioning program. The customer is engaged by phone and is provided advice on technical and behavioral changes which, based on interval data compared to elements of a baseline model, can improve building performance. The utility provides this service for free, with very little investment required by the customer for implementation. PSE then pays an incentive to the customer based on savings achieved.

The Pacific Northwest has played a pivotal role in cultivating commissioning as a proven practice and
fostering a conservation resource environment that moves high performance buildings closer to “business as usual,” from integrated design through post-occupancy. Northwest utilities, driven by regional mandates, are especially focused on commissioning as a way to meet regulatory requirements and prevent (or mitigate) the need to add new generation. It is safe to say that they, like utilities and governing institutions across North America, would like to see commissioning strategies that place a strong emphasis on energy efficiency, methods for calculating savings, and persistence of savings on the checklist for high performance.
COMMISSIONING & ENERGY SERVICES