

The Checklist

Special Edition Newsletter of the Building Commissioning Association



NCBC 2013 WRAP-UP

21ST NATIONAL CONFERENCE ON BUILDING COMMISSIONING



Thank you to all those who participated in the 21st annual NCBC. This year's conference in Denver was full of energy and engaging conversations both in sessions and in the hallways. Our speakers provided thoughtful presentations on up-to-the-minute topics and exhibitors displayed the latest technologies and innovative services.

The 21st NCBC got off to a lively start with a pre-conference afternoon of golf, followed by the BCA's annual dinner. Just before dessert, as BCA President Mark Miller began the association's formal address, a band of cowboys burst into the room, turning the elegant white-tablecloth buffet into a buckaroo improv dinner theater.

Confronting Miller (a "furriner from Key net e kut" with newfangled ideas and a suit to match) they sized him up and agreed, "Well boys, you know when things don't work right around here, we don't just shoot it or hang it – we commission it!"

That wild bunch and "Miss Kitty" (later discovered to be the BCA Executive Committee) delighted the audience with an entertaining – if unconventional – summary of BCA achievements over the past year, including its new 100% ownership of the NCBC conference. Celebrating the BCA's 15-year anniversary, founders and long-term members were honored for their service to the Association. Dancing after dinner to a live western band kept BCA members and partners on their feet well past bedtime.

Things got a lot more formal the next morning. The Opening Plenary Session



set the stage for two days of presentations and hallway discussions on the status and future of the commissioning industry. Mark Miller laid out the big industry issues – codes, standards and guidelines; training, certification and accreditation; industry unification, building and infrastructure resiliency, and technology – that portend changes across the commissioning profession as well as throughout the built environment.

Henry Green, President and CEO of the National Institute of Building Sciences (NIBS, "The Institute") presented its congressionally mandated mission, national program activities, new building science research and case studies, and a variety of online information resources published by NIBS. Watch for the latest Journal of Building Envelope Design, which NIBS expects to go "live" online in Fall 2013. [www.wbdg.org/references/jbed.php]

The events and presentations over the next two days drove home the fact that the commissioning industry is in transition. Commissioning Authorities (CxA) expressed concerns about new entrants to the field and a quest for deeper project team engagement. Hallway conversations filled break periods with conjecture about technologies, practice parameters, and the effect of regulatory and market drivers on the business of commissioning. A common thread throughout the conference was discussion of change, with questions like,

- How will the commissioning business model have to change?
- How will new guidelines and mandates affect my practice?
- What does a provider actually need to know, and act upon, about codes over the next couple of years? How much will that cost?
- What about protection against legal issues and commissioning boundaries as new codes go into effect?
- How much and what kind of certification will bring value to me and my clients?
- How will needs change as more and deeper information becomes available from building automation systems?



Whole Building Commissioning

(New and Existing Facilities)

Speakers examined whole building commissioning concepts, with practical advice and strategies for delivering new and existing building projects as part of the design and the construction team. In particular, several presentations offered the rationale and process for engaging commissioning authorities early in the design phase. Speakers outlined the positive results derived from CxA participation before and at design review, how to include commissioning in a design charrette, and how to address performance and communication problems and solutions within the design team. A presentation on large, older government healthcare facilities outlined how to meet the challenges involved in developing and executing the complex commissioning project scope. Design, construction, operation and commissioning of equipment, systems and buildings must occur in facilities that are at the end of their useful life, have outdated technologies, and require project teams to conduct implementation as well as pre- and post-performance testing in a continuously occupied facility. The speakers described facility improvement measures and lessons learned across a portfolio of related facilities.

The Owner's Perspective

Owners presented experiences and lessons learned working through the technicalities of systems commissioning as well as the process of project planning, design and construction. Building types ranged from five different university campuses located around the U.S. to healthcare facilities, data centers and commercial buildings. One university representative, whose campus includes 11 LEED Gold buildings, posed the question, "do owners commission for LEED points or 'real' Cx?" Presentations addressed the issue of fragmented commissioning in increasingly complex buildings, which led to building enclosure and lighting issues in one case study. A joint presentation from owner and CxA, representing a major hospital, discussed priorities and risks and offered information resources on healthcare codes, standards and guidelines. The speakers provided guidance on the whole facility approach including non-traditional commissioning and special systems related to physical safety, infection control, noise abatement and patient comfort. Another owner presented experience with commissioning successes and failures related to using in-house staff.

Systems Integration

Speakers described a variety of approaches to systems integration and energy management strategies, featuring projects like a district-level, multi-facility centralized control system to enable continuous improvement across the campus. One presentation showed the upside capabilities (and downside) of using cloud-based automated fault detection and diagnostics (FDD) alone, versus a more comprehensive approach that includes traditional hands-on commissioning to maximize value across all components, systems and buildings. Another dealt with common mechanical interface issues found during a variety of electrical systems tests, electrical and mechanical systems integration, including when, where and why failures occurred and how commissioning both discovered and solved problems.

Technical Tools and Methods

The majority of presentations combined technical aspects of commissioning projects and practices with one or more case studies. Specific technical presentations included tools and methods that help commissioning authorities to assess component and integrated systems performance. The primary areas of focus encompassed functional testing and monitoring-based commissioning, trend analysis, chiller performance, lighting, daylighting, and air flow components and systems. Speakers presented design, construction and performance issues that ranged from basic technical systems education to calibration, cost/value, energy savings, and design and operations team training for continuous reliability. One speaker also provided a comparative assessment of currently available software tools and their capacity to support the commissioning process. The presentation looked at whole building vs. measure-only EM&V, and cited a Berkeley Lab study on risk management and energy efficiency that may result in future new standards.

Utility Programs

A double session on utility programs featured presentations from three different utilities and five third-party program implementation firms on the structure, challenges and outcomes of their diverse existing building programs. Speakers summarized their programs along with associated opportunities and barriers. They presented third-party evaluation results, including a comparison of estimated and actual commissioning authorities' energy savings calculations. Part Two of this session included an interactive panel discussion where the participants compared notes on aspects of their respective programs, and the successes and failures of utility program methods used to influence the market to accept commissioning as standard practice.



Building Enclosure Commissioning

An overview and industry update on building enclosure commissioning reiterated the critical importance of BECx in terms of dollar value, building performance and security. In addition to describing specific challenges of BECx, the presentation traced the evolution of BECx standards and outlined the road ahead in terms of the guidelines, standards, potential mandates and training program on the horizon over the next several years. Details of the ASTM E2813 Standard Practice for BECx led to a discussion of the necessary knowledge, skills and BECx elements to include in successful project delivery.

Codes, Standards and Guidelines

A major source of interest throughout the conference and across many topics was the potential effect of recent and forthcoming codes, standards and guidelines upon commissioning as well as the entire building industry. Various presentations focused on the schedule and impact of specific documents including ASHRAE Standard 202, ASTM E2813 Standard Practice for BECx, NIBS/ASTM Standard Guide for BECx, LEED 4.0, ICC/IAS AS476, CALGreen (becoming Title 24 Code in 2014), the ASHRAE 90.1 2013 update effective upon approval, NFPA's updates to commissioning fire and life safety systems, and regional/local regulatory changes such as New York's Local Law 87. Much discussion was stirred up between sessions on how and when true implementation will occur within building teams, actual rate of uptake, consequences of complying or not complying, expansion of commissioning provider responsibilities, level of associated risk and a host of other issues.

International Commissioning

Although international participation is not new to NCBC, this year the conference hosted speakers who shared technical and international management experiences and case studies of international commissioning. A presentation from Finland showed how advanced control systems can produce centralized, actionable campus-wide data. Several presentations from Latin America highlighted similarities and differences among diverse social and economic structures, practical expectations and regulatory scenarios, while completing significant LEED-rated projects.

Special Applications

Unique at this year's conference was a presentation on tunnel commissioning, detailing the commissioning process for replacement of the old San Francisco Presidio Parkway Doyle Drive tunnel. The project required a complex commissioning plan addressing numerous unusual electrical, mechanical, interactive radio and other communications systems, water and fire detection and protection, air content monitoring, physical security and other systems – all of which need to work together in the face of major tunnel incidents such as traffic, security or earthquake events. The owner was represented by a large team of local government and transportation officials, all of whom had a stake in the performance of this seemingly static hole through a hill. Final delivery included everyday performance testing and simulating scenarios that would engage integrated systems during



emergency situations. It was clear that many of the principles and procedures would be transferrable to comprehensive commissioning of other building types.

Exhibitor Event

The Exhibitor Hall attracted nearly all NCBC attendees. The conference was fortunate to feature technology manufacturers, commissioning providers, systems analysts, utilities, program designers and managers, and facility services firms displayed their companies' expertise. The event was a full-day affair, allowing exhibitors to spend time discussing their products and services at length with interested attendees.

Technology Showcase Event

Augmenting the Exhibitor Event, NCBC featured technology showcases in which several exhibitors – Chinook Systems, Evergreen Technology, sys-tek and ComRent – each formally presented their products and applications in depth. They discussed their roles in commissioning, and their products' and services' effectiveness in collecting and analyzing data, providing consistently accurate diagnostic outcomes, and enhancing the commissioning process on site. The Showcase representatives demonstrated how commissioning can be completed more easily and more comprehensively with the use of these products.

A FEW Highlights

DANCING THE NIGHT AWAY



Liz and Sheri

ANNUAL DINNER



Liz (aka Miss Kitty), President Miller, Treasurer Pitts



Founding Member Gretchen got into the Cowgirl spirit!



Kirsten



Founding Members

THE BAND



Walker Williams Band

COWBOYS



Cowboy Bruce



Cowboy Craig



Cowboy Bill

OUT AND ABOUT



At the Golf Tournament:
Bill McMullen, Henry Green,
and Mark Miller

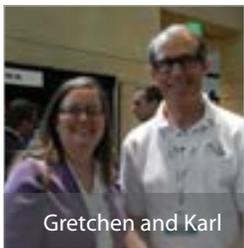


At the Baseball Game:
Lia and Craig



At the Baseball Game:
Mark and Bill

EXHIBITS



Gretchen and Karl



Mark and Dave



SESSIONS



Henry



Wayne

Thank YOU!

PLATINUM



GOLD



GLOBAL GREEN



SILVER



ENDORSEMENTS



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- NORESKO
- Northwest Chapter
- Southeast Chapter
- Southwest Chapter

Overall, commissioning authorities, owners, designers and builders at the conference acknowledged that they have moved well beyond basic quality control or “check the box” hurdles. Commissioning is taking on a broader role, participating in integrated design, construction, performance measurement and operational quality assurance. Attendees agreed that, more often than not, large project commissioning comes up as a primary consideration for owners, building designers and contractors. Operations and extended routine commissioning does happen, but still has a way to go.

Conference presentations concluded with a talk by the irrepressible Wayne Dunn describing how NCBC came into existence 21 years ago, and summarizing the industry changes that followed as the conference “came of age.” Wayne, of course, shared his own view of what’s in store for the commissioning industry.

The conference was capped by a trip to Coors Stadium for the Rockies-Yankees game. In spite of soaking rain, the game wasn’t called. The stadium was packed. The Rockies lost to the Yankees 3-2 during a wild ninth inning, bringing the game – and the conference – to a close.

Readers can view all of the NCBC conference presentations online at www.bcxa.org/ncbc.

NCBC 2014 is scheduled for Hartford, Connecticut, an exciting city of major historical significance. Annual events will include the BCA Education and Scholarship Golf Tournament, the most comprehensive information in the industry, and the always-stimulating BCA annual dinner. Hartford is the home of the first nationally recognized American architect, Charles Bulfinch, who completed the oldest state house in America in 1796 – still standing today. What better place for an event about building performance?

Watch for the BCA’s Call for Speakers in September!

Building Commissioning Association

1600 NW Compton Drive, Suite 200

Beaverton, OR 97006

877.666.BCXA (2292) Main • 503.295.0820 FAX

www.bcxa.org

