New Code Requirements for Title 24

Effective July 1, 2012, the State of California has a summer gift for us. There are substantive mid-cycle code changes in Title 24 Part 11 – CALGreen requirements that will mostly affect commercial non-residential construction, but there is a prize for the residential builders too.

CALGreen is part 11 of Title 24, the State Building Code. CALGreen became effective January 1, 2011 as the first mandatory state wide green building code in the United States. Many saw CALGreen as a major advance towards reducing water use, increasing healthier work and living spaces, reducing construction waste and reducing greenhouse gases. It was reflected unprecedented scope coordination between all the State agencies responsible for codes, BSC, HCD, OSA and OSHPD, affecting all occupancy types.

Normally, mid-cycle amendments are minor and devoted mostly to cleaning up or clarifying issues. Not this time. Critics from Southern California said CALGreen was missing a substantive segment of the marketplace by ignoring commercial remodel, alterations and additions.
Sacramento listened.

Construction permits issued after July 1, 2012 for commercial remodels, alterations, or additions, with a permit valuation of $500,000, or more than 2,000 square feet, will now have to comply with the CALGreen requirements, including HVAC design and commissioning requirements before, during and after occupancy.

Commercial new construction, remodels, alterations or additions will also face:

- Completely changed building envelope requirements for noise/sound control that should be easier to understand and implement.
- Completed changed exterior site lighting requirements controlling the amount of allowable Backlighting, Glare and Up-lighting. Practitioners should be cautious since there may be unintended consequences resulting in more energy usage.
- Construction and demolition waste standards updated to have a prescriptive allowance of 2 lbs per square foot as a simpler compliance method.

Residential CALGreen requirements also get a new Construction and demolition waste standard that simplifies compliance with a prescriptive allowance of 4 lbs per square foot instead of the complicated worksheets.


The State has said that the next steps are the January 1, 2014 code update when more CALGreen requirements will be triggered, including lowering the threshold for commercial retrofits; possibly adding residential high rises and retrofits, and definitely raising the energy efficiency requirements for all construction types.

Questions or in-house Training requests may be directed to Ron Fong, P.E., LEED A.P., greenronfong@gmail.com. Ron presented at the NEBB 2012 Seminar in Napa, California, and is a consultant on codes, LEED and project management.

Footnote:

Energy Code Updates:

- Part 6 Energy will finally be on the same three-year code cycle as the rest of Title 24
- Increased energy efficiency standards
  - 14% for multi-family
  - 25% for residential
  - 30% for non-residential
- Continuation on the State’s goal for Zero Net Energy Buildings
  - By 2020 for new residential construction
  - By 2030 for new commercial construction
- Details are in the energy summary (only 348 pp) which is posted with more info at http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/.

By Ron Fong, P.E., LEED A.P.
New photo capture feature!

Remember what issues and equipment look like with photos.

Capture photos in the field with your iPad or Android device and synchronize the photos back to your main project log.

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NEBB 2013 ANNUAL MEETING

Monterey offers iconic California experiences. Experience the top road trip in the United States as you wind along the breathtaking Big Sur coastline on Highway One. Explore the shops and attractions of iconic Cannery Row. Sip handcrafted wines at tucked-away tasting rooms where the winemaker might just be the person pouring. Play 18 holes at legendary golf courses, or just hang out at the 19th hole and watch the pros practice. Monterey County has something special for everyone.

Log onto www.nocalhawaii.nebb.org for more details on speakers, vendors and local activities.
The Other ASHRAE Members Speak Out

APRIL WASHINGTON REPORT

The April 2012 Washington Report article on the California Energy Commission proposal to require training and certification of individuals performing lighting and HVAC system acceptance testing misleadingly suggested that the testimony of a few ASHRAE members against this proposal carried the weight of all 3,200 ASHRAE members in California. While a few ASHRAE members did oppose this proposal, many other ASHRAE members testified, and provided the Commission with data and facts, in support of the proposal.

The article further incorrectly stated that two SMACNA Chapters “Technical Services” testified against the proposal. No SMACNA Technical Service Representative testified against the proposal! Moreover, many SMACNA contractors submitted letters and testimony in support of requiring training and certification of acceptance testers.

Opposition to the training and certification proposal has been largely based on misinformation regarding the proposal. The April article perpetuates this misinformation by incorrectly reporting that the Commission’s proposal would “prohibit engineers, commissioning agents, and other licensed professionals from performing acceptance tests...” To the contrary, the proposal would require individuals who perform acceptance testing to obtain certification through one of three certification agencies in order to qualify themselves as competent to perform the test. Nothing in the proposal would prohibit engineers, commissioning agents or other licensed professionals from obtaining certification. The proposal merely requires them to demonstrate that they have been trained and demonstrated competent to perform all verification, testing, adjusting, balancing and documentation that is necessary to comply with the California Energy Code’s unique acceptance testing requirements.

The April article goes on to state that “licensed engineers, commissioning agents and control contractors are ‘uniquely qualified’ to analyze test results relative the building envelope and could be prohibited from conducting these assessments.” A report conducted by PECI for the California Commissioning Collaborative (Evaluation of Title 24 Acceptance Testing Enforcement and Effectiveness – September 2011), however, demonstrates that the Commission’s acceptance test requirements are not being properly performed or complied with when conducted by persons who have not been specifically trained to conduct these assessments. Moreover, currently the Commission’s regulations allow anyone to conduct these assessments without any requirements regarding training, knowledge or competency.

The PECI report evaluated compliance with the Commission’s acceptance testing requirements and determined that there was widespread confusion in the interpretation of the procedures because the tests are complex and the forms are not clear for all applications. The report further found that approximately half of the tests could not be correctly performed without specific training. Licensed engineers, commissioning agents and contractors do not necessarily have this specific training. Accordingly, it is appropriate and necessary for certification requirements to apply to all persons who perform these acceptance tests.

The Commission’s proposal is designed to address the compliance problems identified in the PECI report. When similar issues were identified in the California residential industry, the CEC created a certification process known as HERS with providers and raters. In the non-residential industry, TABB, NEBB and AABC have the
infrastructure and ability to address the challenges of providing verification of comprehensive building environmental system knowledge for technicians, supervisors and engineers. These three agencies are recognized by Master Spec, Department of Defense and GSA and provide a wide variety of certifications including testing, adjusting, balancing, commissioning, sound/vibration and energy. Moreover, the proposal is not exclusive to these three existing agencies. The proposal provides a process for other certifying bodies a process to be recognized and added to the list of certifiers.

Relying on the existing TAB industry to provide certification for acceptance testing just makes sense. After all, the TAB industry was created to meet similar needs back in the 1960’s when architects and engineers needed qualified people to verify system performance to design.

By Erik Emblem, Executive Administrator
Joint Committee on Energy & Environmental Policy

Why Become NEBB Certified?

There are a number of reasons to become NEBB Certified such as increasing your qualifications and providing NEBB quality assurance on your projects. But the number one reason to become NEBB Certified is to increase your potential work load.

Innovation, high standards and a proven track record have made NEBB the leader in its field. For more information on how to become NEBB certified, contact the Northern California/Hawaii NEBB Chapter.

Did you know?

- that building owners are demanding that their buildings be worked on by certified personnel?
- work completed in Federal Office buildings need to be completed by certified personnel?
- that LEED certification involves NEBB commissioning?
- being NEBB certified allows a firm to compete on projects where NEBB certification is required, like hospitals and schools.

NEBB NATIONAL’S NEW EXECUTIVE VICE PRESIDENT

The Board of Directors of the National Environmental Balancing Bureau (NEBB) appointed John Schulte as the new Executive Vice President.

John Schulte is a seasoned executive with more than 20 years of hands on experience in all functional areas of association management. Prior to joining NEBB, John was the Executive Director of the National Air Duct Cleaners Association where he helped expand the presence of the organization in domestic and international markets and enhance business opportunities for members.

In the past he served as the Technical and Apprenticeship Director of the Plumbing-Heating-Cooling Contractors – National Association where he was responsible for the organization’s training and plumbing code initiatives. He also served as Executive Director of the Association of Water Technologies (AWT), helping regional companies gain visibility and influence in the water treatment industry.

Neil Marshall, NEBB President said, “We are excited to have John join NEBB as the Executive Vice President. His range of experience in the industry, association management as well as in government relations will be a tremendous asset for NEBB and the industry.”

“NEBB is a leader in certifications in each of its disciplines and I am proud to be part of this organization” John said. “NEBB Certified Firms understand the opportunities and challenges that building owner’s face. I look forward to working with the Board, the staff and the chapters for the success of NEBB Certified Firms in this transformed economy.”

John has a Bachelor of Science Degree from the University of New Orleans, Louisiana.

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John Schulte
NEBB National’s Executive Vice President
The National Environmental Balancing Bureau (NEBB) is pleased to announce the appointment of Tom Meyer as the Director of Technical Services. Tom joined NEBB this past March.

As the association’s technical expert, Tom is responsible for the quality of NEBB’s technical programs, including publications, training, education, advising and testing content.

Tom has more than 25 years of experience in hydronics. Prior to joining NEBB, he was the Director of Government and Professional Affairs for the ESCO Group. He is a past president of Precision Hydronics Corporation, an international hydronics design, consulting and training firm.

Tom was the founding Executive Director of the Green Mechanical Council, a non-profit providing education to create and maintain environmentally sound, high performance and energy efficient structural mechanical systems. He was formerly the President of Praxis Green Incorporated - an international sustainability consulting and training firm where he collaborated with several U.S. agencies and foreign governments develop new high performance and sustainable building standards.

Tom co-authored the new Residential Building Code for Kuwait, which was passed into law this year, and he taught the new Code to Kuwait government engineers at the University of Kuwait. He also was an advisor and project coordinator for the Office of the Architect of the Capitol in Washington DC.

Tom is a member of the High Performance Building Council, High Performance Building Congressional Caucus Coalition, International Association of Plumbing and Mechanical Officials (IAPMO) Green Technical Committee, and is HVAC Chair of the IAPMO Green Technical Committee.

Tom graduated from Ohio State University. He has the following credentials:

- DES - Designer of Engineered Systems (State of Wisconsin)
- CSME - Certified Subject Matter Expert - Hydronics (HVAC Excellence)
- GGP - Green Globes Professional (GBI)
- CBCP - Certified Building Commissioning Professional (Association of Energy Engineers)
- QCxP - Qualified Commissioning Professional (University of Wisconsin)
- EBCP - Existing Building Commissioning Professional (Association of Energy Engineers)

Tom is a member of the following ASHRAE Committees:

- SSPC 134 – Graphic Symbols for HVAC and Refrigerating Systems Standard – Chair
- TC07.04 – Energy Analysis for Sustainable Buildings - Chair
- STD5-SGPC 0 – The Commissioning Process Standard – Vice Chair
- MTG.BPM – Building Performance Metrics – Member
- SSPC 90.2 – Energy-Efficient Design of Low-Rise Residential Building Standard - Member
- TC06.06 – Radiant Heating and Cooling - Corresponding Member
Chapter Re-certification Requirements Updated

The Chapter Re-certification process has been updated and the following changes have been made starting this year:

- Two reports from each CP will need to be submitted for review. If no NEBB reports are stamped by a CP, then a letter needs to be sent into the Chapter stating this.

- All disciplines with the exception of commissioning will also be required to submit two reports for review from each CP. If no reports are generated, then a letter must be submitted.

- Visual instrument review for Cleanroom re-certification will now be required

- Probe requirements for Cleanroom will now be the same as the TAB re-certification requirements. Probes must be calibrated along with the meter.

Those firms whose re-certification is due March 2013 should submit all paperwork and reports by October 15, 2012 to the Chapter
Critchfield Mechanical, Inc. (CMI) was started by Joe Critchfield, CEO, whose vision in creating an HVAC company came to fruition in 1977. Joe created a design build company that provides the best ways to solve customer comfort problems and improves their businesses through engineered solutions. After more than 30 years in the business, CMI has affiliated offices in Southern California, Virginia, Hawaii and whose corporate office remains one of the leading mechanical contractors in Northern California. CMI specializes in design, fabrication and installation of heating, ventilation and air conditioning, plumbing and process piping systems. As a firm specializing in Design/Build, CMI takes on the responsibility of all aspects of a HVAC project, from design to fabrication, to installation, to start-up and finishing with balancing. CMI currently employs 360 people.

CMI’s turn-over rate is extremely low throughout its workforce, from the office side out into the field. CMI prides itself on being fair and treating people like people. CMI finds that is a good business model when their employees feel like they are vested in what they are doing and strive to do a good job. It is a simple equation and it really works.

One of the core values in CMI’s business philosophy is teamwork. Their strength as a design build contractor is a testimony to the collaboration of engineering and union tradesmen within CMI. A project that is completed on time and on budget with the highest quality materials and workmanship can only be done with collaborative teamwork.

Their 163,000 sq. ft. headquarters in San Jose, California includes an office, fabrication shop and a large warehouse. In the office, their engineers, CAD and Detailing departments work side by side; in the fabrication shop, they produce duct work, piping, plenums and specialized fittings. Their warehouse allows thousands of parts and equipment to be stored, enabling rapid turn-around for fast-track projects.

Steve Lopez joined CMI out of Cal Poly San Luis Obispo in 1979 and has been with them for 33 years this September. Steve was in the ENVE Program (Environmental Engineering) at Cal Poly with an AC&R (Air Conditioning & Refrigeration) concentration. The ENVE department used to be its own department that was based on the ME curriculum but in the ’90s the ENVE department was combined with the ME department when the economy had a down turn. In the last 5-10 years a concerted effort has been underway to res-
rect the program led by Professor Jesse Madren, who has been instrumental in introducing curriculum to resurrect the HVAC concentration within the ME department. CMI has assisted this process to the extent that there is now a Critchfield Mechanical HVAC Lab.

Steve, who is a VP of CMI, is currently responsible for the Construction Department which consists of approximately 290 people. About 100 employees are located in the production facility and the balance is installation personnel. Steve has been overseeing the department for the past 27 years. As part of his duties he is also the company’s sole NEBB Certified Professional. He holds his certification in Air and Water Balancing. The CMI balancing department has 4 people total. Out of the four balancers, CMI has two NEBB Certified Technicians, Shannon Barron and Mark Barros. Steve became NEBB certified in 1997. He believes the NEBB certification reinforces CMI’s goal of professionalism and emphasizes their credibility in the industry. Their NEBB certification allows CMI to show to their customers that they are serious about providing the highest quality installations. Their customers understand the importance and value of CMI’s NEBB certification and have commented that the certification shows them that CMI understands the standards they, the customer, expect. Having a NEBB Certified Professional involved in a project adds knowledge and support to the team and helps to ensure the project will be approached correctly.

Some of the major changes that Steve has seen are the electronics of how a design comes to fruition. It has become an expected technique to not only design through Building Information Modeling (BIM) but to fabricate through electronic direct downloads. BIM allows for collision checking amongst the trades, where everyone signs off on the drawings prior to release for fabrication, and also enables a QA/QC process to make sure any changes that come up are still conflict free in the model. Right now, BIM is the biggest thing that is grabbing the whole industry. Those companies that are able to do that will excel and stay ahead of the curve.

CMI performs about 5% NEBB work in a year and subs out when the project requires an independent NEBB report to another NEBB certified firm. CMI uses their knowledge of balancing to try to install the systems to make the balancing go as smoothly as possible. Facebook, Five Star Conference Center and The Bank of the west tenant at Bishop Ranch, where they used another firm, are good examples of that cooperative spirit.
We have attended several marketing functions in the past few months in the Bay Area, including the BOMA Silicon Valley Associates Night Trade Show in San Jose and the ASHRAE Golden Gate Chapter Vendors Table Top Product Show in San Francisco.

We are working on a TAB Presentation for the ASHRAE San Jose Chapter meeting this fall. This will involve a presentation by one of our NEBB NorCal/Hawaii Members and possibly a Vendor’s Table prior to the meeting. If you are interested in attending the meeting or vendors table, we will be sending out the date and time of the meeting soon.

Also, if you are aware of any additional functions that might be a good opportunity for marketing for our NEBB NorCal/Hawaii Group, please contact Audrey or myself. We will follow-up with the organization to see if there is an opportunity to share our story and what we have to offer to their industry.

Our next NEBB NorCal/Hawaii Re-Certification Meeting will be in Monterey, California at the InterContinental “The Clement Monterey” Hotel in the Cannery Row area, on February 22, 2013. This would be a great time for an “extended weekend getaway”. Have a Great Day!

New opportunities. We have been and will continue working diligently with some mechanical engineering firms to incorporate NEBB certified firms into their TAB specifications. This effort will allow new TAB opportunities for those interested. In the next few weeks you will receive a copy of the newly modified specifications for review. For those interested in this work, the local NEBB chapter will be having a meeting to discuss the specification requirements and mechanical engineers expectations in the performance of those specifications. Once you receive the specifications please review and contact Audrey if you are interested in bidding this engineering firm’s work. Also if you have additional specifications for us to review for incorporation of NEBB please let us know. Thank You.
Upcoming Events

NEBB Certified Professional Written/Practical Exam
September 22, 2012, 8:00 a.m.—4:00 p.m., San Leandro, CA
Contact the Chapter to sign up, akearns@nocalhawaiinebb.org

Northern California/Hawaii NEBB Chapter Annual Meeting
February 22, 2013, 7:30 a.m.—5:00 p.m., Monterey, CA

Northern California/Hawaii NEBB Chapter Annual Meeting
Contact Audrey Kearns for more details at akearns@nocalhawaiinebb.org

NEBB National Annual Convention
May 2-4, 2013, Montreal, Canada

NEBB National Annual Meeting
Contact NEBB National for more details at www.nebb.org

NEBB Technician Exam
On Demand Basis

Contact the Chapter to sign up, akearns@nocalhawaiinebb.org

For More Training Information visit www.nebb.org.

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